

केवल सरकारी उपयोग हेतु
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जल गुणवत्ता वर्ष पुस्तिका WATER QUALITY YEAR BOOK

जून 2015- मई 2016

June 2015- May 2016

गंगा बेसिन GANGA BASIN

जलविज्ञानीय प्रेक्षण परिमण्डल
HYDROLOGICAL OBSERVATION CIRCLE

केन्द्रीय जल आयोग
CENTRAL WATER COMMISSION

वाराणसी
VARANASI

PREFACE

Water being a prime natural resource and basic human need, the National Water Policy lays stress on planning and development of water resources on a national perspective. The prime requisite of water resources planning is indeed an efficient information system on the quantity and quality of this time and space variable precious natural asset.

The Central Water Commission in its capacity as an premiere technical organisation in the field of water resources development endeavours the gigantic task of collection and compilation of Water Quality data incorporating the quality and quantity of available waters in various basins of the country. The Water Quality Books of various river basins of the country are being published by Central Water Commission in order to make its effective and efficient use.

The present volume contains information on various water quality parameters measured at Water quality stations of Ganga Basin(Main Stem) under the jurisdiction of Upper Ganga Basin Organisation, CWC, Lucknow for the year 2015-2016 using SWDES.

The valuable guidance and inspiration of Shri Pradeep Kumar, Member, RM, CWC, New Delhi and Shri S.K. Sibal, chief Engineer, Upper Ganga Basin Organisation, CWC, Lucknow is gratefully acknowledged.

I would like to place on record the special contribution made by officers and staff of Himlayan Ganga Division, Dehradun, Middle Ganga Division-2, Lucknow, Middle Ganga Division-III, Varanasi and Hydrological Observation Circle, Varanasi in compilation of information and publication of the report in present form.

It is hoped that this publication will be found useful by the planners, managers and users in the field of water resources.

March, 2017

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1.INTRODUCTION

1.1. Scope

Rapidly increasing population, rising standard of living, exponential growth of industrialized and urbanization have exposed the Water Resources in general and rivers in particular to various form of degradation. It is therefore necessary to keep vigilant watch on quality of available fresh waters whose major sources in our country are rivers.

1.2. Source of Information

Two Divisions of Hydrological Observation Circle, Central Water Commission, Dehradun namely Himalayan Ganga Division, Dehradun and Middle Ganga Division No.-II, Lucknow and one Division of Hydrological Observation Circle, Central Water Commission, Varanasi namely Middle Ganga Division No.-III, Varanasi are conducting observations at 17 sites on Ganga (Main Stem).

Out of these 4 sites are maintained by Middle Ganga Division No.-III, Varanasi. 6 sites are maintained by Middle Ganga Division No.-II, Lucknow and 7 sites are maintained by Himalaya Ganga Division, Dehradun.

The finalised Water quality data for the year 2015-2016 is presented in the book. The details of the sites are given in Table I and location given in index Map of Ganga (Main stem).

T A B L E

S.No.	Name of Site	Station Code
Himalayan Ganga Division, Dehradun		
1.	Uttarkashi on Bhagirathi	GG10OK4
2.	Tehri (shifted to Koteswar) on Bhagirathi	GG10OE2
3.	Rudraprayag on Alaknanda	GG20OG5
4.	Srinagar on Alaknanda	GG20OD5
5.	Deoprayag on Ganga	GG00OZ9
6.	Rishikesh on Ganga	GG00OY4
7.	Haridwar on Ganga	GG00OX7

Middle Ganga Division No. II, Lucknow		
8.	Garhmukteshwar on Ganga	GGOOOT2
9.	Kachlabridge on Ganga	GGOOOP1
10.	Fatehgarh on Ganga	GGOOOK6
11.	Ankinghat on Ganga	GGOOOI7
12.	Kanpur on Ganga	GGOOOG7
13.	Bhitaura on Ganga	GGOOOE7
Middle Ganga Division No. III, Varanasi		
14.	Shahzadpur on Ganga	GGOOOB7
15.	Allahabad on Ganga	GGOOOZ9
16.	Mirzapur on Ganga	GGOOOX9
17.	Varanasi on Ganga	GGOOOW3

1.3. Observation Technique

Water samples from all the Water Quality stations are collected on 1st working day of the month and transported to divisional laboratory where systematic analysis is conducted for the determination of constituents like pH, Specific Conductance, Potassium (as K⁺), Sodium (as Na⁺), Calcium (as Ca⁺⁺), Magnesium (as Mg⁺⁺), Iron (as Fe⁺⁺), Nitrogen Ammonical (as NH₄-N), Carbonate (as CO₃⁻⁻), Bicarbonate (as HCO₃⁻), Chloride (as Cl⁻), Fluoride (as F⁻), Sulphate (as SO₄⁻⁻), Nitrate (as NO₃⁻), Nitrite (as NO₂⁻), Phosphate (as PO₄⁻⁻), Silica (as SiO₂) and Boron (as B).

pH and Specific Conductance are determined by digital pH meter and conductivity meter. Cl⁻, CO₃⁻⁻, HCO₃⁻, Ca⁺⁺ and Mg⁺⁺ are estimated by titration method. SO₄⁻⁻ is estimated by turbidimetric method with the help of Nephelometer. Na⁺ and K⁺ estimation is done by the method of flame emission with the help of Flame photometer and rest by the method of colorimetric estimation with the help of U-V Spectrophotometer.

In addition to the above, Dissolved Oxygen is also estimated. Biochemical Oxygen Demand, Chemical Oxygen Demand and Microbiological Parameters such as Total Coliform & Fecal Coliform are determined for selected sites.

2. WATER QUALITY DATA

2.1 Explanatory Notes

The explanatory notes, described hereunder, are designed to assist in the interpretation of various parameters contained in the data presented subsequently.

i) The water samples are collected at a regular frequency of once in a month usually on the 1st working day from the main flowing portion of the stream.

ii) Dissolved Oxygen is measured at the site laboratory within an hour of collection of samples.

iii) The other water quality parameters are analysed at the divisional laboratory.

iv) Chemical Indices, namely, Hardness Number, Sodium Percentage, Sodium Adsorption Ratio and Residual Sodium Carbonate are calculated as follows :

a. Hardness Number (HAR) is calculated by adding the total Ca^{++} and Mg^{++} in the sample expressed as equivalent parts of CaCO_3 .

b. Sodium Percentage (S.P.) is given by

$$\text{S.P.} = (\text{Na}^+ \times 100) / (\text{Ca}^{++} + \text{Mg}^{++} + \text{Na}^+ + \text{K}^+)$$

Ionic concentrations being in meq/litre.

c. Sodium Adsorption Ratio (S.A.R.) is given by

$$\text{S.A.R.} = \text{Na}^+ / \{(\text{Ca}^{++} + \text{Mg}^{++})/2\}^{1/2}$$

Where the ionic concentration being in meq/litre.

d. Residual Sodium Carbonate (R.S.C.) is given by

$$\text{R.S.C.} = (\text{CO}_3^{--} + \text{HCO}_3^-) - (\text{Ca}^{++} + \text{Mg}^{++})$$

Where concentration of all the ions being in meq/litre.

v) Water year ranges from June 1st of one calendar year to May 31st of the next calendar year and covers one complete hydrological cycle.

vi) The gauging station code number is a unique seven column alphanumeric reference number which facilitates storage and retrieval of

water quality data in data banks. The first column is identifier of either an integral river basin or for convenience, a region having several contiguous river catchments. This is followed by a column which identifies an independent river system which either have one or more outlets to the sea or crosses international border to enter another country. The third, fourth and fifth column spaces denote first, second and third order tributaries respectively from the mouth upstream. The sixth and seventh column spaces indicate the location of the gauging station in one of the 225 slots earmarked on the river. The blank column spaces are filled by zero.

2.2 Method of Presentation

In the succeeding pages, station-wise water quality data and its trend is presented. History sheet, water quality data and water quality analysis tables are annexed separately.

History sheet gives concise description of the water quality observation station. The water quality analysis tables are given season-wise (flood, winter, summer) for the river water. The samples of water quality analysis are collected once a month as already mentioned in para 2.1 above.

3. WATER QUALITY TOLERANCE AND CLASSIFICATION

As per ISI-IS: 2296-1982, the tolerance limits of parameters are specified as per classified use of water (Table 1,2,3,4,5 Annexed) depending on various uses of water. The following classifications have been adopted in India

Classification	Type of use
Class A	Drinking water source without conventional treatment but After disinfection.
Class B	Outdoor bathing.
Class C	Drinking water source with conventional treatment followed by disinfection.
Class D	Fish culture and wild life propagation .
Class E	Irrigation , Industrial cooling or controlled waste disposal.

TABLE-1

TOLERANCE LIMITS FOR INLAND SURFACE WATERS, CLASS – A

S. No.	Characteristic	Tolerance
(i)	pH value	6.5 to 8.5
(ii)	Dissolved Oxygen, mg/l, ((Min))	6.0
(iii)	Bio-chemical Oxygen Demand ((Max))	2.0
(iv)	Total Coliform Organisms, MPN/100 ml,((Max))	50
(v)	Colour, Hazen units, ((Max))	10
(vi)	Odour	unobjectionable
(Vii)	Taste	Agreeable taste
(viii)	Total Dissolved Solids, mg/l, (Max)	500
(ix)	Total Hardness (as CaCO ₃), mg/l ,(Max)	300
(x)	Calcium Hardness (as CaCO ₃), mg/l, (Max)	200
(xi)	Magnesium (as CaCO ₃), mg/l,(Max)	100
(xii)	Copper (as Cu), mg/l, (Max)	1.5
(xiii)	Iron (as Fe), mg/l,(Max)	0.3
(xiv)	Manganese (as Mn), mg/l,(Max)	0.5
(xv)	Chlorides (as Cl), mg/l,(Max)	250
(xvi)	Sulphate (as SO ₄), mg/l ,(Max)	400
(xvii)	Nitrates (as NO ₂), mg/l,(Max)	20
(xviii)	Fluorides (as F,) mg/l,(Max)	1.5
(xix)	Phenolic compounds(as C ₆ H ₅ OH), mg/l,(Max)	0.002
(xx)	Mercury (as Hg), mg/l ,(Max)	0.001
(xxi)	Cadmium (as Cd), mg/l,(Max)	0.01
(xxii)	Selenium (as Se), mg/l ,(Max)	0.01
(xxiii)	Arsenic (as As), mg/l,(Max)	0.05
(xxiv)	Cyanides (as CN), mg/l, (Max)	0.05
(xxv)	Lead (as Pb), mg/l, (Max)	0.1
(xxvi)	Zinc (as Zn), mg/l, (Max)	15
(xxvii)	Chromium (asCr ⁶⁺), mg/l,(Max)	0.05
(xxviii)	Anionic detergents, (as MBAS), mg/l ,(Max) .	0.2
(xxix)	Poly-nuclear aromatic hydrocarbons (PAH),	0.2
(xxx)	(Min)eral oil, mg/l ,(Max)	0.01
(xxxi)	Barium (as Ba), mg/l ,(Max)	1.0
(xxxii)	Silver (as Ag), mg/l (Max)	0.05
(xxxiii)	Pesticides	Absent
(xxxiv)	Alpha emitters, µc/ml, (Max)	10 ⁻⁹
(xxxv)	Beta emitters, µc/ml, (Max)	10 ⁻⁸

TABLE- 2

TOLERANCE LIMITS FOR INLAND SURFACE WATERS, CLASS – B

S. No.	Characteristic	Tolerance
(i)	pH Value	6.5 to 8.5
(ii)	Dissolved Oxygen, mg/l,(Min)	5.0
(iii)	Biochemical Oxygen Demand (5 days at 20 °C), (Max)	3.0
(iv)	Total Coliform Organisms, MPN/100 ml, (Max)	500
(v)	Fluorides (as F)<mg/l, (Max)	1.5
(vi)	Colour, Hazen units, (Max)	300
(vii)	Cyanides (as CN), mg/l, (Max)	0.05
(viii)	Arsenic (as As), mg/l, (Max)	0.2
(ix)	Phenolic Compounds (as C ₆ H ₅ OH) mg/l, (Max)	0.005
(x)	Chromium (as Cr ⁶⁺), mg/l, (Max)	1.0
(xi)	Anionic detergents (as MBAS), mg/l, (Max)	1.0
(xii)	Alpha emitters, µc/ml, (Max)	10 ⁻⁸

TABLE- 3

TOLERANCE LIMITS FOR INLAND SURFACE WATERS, CLASS – C

S. No.	Characteristic	Tolerance
(i)	pH Value	6.5 to 8.5
(ii)	Dissolved Oxygen, mg/l (Min)	4.0
(iii)	Biochemical Oxygen Demand	3.0
(iv)	Total coliform organisms, MPN/100 ml, (Max)	5000
(v)	Colour, Hazen units, (Max)	300
(vi)	Fluorides (as F), mg/l ,(Max)	1.5
(vii)	Cadmium (as Cd), mg/l, (Max)	0.01
(viii)	Chlorides (as Cl), mg/l, (Max)	600
(ix)	Chromium (as Cr ⁶⁺), mg/l, (Max)	0.05
(x)	Cyanides (as CN), mg/l, (Max)	0.05
(xi)	Total Dissolved Solids, mg/l, (Max)	1500
(xii)	Selenium (as Se), mg/l, (Max)	0.05
(xiii)	Sulphates (as SO ₄), mg/l, (Max)	400
(xiv)	Lead (as Pb), mg/l, (Max)	0.1
(xv)	Copper (as Cu),mg/l,(Max)	1.5
(xvi)	Arsenic (as As), mg/l, (Max)	0.2
(xvii)	Iron (as Fe), mg/l, (Max)	50
(xviii)	Phenolic compounds (as C ₆ H ₅ OH), mg/l, (Max)	0.005
(xix)	Zinc (as Zn), mg/l, (Max)	15
(xx)	Insecticides, mg/l, (Max)	Absent
(xxi)	Anionic detergents (as MBAS), mg/l, (Max)	1.0
(xxii)	Oils and grease, mg/l, (Max)	0.1
(xxiii)	Nitrates (as NO ₃), mg/l,(Max)	50
(xxiv)	Alpha emititers, µc/mg, (Max)	10 ⁻⁹
(xxv)	Beta emitters, µc/ml, (Max)	10 ⁻⁸

TABLE-4

TOLERANCE LIMITS FOR INLAND SURFACE WATERS, CLASS -D

S. No.	Characteristic	Tolerance
(i)	pH value	6.5 to 8.5
(ii)	Dissolved Oxygen, mg/l, (Min).	4.0
(iii)	Free Ammonia (as N), mg/l, (Max).	1.2
(iv)	Electrical Conductance at 25 °C, μ S, (Max)	1000
(v)	Free Carbon Dioxide (as CO ₂),mg/l, (Max)	6.0
(vi)	Oils and Grease, mg/l, (Max)	0.1
(vii)	Alpha emitters, μ c/ml, (Max)	10^{-9}
(viii)	Beta emitters, μ c/ml, (Max)	10^{-8}

TABLE- 5

TOLERANCE LIMITS FOR INLAND SURFACE WATERS, CLASS -E

S. No.	Characteristic	Tolerance
(i)	pH value	6.0 to 8.5
(ii)	Electrical Conductance at 25°C, μ S, (Max)	2250
(iii)	Sodium Adsorption Ratio, (Max)	26
(iv)	Boron (as B), mg/l, (Max)	2.0
(v)	Total Dissolved Solids, (inorganic), mg/l, (Max)	2100
(vi)	Sulphates (as SO ₄), mg/l, (Max)	1000
(vii)	Chlorides (as Cl), Mg/l, (Max)	600
(viii)	Sodium Percentage, (Max)	60
(ix)	Alpha emitters, μ c/ml, (Max)	10 ⁻⁹
(x)	Beta emitters, μ c/ml, (Max)	10 ⁻⁸

4.0 TREND ANALYSIS / SCENARIO IN GANGA BASIN

The Ganga basin spreads over a total area of 10,86,000 Sq.km in India, Tibet (China), Nepal and Bangladesh. The major part of the geographical area of the Ganga basin lies in India and it is the biggest river basin in the country draining an area of 8,61,452 Sq.km, slightly more than one-fourth (26.3 %) of the total geographical area of the country. In India, it covers states eleven states viz; Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, West Bengal, Uttarakhand, Jharkhand, Haryana, Chhattisgarh, Himachal Pradesh and Delhi. The basin is bounded by the Himalayas on the north, by the Aravalli on the west, by the Vindhyas and Chottanagpur plateau on the south and by the Brahmaputra Ridge on the east. The Great Desert of Rajasthan and the Aravalli hills form the ridge between the Indus and Ganga drainage system.

The Ganga is the 20th longest river in the Asia and the 41st longest in the world (Source: Philips World Atlas). The headwaters region of Ganga is the Himalayas dotted by number of mighty tributaries. The Bhagirathi river that rises from the Gangotri glacier near Gomukh at an elevation of about 7,010 m above mean sea level in the Uttarkashi district of Uttarakhand is considered as the source of Ganga river. It descends down the valley up to Devprayag where after joining another hill stream Alaknanda, it is called Ganga. Flowing downhill, the river is joined by a number of streams, such as the Mandakini, the Dhuli Ganga and the Pindar. The total length of river Ganga (measured along the Bhagirathi and the Hooghly) up to its outfall into Bay of Bengal is 2,525 km with 631 km navigable length.

The Ganga and its tributaries have formed a large flat and fertile plain in North India. The availability of abundant water resources, fertile soil, and suitable climate have given rise to a highly developed agriculture based civilization and one of the most densely populated regions of the world. The major part of basin in Indian territory is covered with agricultural land accounting to 65.57 percent of the total basin area and 3.47 percent of the basin is covered by water bodies; supporting about 43 percent of its population (448.3 million as per 2001 census). The seasonality of flow in rivers in the basin is so acute and it causes floods, particularly in the portions of Bihar and West Bengal and led to the annual flood hazards and river bank erosion. Also the Himalayas in Uttarakhand and part of Himachal Pradesh falling in the basin experience snow falls.

Ganga has been a cradle of human civilization since time immemorial. Millions depend on this great River for physical and spiritual sustenance. It is a life-line, a symbol of purity and virtue for countless people of India. But due to rapid industrialization, increase in urban population, change in lifestyle, use of artificial fertilizer has led to deterioration in water quality of holy river Ganga. At certain stretches the river water is grossly polluted mostly due to industrial and municipal sewage discharge in the river Ganga.

Two Divisions of Hydrological Observation Circle, Central Water Commission, Dehradun namely Himalayan Ganga Division, Dehradun and Middle Ganga Division No.-II, Lucknow and one Division of Hydrological Observation Circle, Central Water Commission, Varanasi namely Middle Ganga Division No.-III, Varanasi are conducting observations at 17 sites on Ganga. Out of these 4 sites are maintained by Middle Ganga Division No.-III, Varanasi, 6 sites are maintained by Middle Ganga Division No.-II, Lucknow and 7 sites are maintained by Himalaya Ganga Division, Dehradun

Major river: River Ganga (main stem) is the major river of the Ganga basin in which Himalayan Ganga Division , Dehradun and Middle Ganga Division -2, lucknow has established a network of Three and Six Water quality monitoring station in Ganga basin respectively. Middle Ganga Division-3, Varanasi has established a network of Four Water quality monitoring station. The monitoring of surface water is done on monthly basis and water samples are analysed for physico-chemical and bacteriological parameters apart from the field observations.

W.Q. Network : Details of water quality station in Ganga basin are tabulated below.

S.No.	Name of Site	River	Classification
Himalayan Ganga division, Dehradun			
1	Deoprayag	Ganga	Base
2	Rishikesh	Ganga	Trend
3	Haridwar	Ganga	Trend
Middle Ganga division-2, lucknow			
4	Garmukteshwar	Ganga	Trend
5	Kachlabridge	Ganga	Trend
6	Fatehgarh	Ganga	Trend
7	Ankinghat	Ganga	Trend
8	Kanpur	Ganga	Flux
9	Bhitaure	Ganga	Trend
Middle Ganga division-3, Varanasi			
10	Shahzadpur	Ganga	Trend
11	Allahabad	Ganga	Flux
12	Mirzapur	Ganga	Flux
13	Varanasi	Ganga	Flux

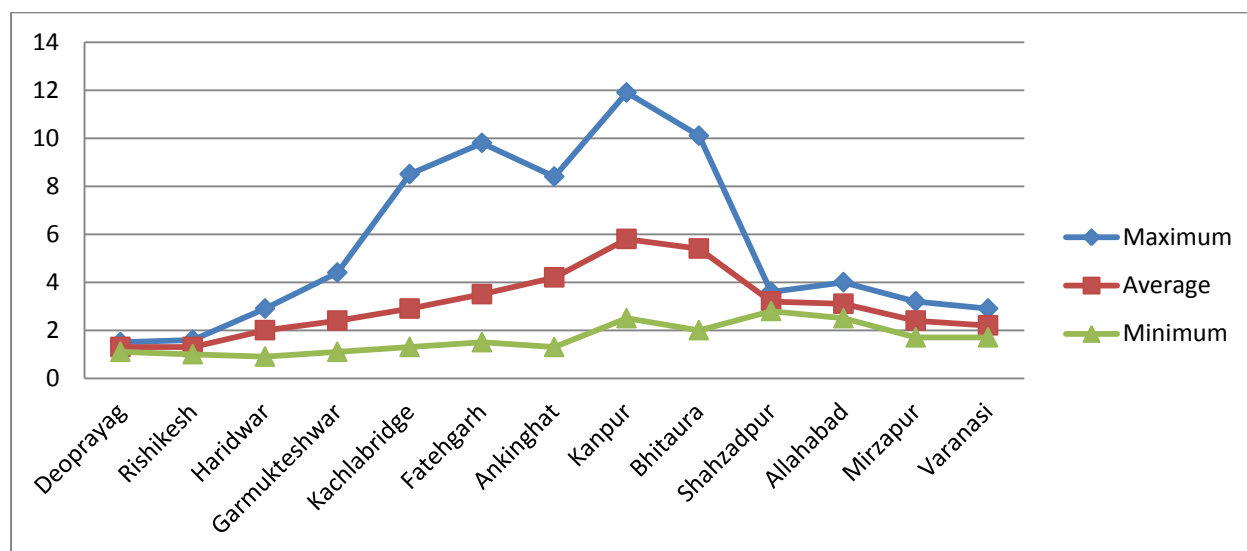
Analysis : To study the water quality / scenario in river Ganga, BOD, DO, fluoride, TDS , Faecal Coliform and Total Coliform parameters have been considered. Average value of these parameter for the period since inception(Inception to May 2016), last 10 years (Jun 2006 to May 2016) and last one year (Jun 2015 to May 2016) has been depicted in tables and figures depicted on the next pages.

4.1 River : GANGA (MAIN STEM) (River 1) :

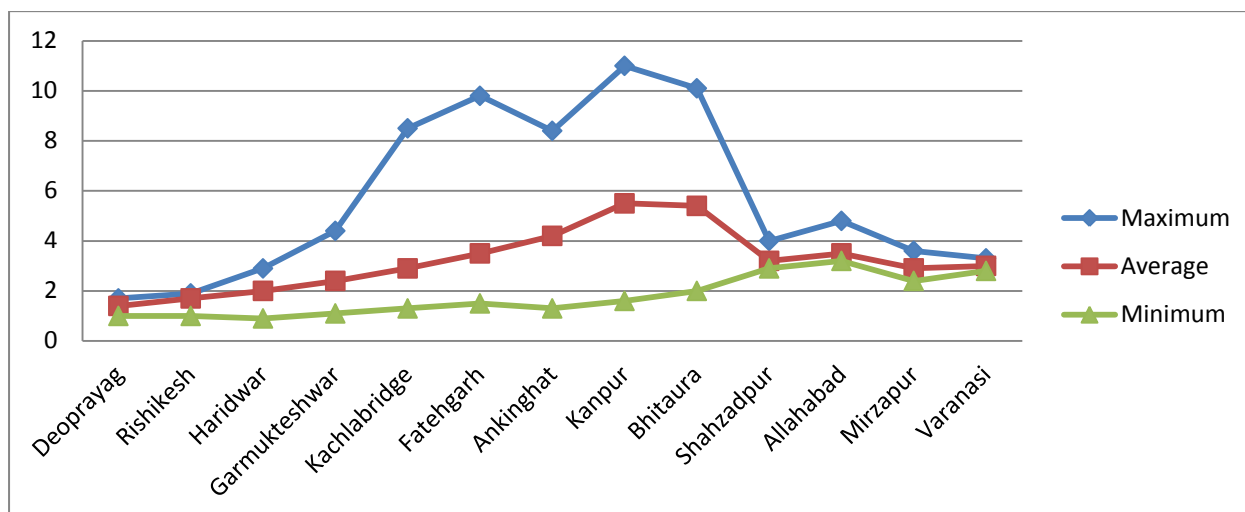
4.1.1 BOD in mg/l

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	Past 10 year	Current year	Since inception	Past 10 year	Current year	Since inception	Past 10 year	Current year
Deoprayag	Nov-1988	1.5	1.7	3.7	1.1	1.0	1.0	1.3	1.4	2.4
Rishikesh	Oct-1986	1.6	1.9	1.0	1.0	1.0	0.8	1.3	1.7	2.6
Haridwar	June-2014	2.9	2.9	3.1	0.9	0.9	0.6	2.0	2.0	1.8
Garmukteshwar	Feb-2010	4.4	4.4	14.7	1.1	1.1	1.4	2.4	2.4	6.8
Kachlabridge	Feb-2010	8.5	8.5	25.1	1.3	1.3	1.6	2.9	2.9	7.1
Fatehgarh	Feb-2010	9.8	9.8	23.5	1.5	1.5	2.4	3.5	3.5	6.8
Ankinghat	Feb-2010	8.4	8.4	21.6	1.3	1.3	2.0	4.2	4.2	11.7
Kanpur	June-1990	11.9	11.0	25.4	2.5	1.6	2.7	5.8	5.5	11.2
Bhithaura	Mar-2010	10.1	10.1	24.7	2.0	2.0	3.2	5.4	5.4	13.7
Shahzadpur	Dec-1996	3.6	4.0	4.7	2.8	2.9	2.6	3.2	3.2	3.1
Allahabad	June-1987	4.0	4.8	3.8	2.5	3.2	2.5	3.1	3.5	3.3
Mirzapur	Nov-1986	3.2	3.6	4.3	1.7	2.4	2.6	2.4	2.9	3.5
Varanasi	June-1987	2.9	3.3	4.5	1.7	2.8	2.8	2.2	3.0	3.5

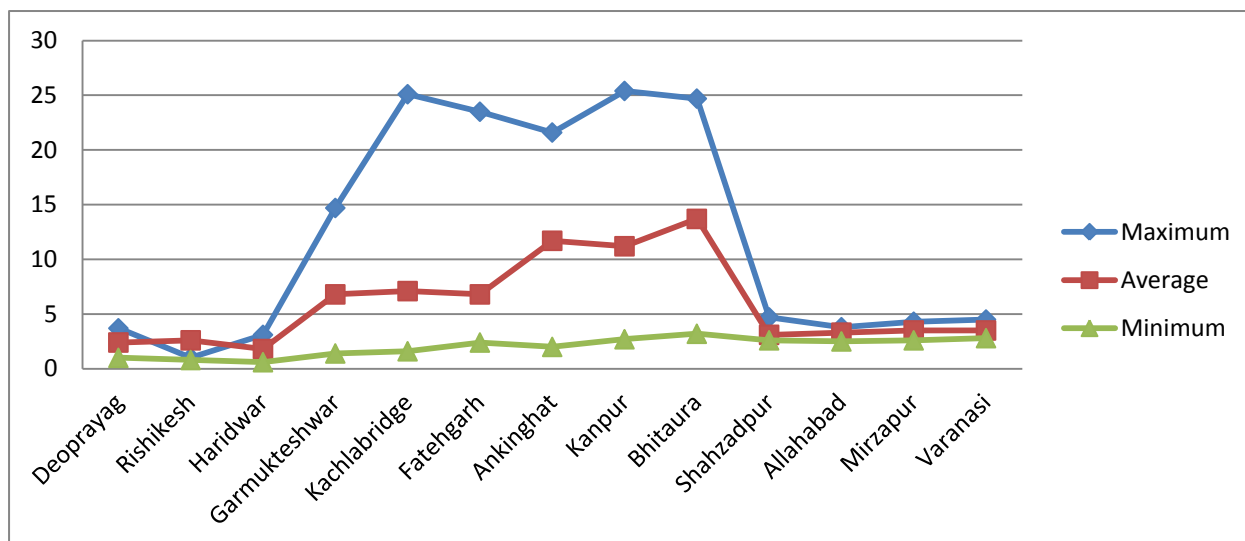
Parameter : BOD (mg/l) since inception



Parameter : BOD (mg/l) 10 year



Parameter : BOD (mg/l) One year

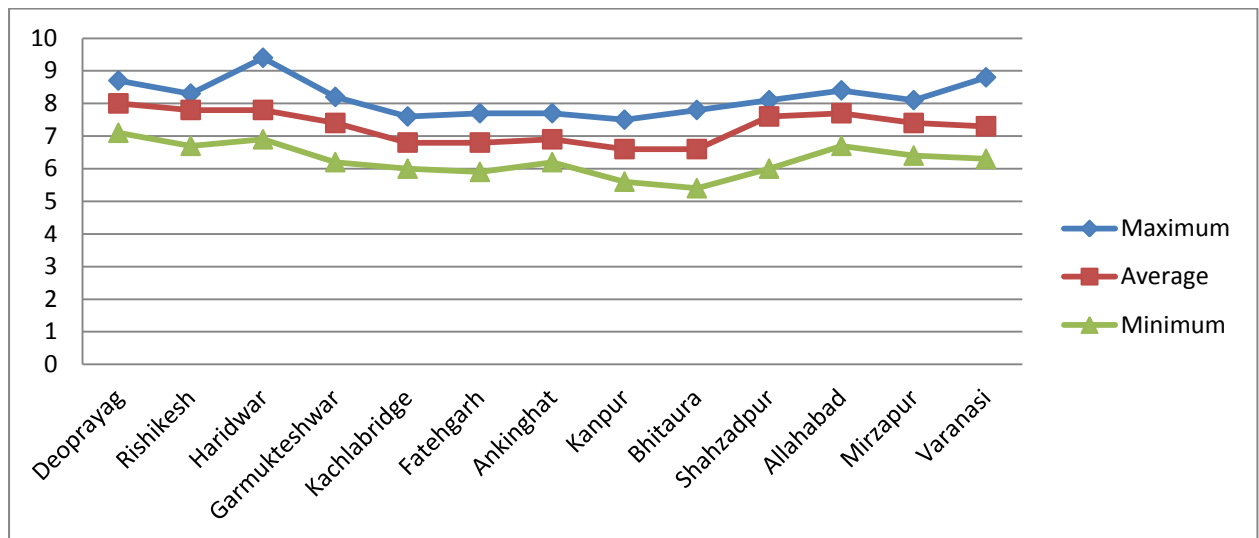


4.1.2 DO in mg/l

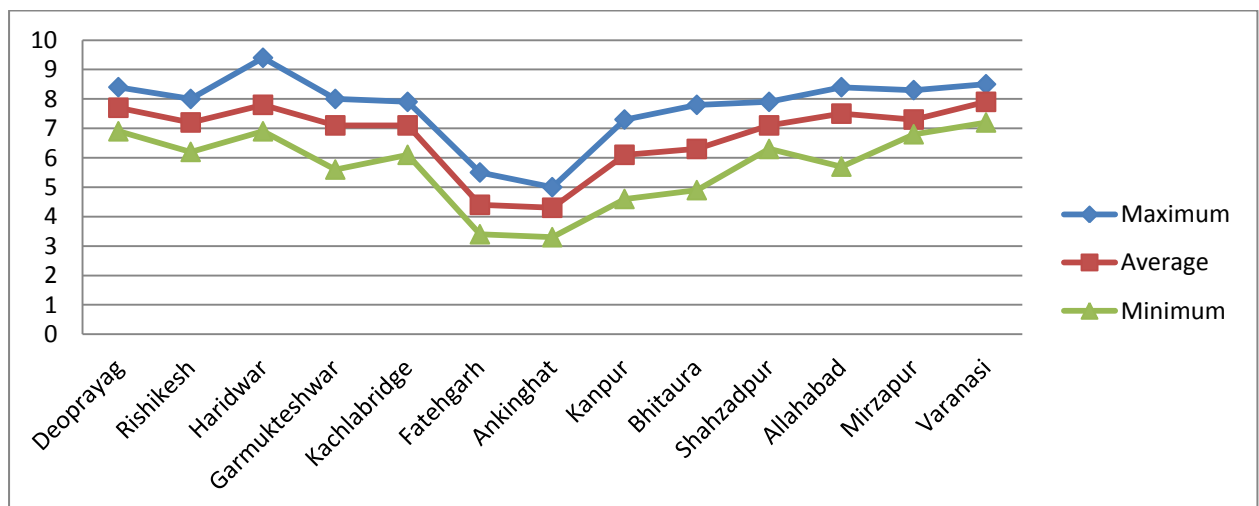
Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	Past 10 year	Current year	Since inception	Past 10 year	Current year	Since inception	Past 10 year	Current year
Deoprayag	Nov-1983	8.7	8.4	10	7.1	6.9	7	8	7.7	8.6
Rishikesh	Oct-1984	8.3	8	9.3	6.7	6.2	3.9	7.8	7.2	7
Haridwar	June-2014	9.4	9.4	10.2	6.9	6.9	6.8	7.8	7.8	8.1
Garmukteshwar	Jan-1990	8.2	8.0	7.6	6.2	5.6	2.0	7.4	7.1	5.7
Kachlabridge	Aug-2002	7.6	7.9	7.8	6.0	6.1	4.1	6.8	7.1	6.0

Fatehgarh	June-1990	7.7	5.5	7.8	5.9	3.4	2.9	6.8	4.4	5.6
Ankinghat	April-1996	7.7	5.0	5.9	6.2	3.3	1.6	6.9	4.3	4.9
Kanpur	June-1990	7.5	7.3	6.1	5.6	4.6	2.4	6.6	6.1	5.0
Bhithaura	June-1990	7.8	7.8	7.1	5.4	4.9	1.0	6.6	6.3	4.2
Shahzadpur	June-1986	8.1	7.9	8.8	6	6.3	6.9	7.6	7.1	7.5
Allahabad	June-1987	8.4	8.4	8.8	6.7	5.7	6.4	7.7	7.5	7.1
Mirzapur	June-1987	8.1	8.3	8.2	6.4	6.8	6.7	7.4	7.3	7.3
Varanasi	June-1987	8.8	8.5	8.8	6.3	7.2	6.5	7.3	7.9	7.5

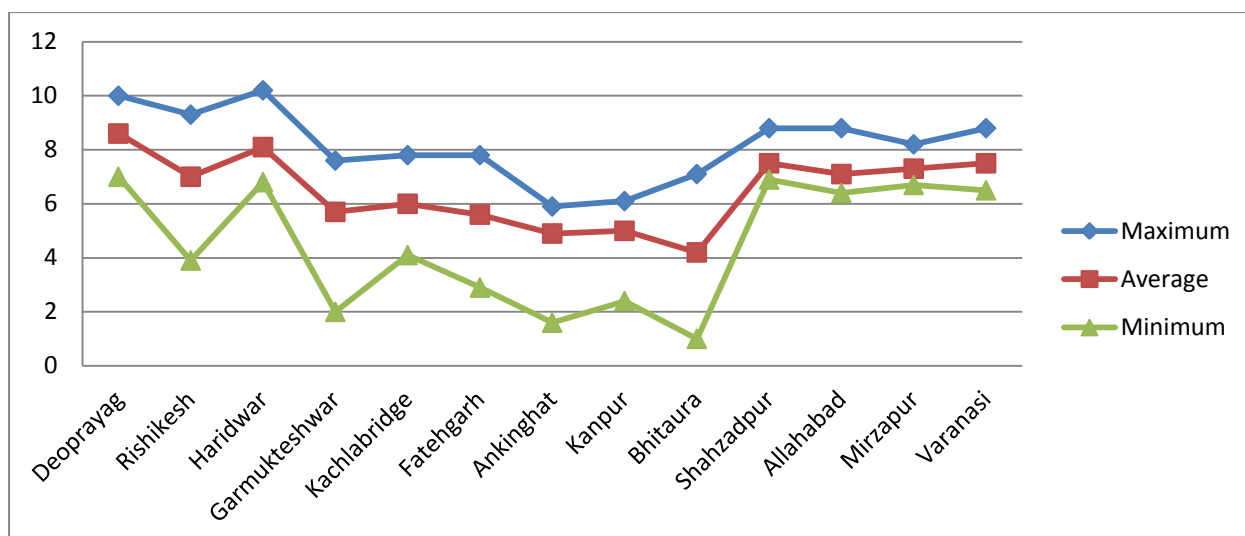
Parameter : DO (mg/l) since inception



Parameter : DO (mg/l) 10 year



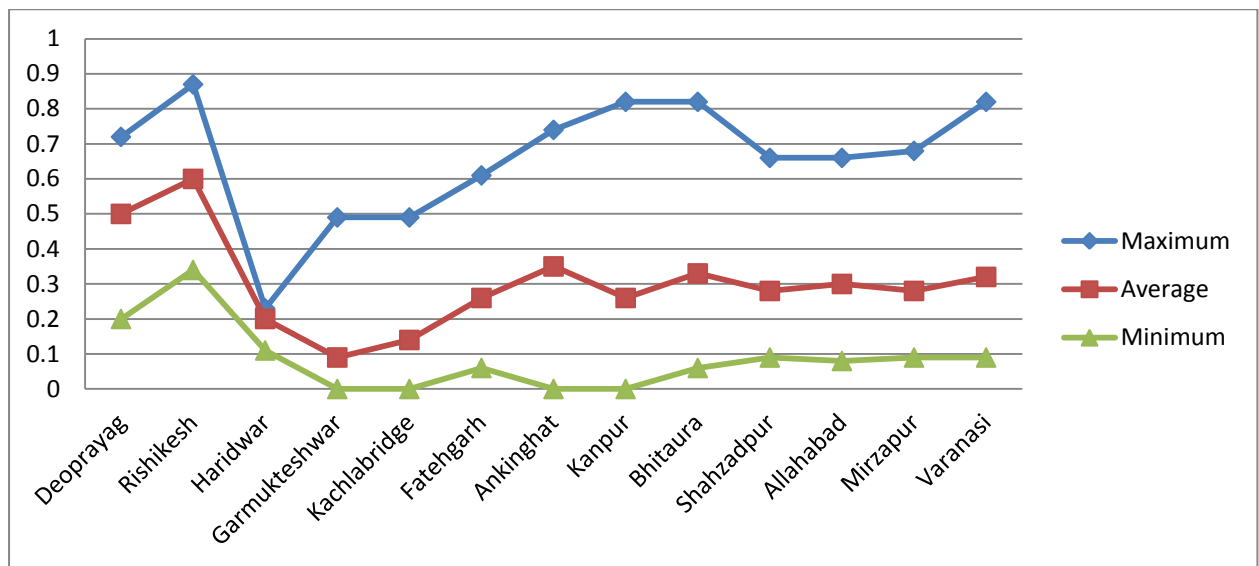
Parameter : DO (mg/l) One year



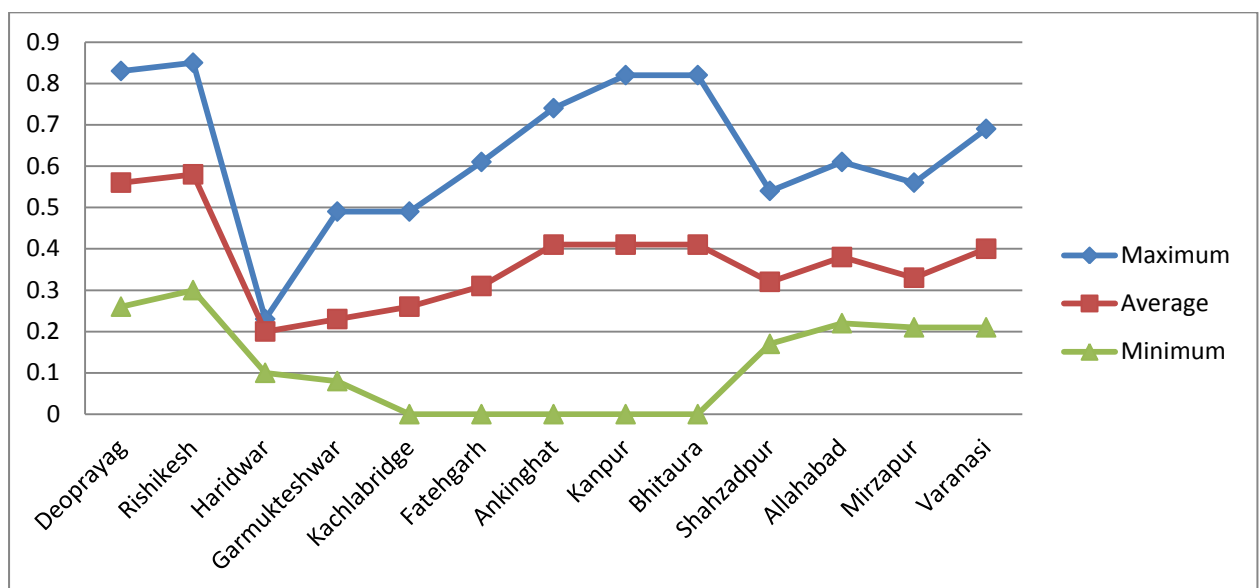
4.1.3 Fluoride in mg/l

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	Past 10 year	Current year	Since inception	Past 10 year	Current year	Since inception	Past 10 year	Current year
Deoprayag	Nov-1988	0.72	0.83	0.16	0.2	0.26	0.08	0.5	0.56	0.12
Rishikesh	Oct-1987	0.87	0.85	0.2	0.34	0.3	0.1	0.6	0.58	0.15
Haridwar	June-2014	0.23	0.23	0.2	0.11	0.1	0.1	0.2	0.2	0.17
Garmukteshwar	June-1993	0.49	0.49	0.49	0	0.08	0.25	0.09	0.23	0.4
Kachlabridge	May-1993	0.49	0.49	0.25	0	0	0.11	0.14	0.26	0.18
Fatehgarh	May-1993	0.61	0.61	0.57	0.06	0	0.32	0.26	0.31	0.39
Ankinghat	May-1993	0.74	0.74	0.63	0	0	0.36	0.35	0.41	0.49
Kanpur	May-1993	0.82	0.82	0.63	0	0	0.36	0.26	0.41	0.48
Bhithaura	May-1993	0.82	0.82	0.53	0.06	0	0.21	0.33	0.41	0.32
Shahzadpur	June-1986	0.66	0.54	0.48	0.09	0.17	0.25	0.28	0.32	0.34
Allahabad	June-1980	0.66	0.61	0.62	0.08	0.22	0.26	0.3	0.38	0.42
Mirzapur	Jan-1981	0.68	0.56	0.47	0.09	0.21	0.21	0.28	0.33	0.36
Varanasi	Jan-1981	0.82	0.69	0.66	0.09	0.21	0.05	0.32	0.4	0.41

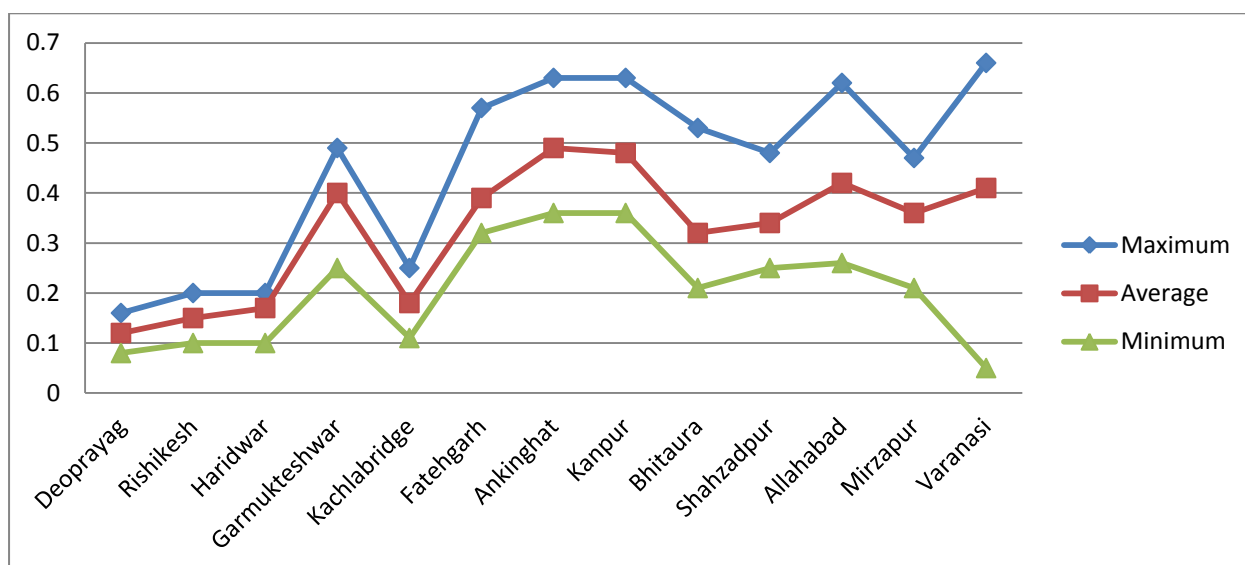
Parameter : Fluoride (mg/l) since inception



Parameter : Fluoride (mg/l) 10 year



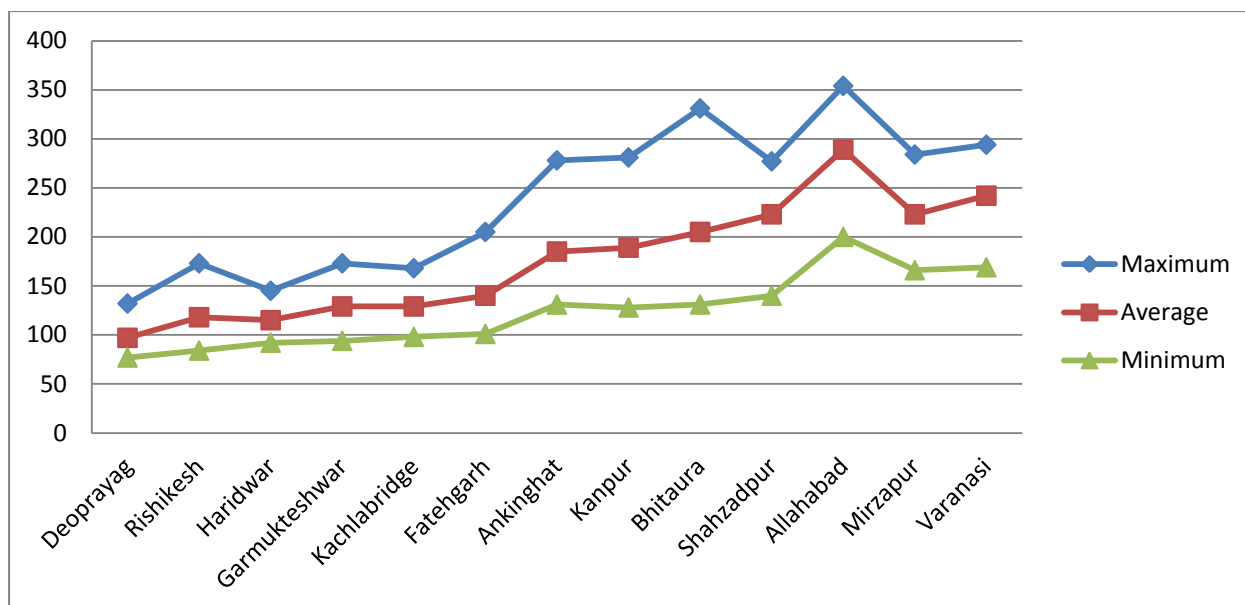
Parameter : Fluoride (mg/l) One year



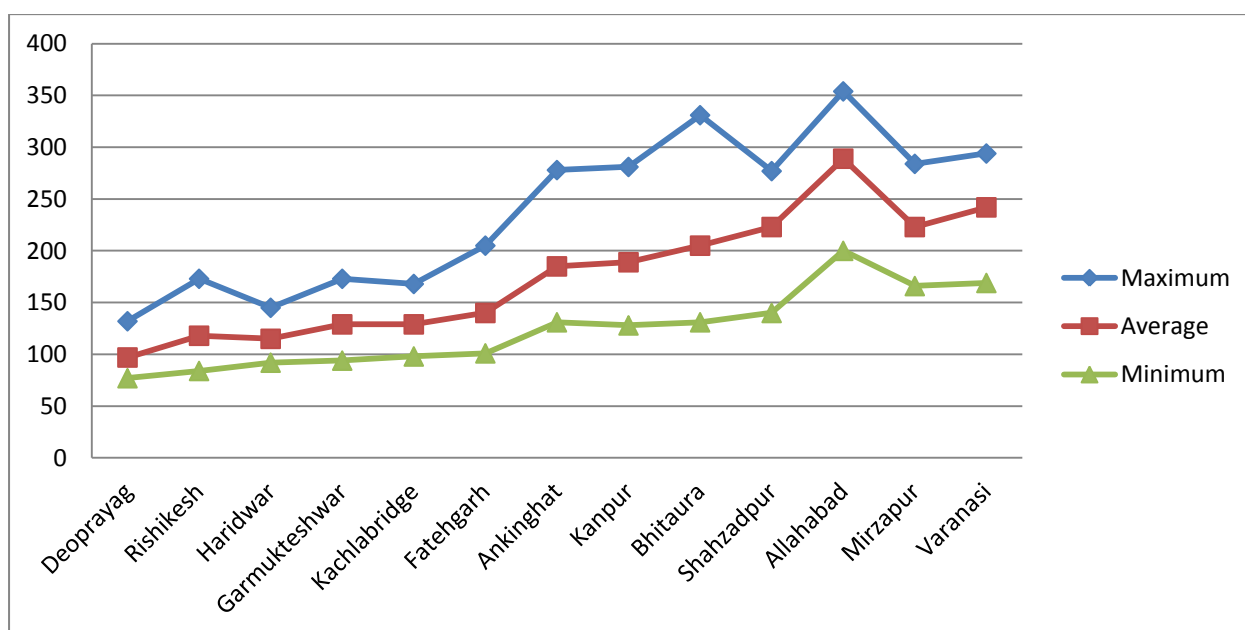
4.1.4 TDS in mg/l

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	Past 10 year	Current year	Since inception	Past 10 year	Current year	Since inception	Past 10 year	Current year
Deoprayag	Nov-2011	132	132	160	77	77	90	97	97	111
Rishikesh	Oct-2011	173	173	240	84	84	60	118	118	155
Haridwar	June-2014	145	145	155	92	92	80	115	115	115
Garmukteshwar	June-2008	173	173	138	94	94	96	129	129	122
Kachlabridge	June-2008	168	168	156	98	98	112	129	129	127
Fatehgarh	June-2008	205	205	222	101	101	122	140	140	156
Ankinghat	June-2008	278	278	216	131	131	130	185	185	177
Kanpur	June-2008	281	281	228	128	128	151	189	189	183
Bhithaura	June-2008	331	331	410	131	131	149	205	205	241
Shahzadpur	June-2009	277	277	310	140	140	144	223	223	229
Allahabad	June-2009	354	354	403	200	200	138	289	289	260
Mirzapur	June-2009	284	284	345	166	166	120	223	223	263
Varanasi	June-2009	294	294	300	169	169	224	242	242	260

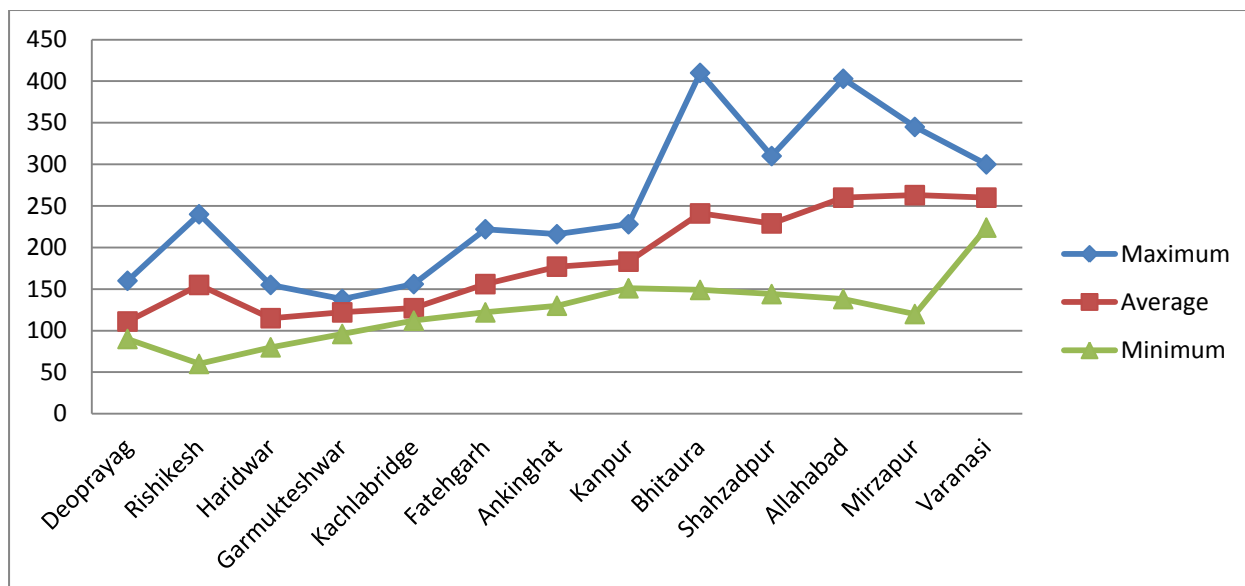
Parameter : TDS (mg/l) since inception



Parameter :TDS (mg/l) 10 year



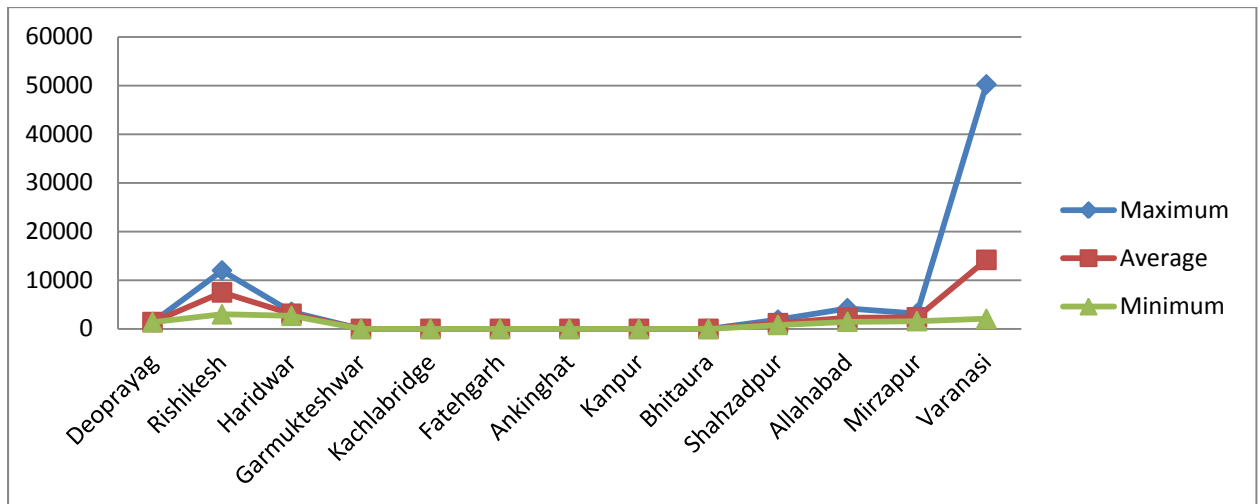
Parameter : TDS (mg/l) One year



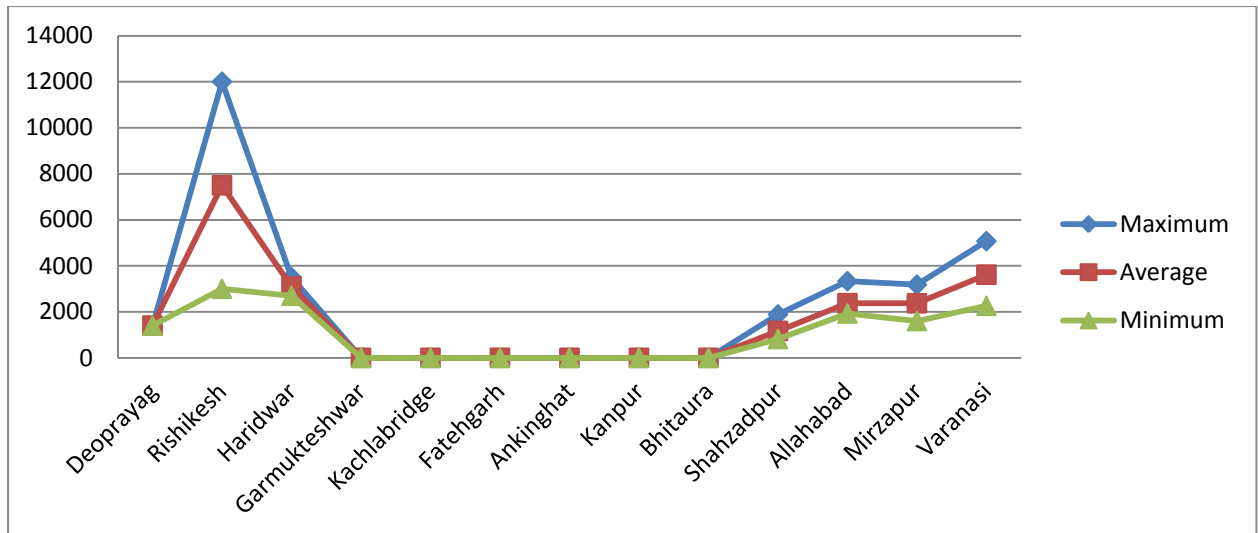
4.1.5 Faecal coliform in MPN/100ml

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	Past 10 year	Current year	Since inception	Past 10 year	Current year	Since inception	Past 10 year	Current year
Deoprayag	July-2015	1400	1400	1400	1400	1400	1400	1400	1400	1400
Rishikesh	Feb-2015	12000	12000	12000	3000	3000	3000	7500	7500	7500
Haridwar	Apr-2015	3500	3500	3500	2700	2700	2700	3100	3100	3100
Garh	-	-	-	-	-	-	-	-	-	-
Kachlabridge	-	-	-	-	-	-	-	-	-	-
Fatehgarh	-	-	-	-	-	-	-	-	-	-
Ankinghat	-	-	-	-	-	-	-	-	-	-
Kanpur	-	-	-	-	-	-	-	-	-	-
Bhithaura	-	-	-	-	-	-	-	-	-	-
Shahzadpur	Jun-2006	1885	1885	2500	820	820	1600	1172	1172	2017
Allahabad	Nov-1995	4236	3330	4300	1476	1930	2800	2304	2374	3217
Mirzapur	Jan-2007	3180	3180	3600	1600	1600	2000	2373	2373	2608
Varanasi	Mar-1995	50214	5070	5100	2079	2260	3000	14183	3614	3608

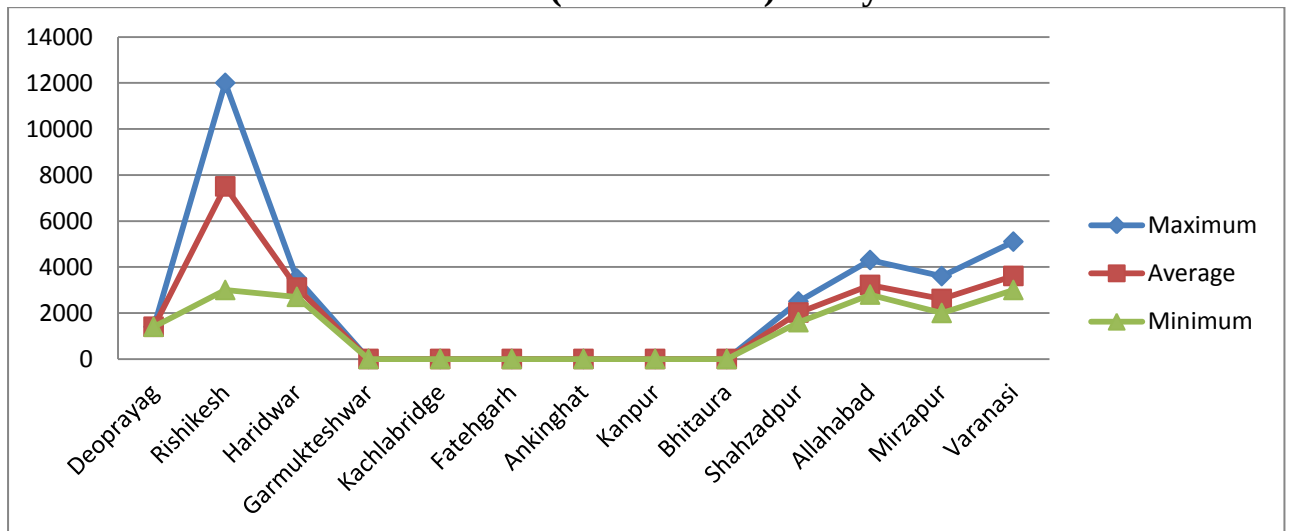
Parameter : Fcol (MPN/100 ml) since inception



Parameter : Fcol(MPN/100 ml) 10 year



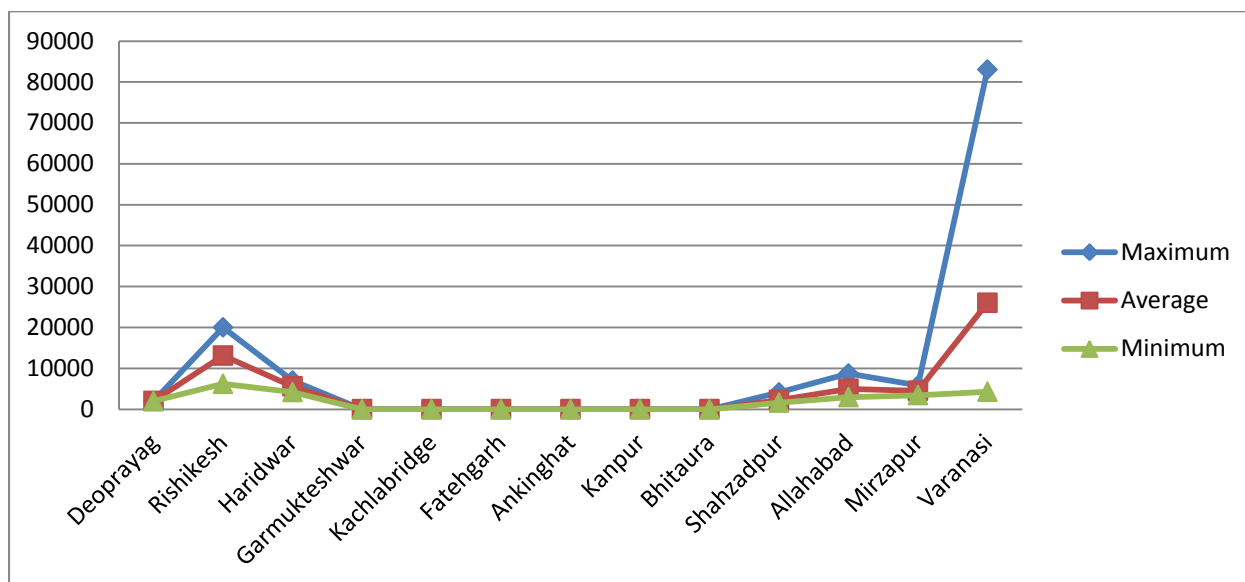
Parameter : Fcol(MPN/100 ml) One year



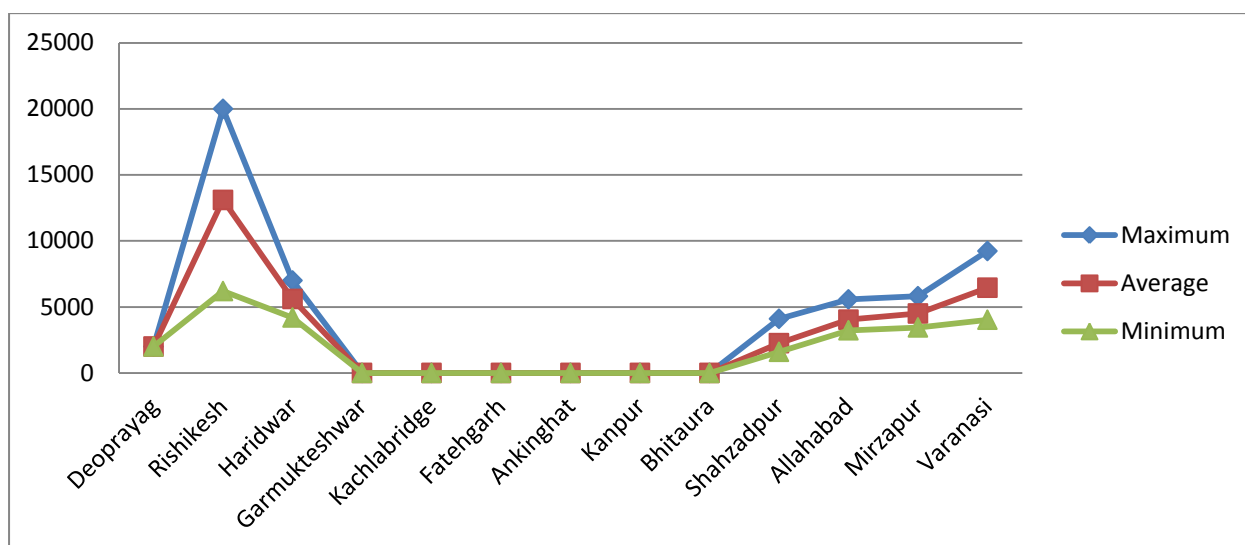
4.1.6 Total coliform in MPN/100ml

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	Past 10 year	Current year	Since inception	Past 10 year	Current year	Since inception	Past 10 year	Current year
Deoprayag	July-2015	2000	2000	2000	2000	2000	2000	2000	2000	2000
Rishikesh	Feb-2015	20000	20000	20000	6200	6200	6200	13100	13100	13100
Haridwar	April-2015	7000	7000	7000	4200	4200	4200	5600	5600	5600
Garh	-	-	-	-	-	-	-	-	-	-
Kachlabridge	-	-	-	-	-	-	-	-	-	-
Fatehgarh	-	-	-	-	-	-	-	-	-	-
Ankinghat	-	-	-	-	-	-	-	-	-	-
Kanpur	-	-	-	-	-	-	-	-	-	-
Bhithaura	-	-	-	-	-	-	-	-	-	-
Shahzadpur	June-2006	4100	4100	6000	1600	1600	4200	2254	2254	4958
Allahabad	Nov-1995	8721	5570	8100	2960	3230	6000	4988	4032	6942
Mirzapur	Jan-2007	5810	5810	7100	3447	3447	4700	4501	4501	5352
Varanasi	Mar-1995	83019	9230	11000	4260	4030	6800	26000	6453	7758

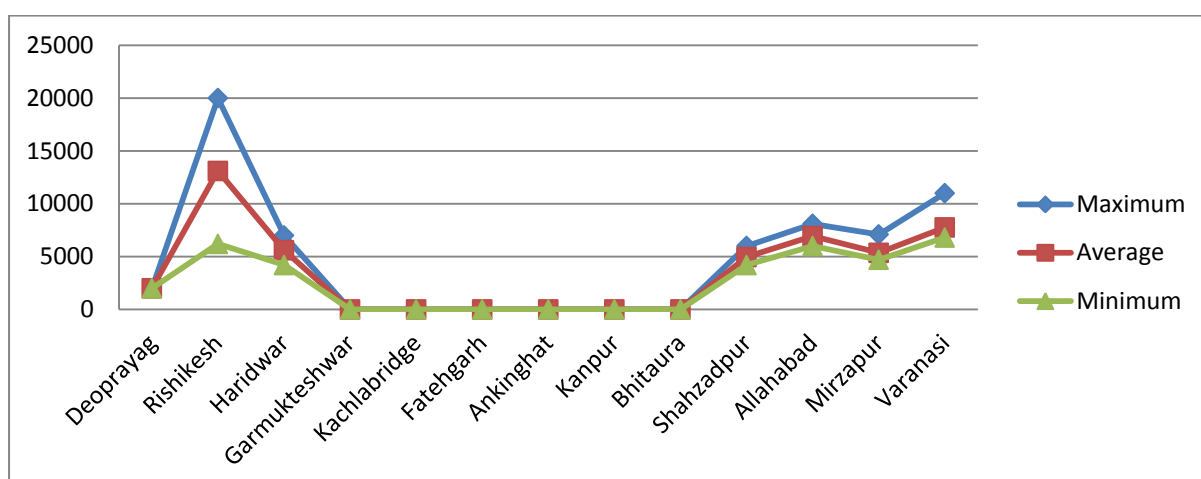
Parameter : Tcol(MPN/100 ml) since inception



Parameter : Tcol(MPN/100 ml) 10 year



Parameter : Tcol(MPN/100 ml)One year



4.2 River : ALAKNANDA (River 2) : The Alaknanda is considered to rise at the confluence and foot of the Satopanth and Bhagirath Kharak glaciers in Uttarakhand, though the Saraswati River tributary flowing from Mana Pass is longer; the two meet at Mana, India, 21 km from Tibet. Three km below Mana the Alaknanda flows past the Hindu pilgrimage centre of Badrinath. It meets the Bhagirathi River at Devprayag after flowing for approximately 190 km through the Alaknanda valley. Its main tributaries are the Mandakini, Nandakini, and Pindar rivers

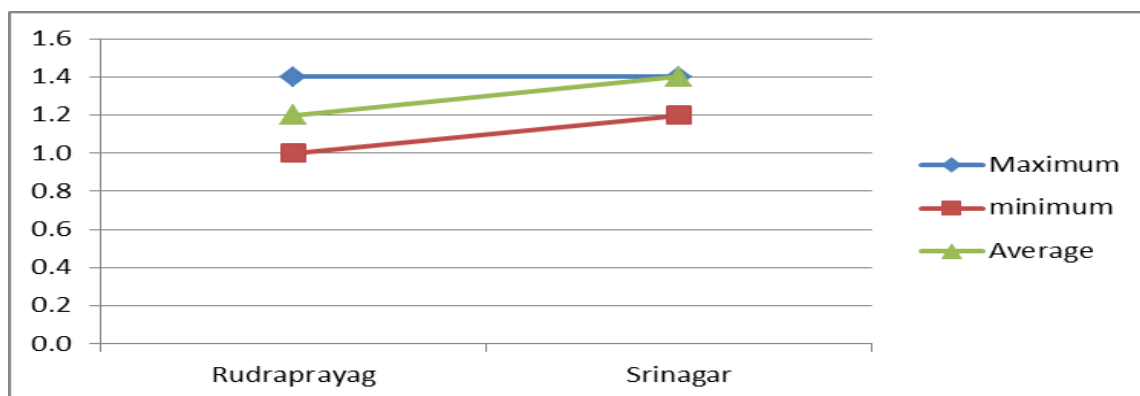
W.Q. Network :

S.No.	Name of Site	River	Class
1	Rudraprayag	Alaknanda	Base
2	Srinagar	Alaknanda	Trend

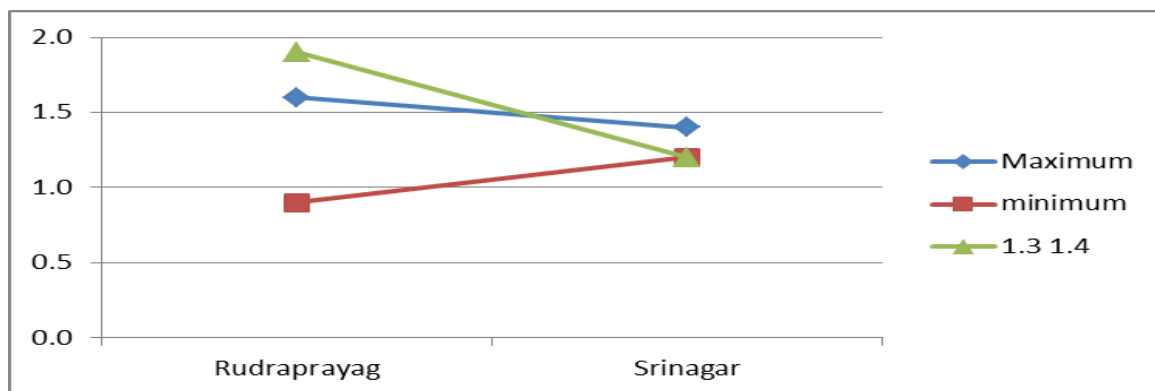
4.2.1 BOD in mg/l

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	10 year	One year	Since inception	10 year	One year	Since inception	10 year	One year
Rudraprayag	15-05-1988	1.4	1.6	3.3	1.0	0.9	0.6	1.2	1.3	1.9
Srinagar	01-06-2014	1.4	1.4	1.2	1.2	1.2	1.2	1.4	1.4	1.2

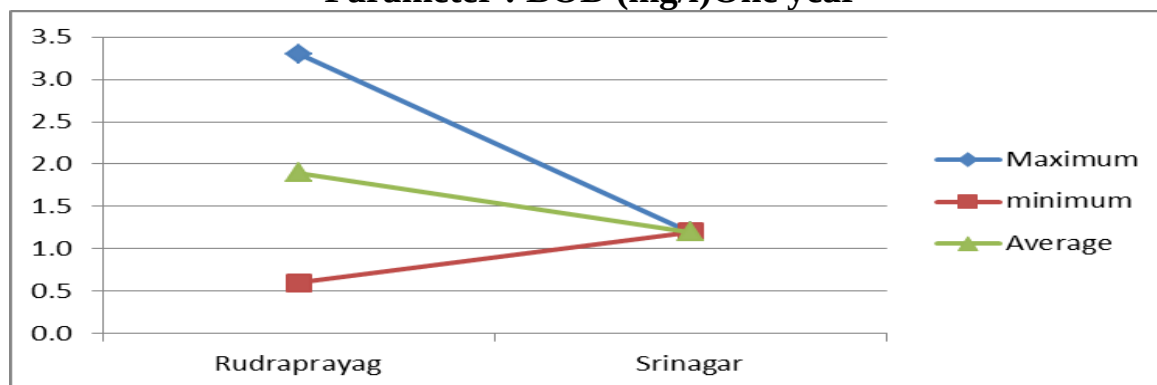
Parameter : BOD (mg/l)since inception



Parameter : BOD (mg/l)10 year



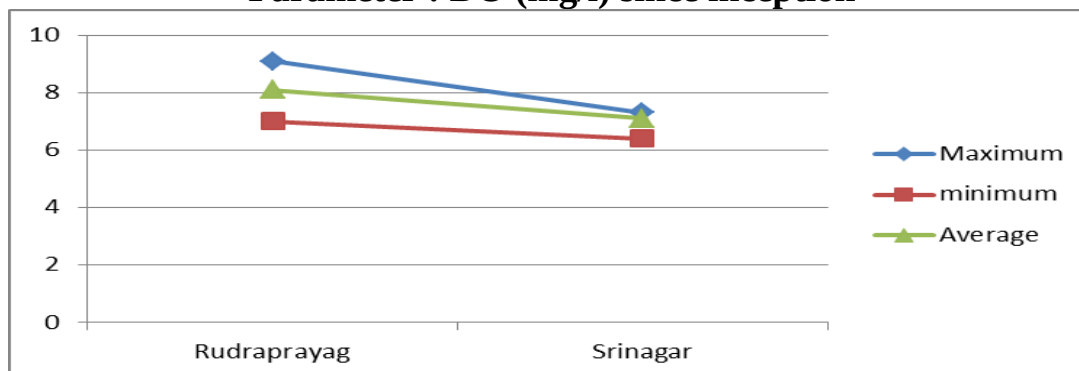
Parameter : BOD (mg/l)One year



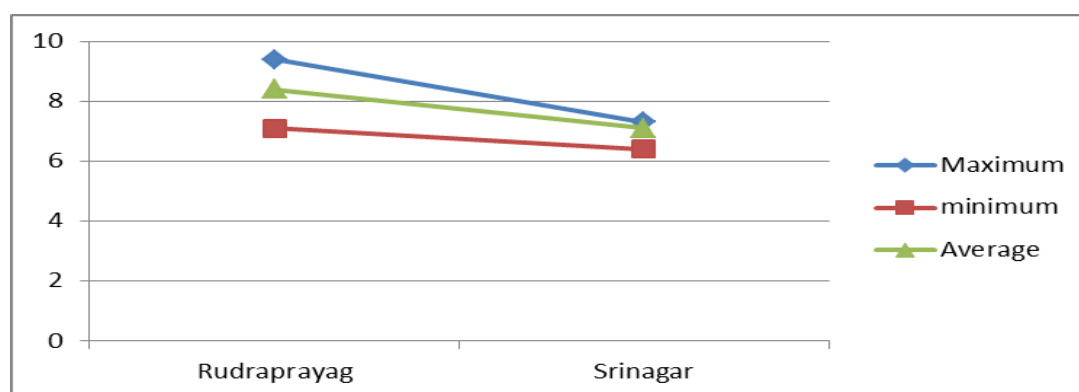
4.2.2 DO in mg/l

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	10 year	One year	Since inception	10 year	One year	Since inception	10 year	One year
Rudraprayag	15-05-1984	9.1	9.4	10	7	7.1	6.1	8.1	8.4	7.8
Srinagar	01-06-2014	7.3	7.3	6.7	6.4	6.4	6.7	7.1	7.1	6.7

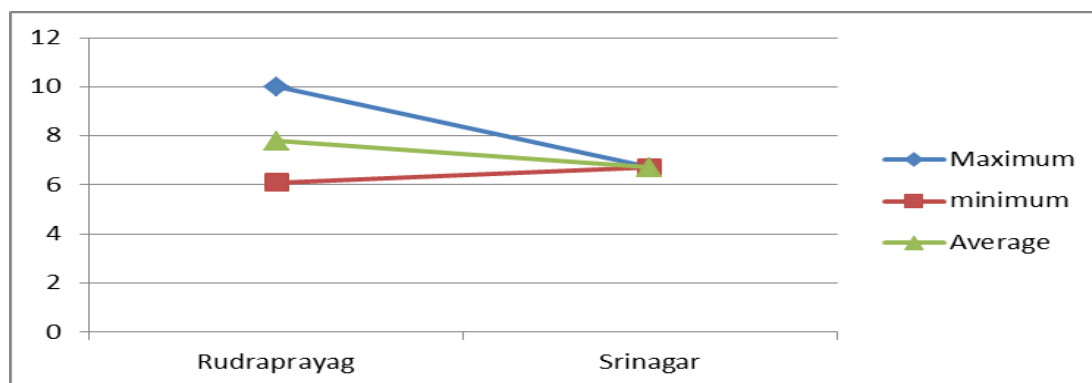
Parameter : DO (mg/l) since inception



Parameter : DO (mg/l) 10 Year



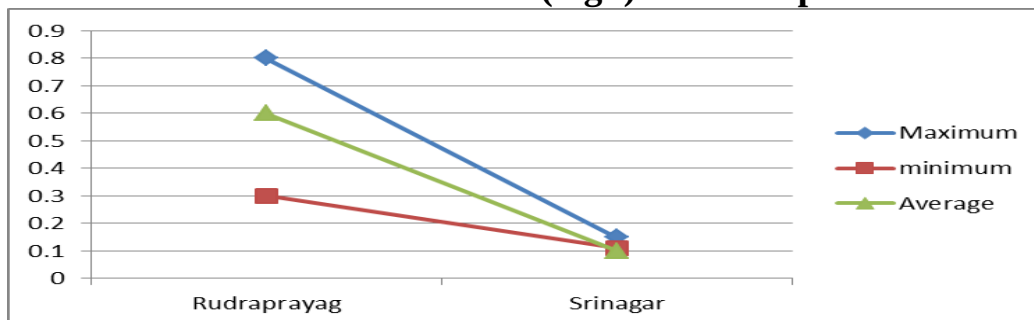
Parameter : DO (mg/l) One year



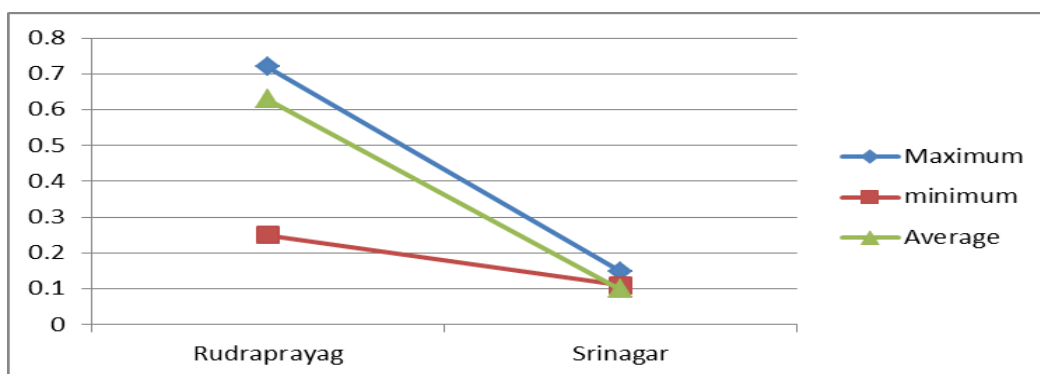
4.2.3 Fluoride in mg/l

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	10 year	One year	Since inception	10 year	One year	Since inception	10 year	One year
Rudraprayag	15-05-1987	0.8	0.72	0.3	0.3	0.25	0.1	0.6	0.63	0.2
Srinagar	01-06-2014	0.15	0.15	0.1	0.11	0.11	0.1	0.1	0.1	0.1

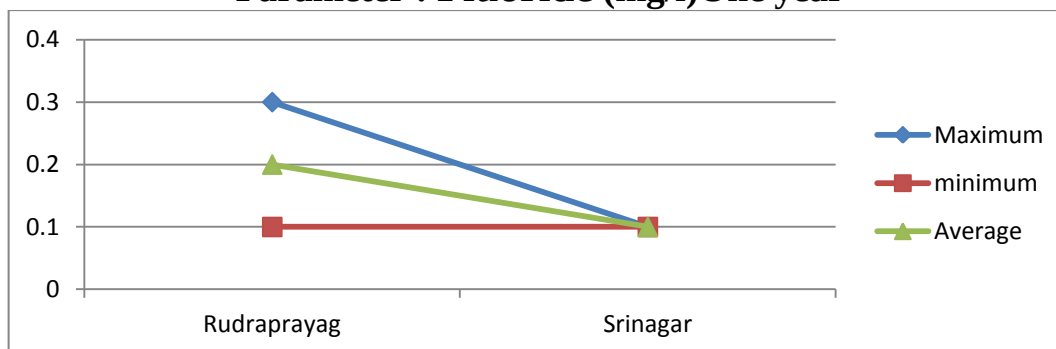
Parameter : Fluoride (mg/l) since inception



Parameter : Fluoride (mg/l)10 Year



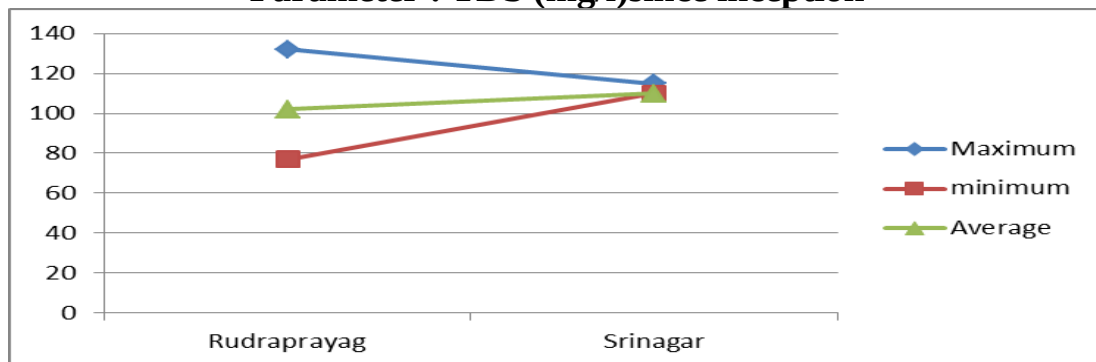
Parameter : Fluoride (mg/l)One year



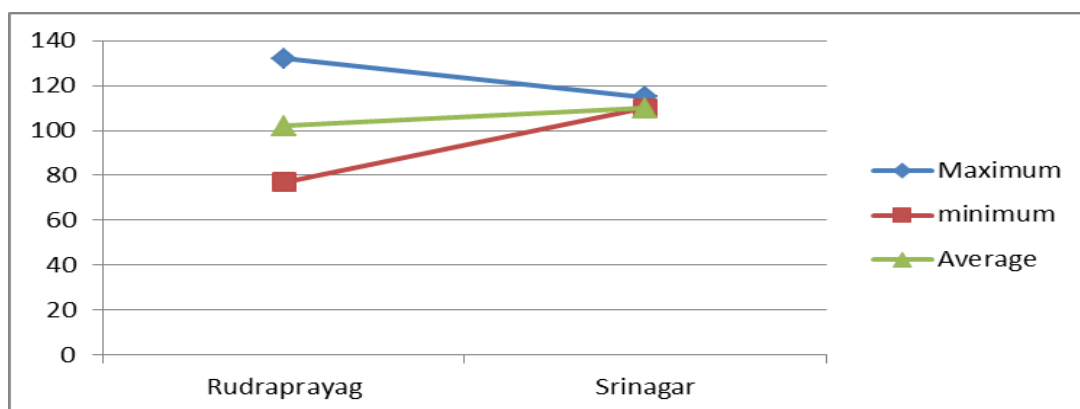
4.2.4 TDS in mg/l

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	10 year	One year	Since inception	10 year	One year	Since inception	10 year	One year
Rudraprayag	15-05-2011	132	132	165	77	77	80	102	102	119
Srinagar	01-06-2014	115	115	120	110	110	120	110	110	120

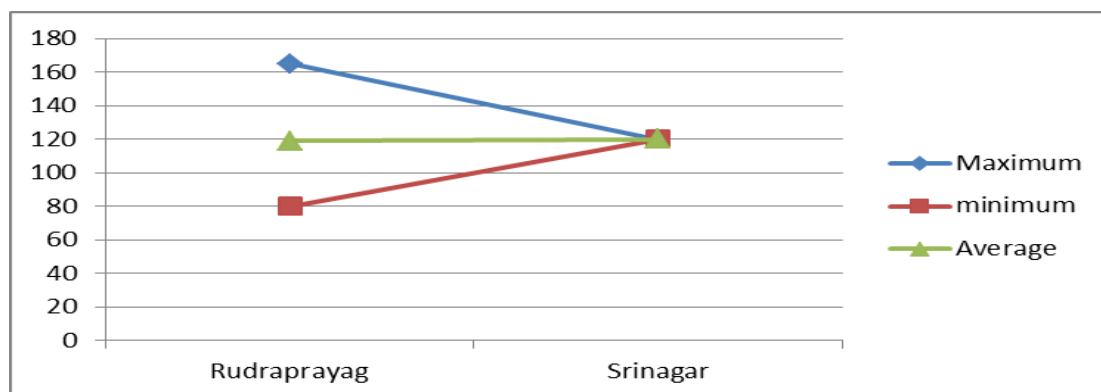
Parameter : TDS (mg/l)since inception



Parameter : TDS (mg/l)10 Year



Parameter : TDS (mg/l)One year



4.2.5 Faecal coliform in MPN/100ml

Faecal Coliform is not being observed at stations on river Alaknanda.

4.2.6 Total coliform in MPN/100ml

Total Coliform is not being observed at stations on river Alaknanda.

4.3 River : BHAGIRATHI (River 3) : Bhagirathi is a turbulent Himalayan river in the Indian state of Uttarakhand, and one of the two headstreams of the Ganges. The Bhagirathi is considered the source stream of the Ganges and confluences with river Alaknanda at Deoprayag.

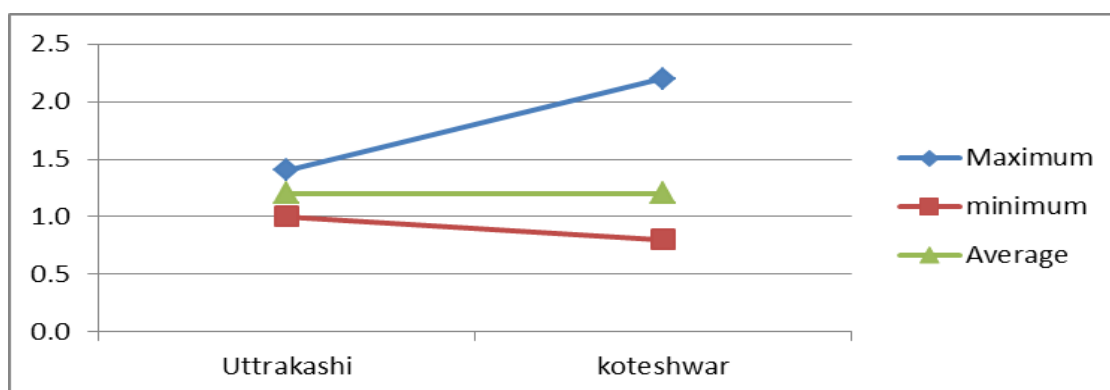
W.Q. Network :

S.No.	Name of Site	River	Class
1	Uttrakashi	Bhagirathi	Base
2	koteswar	Bhagirathi	Base

4.2.1 BOD in mg/l

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	10 year	One year	Since inception	10 year	One year	Since inception	10 year	One year
Uttrakashi	01-06-1990	1.4	1.6	2.5	1.0	0.9	0.6	1.2	1.3	1.6
koteswar	03-07-2011	2.2	2.2	4.6	0.8	0.8	0.6	1.2	1.2	1.6

Parameter : BOD (mg/l) since inception



Parameter : Parameter : BOD (mg/l) 10 year



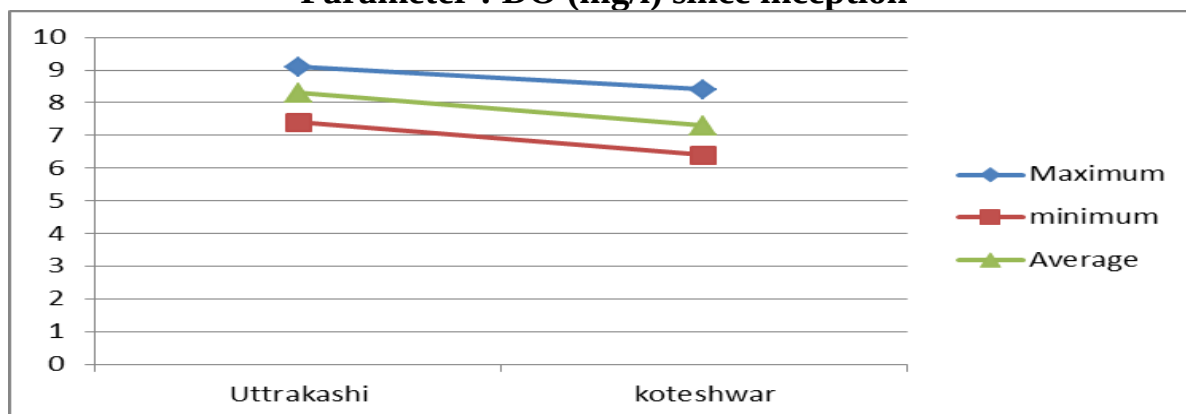
Parameter : BOD (mg/l) One year



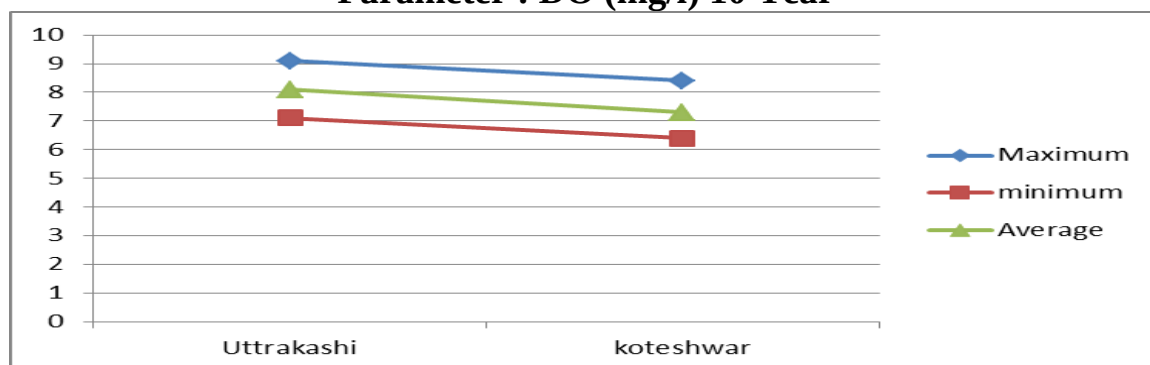
4.2.2 DO in mg/l

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	10 year	One year	Since inception	10 year	One year	Since inception	10 year	One year
Uttrakashi	01-06-1989	9.1	9.1	10.2	7.4	7.1	6.8	8.3	8.1	7.9
koteswar	03-07-2011	8.4	8.4	8.2	6.4	6.4	5.9	7.3	7.3	7

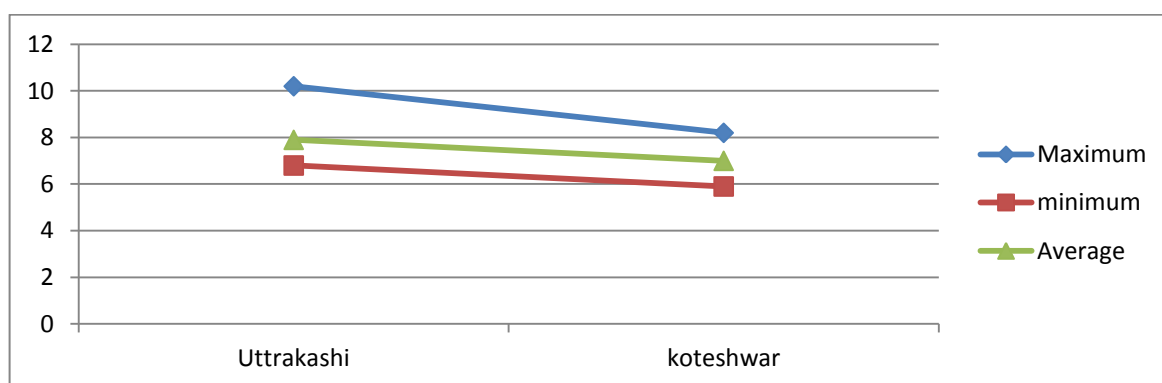
Parameter : DO (mg/l) since inception



Parameter : DO (mg/l) 10 Year



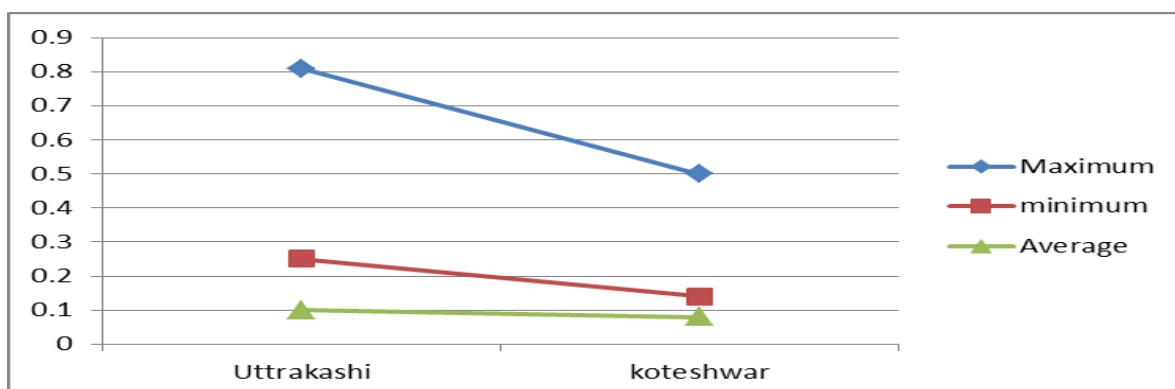
Parameter : DO (mg/l) One year



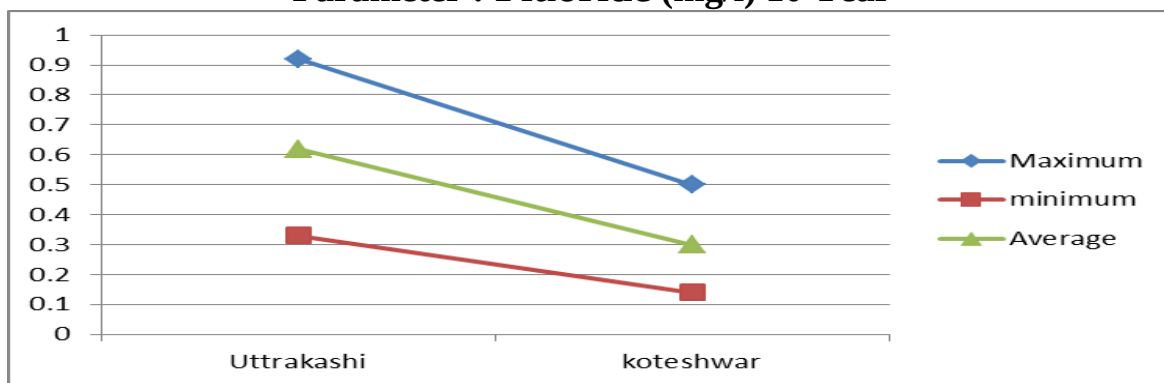
4.2.3 Fluoride in mg/l

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	10 year	One year	Since inception	10 year	One year	Since inception	10 year	One year
Uttrakashi	01-06-1989	0.81	0.92	0.16	0.25	0.33	0.1	0.5	0.62	0.13
koteswar	03-07-2011	0.5	0.5	0.26	0.14	0.14	0.08	0.3	0.3	0.15

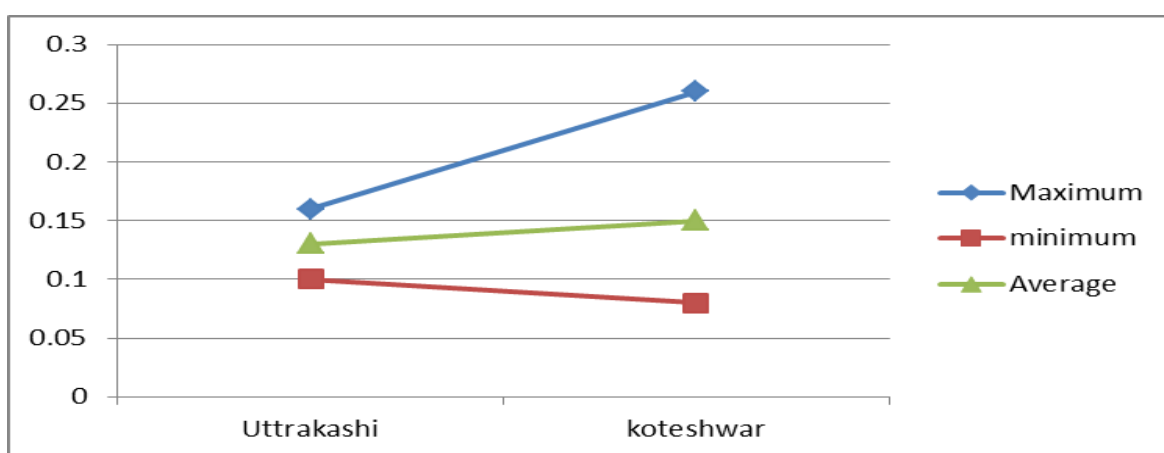
Parameter : Fluoride (mg/l) since inception



Parameter : Fluoride (mg/l) 10 Year



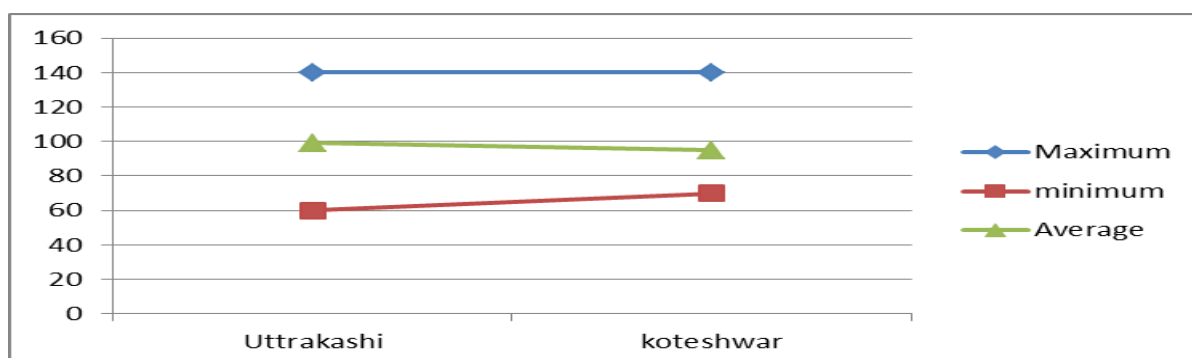
Parameter : Fluoride (mg/l) One year



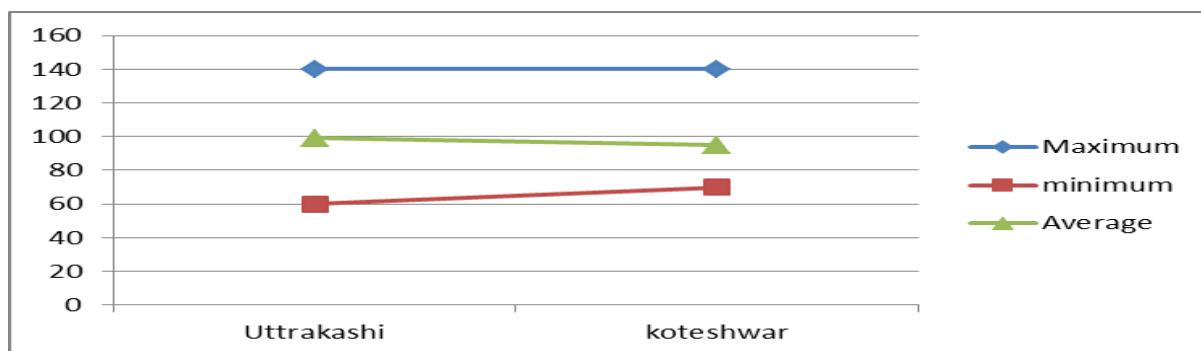
4.2.4 TDS in mg/l

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	10 year	One year	Since inception	10 year	One year	Since inception	10 year	One year
Uttrakashi	01-06-2011	113	113	140	61	61	60	90	90	99
koteswar	03-07-2011	111	111	140	61	61	70	82	82	95

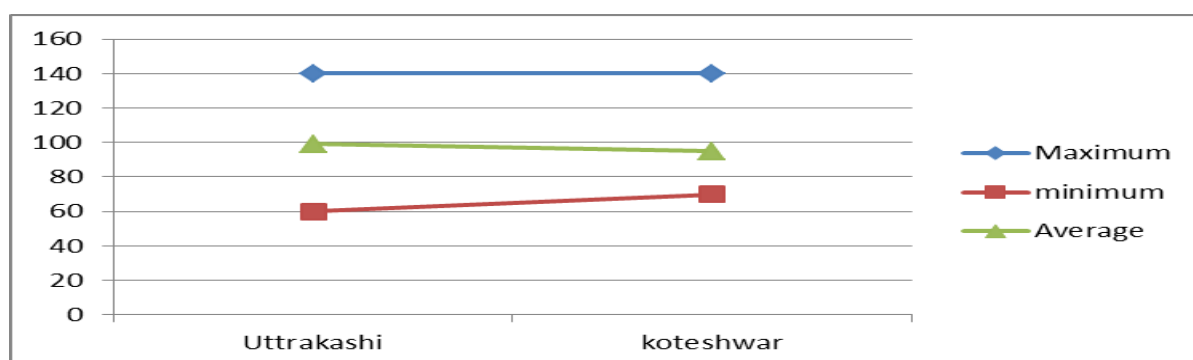
Parameter : TDS (mg/l) since inception



Parameter : TDS 10 (mg/l) Year



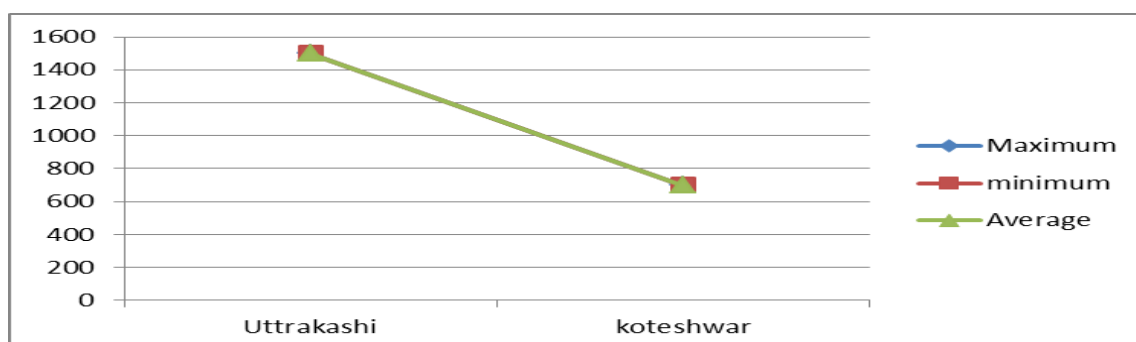
Parameter : TDS (mg/l) One year



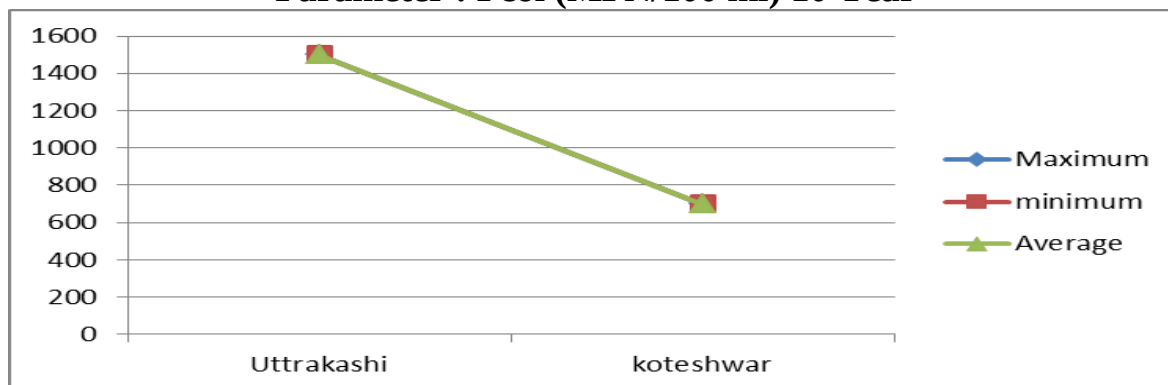
4.2.5 Fecal coliform in MPN/100ml

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	10 year	One year	Since inception	10 year	One year	Since inception	10 year	One year
Uttrakashi	01-06-2015	1500	1500	1500	1500	1500	1500	1500	1500	1500
koteswar	20-08-2015	700	700	700	700	700	700	700	700	700

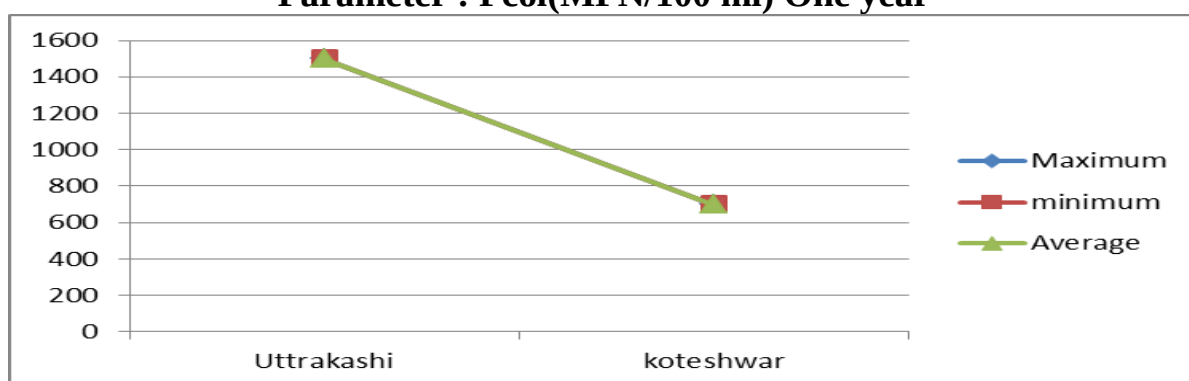
Parameter : Fcol(MPN/100 ml) since inception



Parameter : Fcol (MPN/100 ml) 10 Year



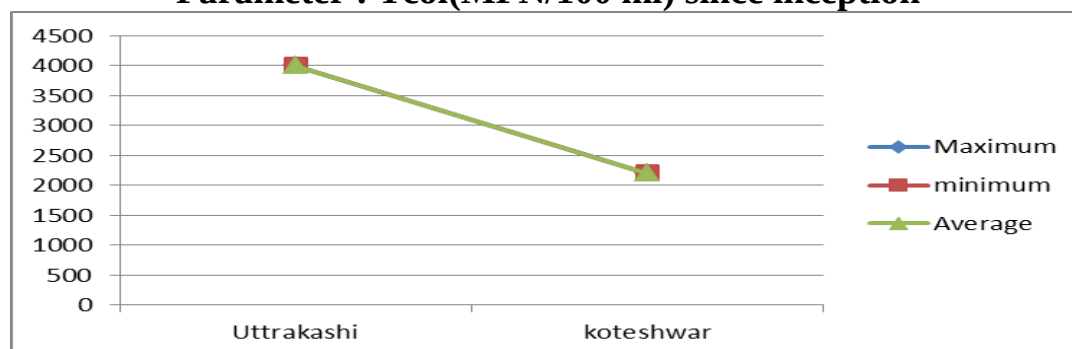
Parameter : Fcol(MPN/100 ml) One year



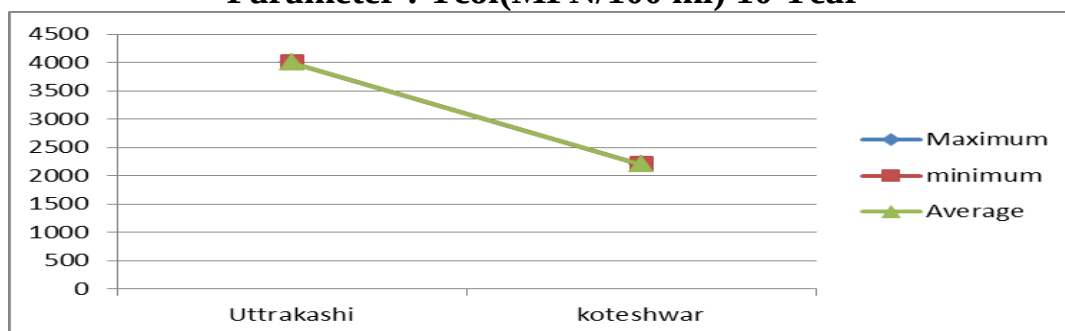
4.2.6 Total coliform in MPN/100ml

Site Name (From U/S to D/S)	Inception Date	Avg. of Yearly Maximum			Avg. of Yearly Minimum			Annual Average		
		Since inception	10 year	One year	Since inception	10 year	One year	Since inception	10 year	One year
Uttrakashi	01-06-2015	4000	4000	4000	4000	4000	4000	4000	4000	4000
koteshwar	20-08-2015	2200	2200	2200	2200	2200	2200	2200	2200	2200

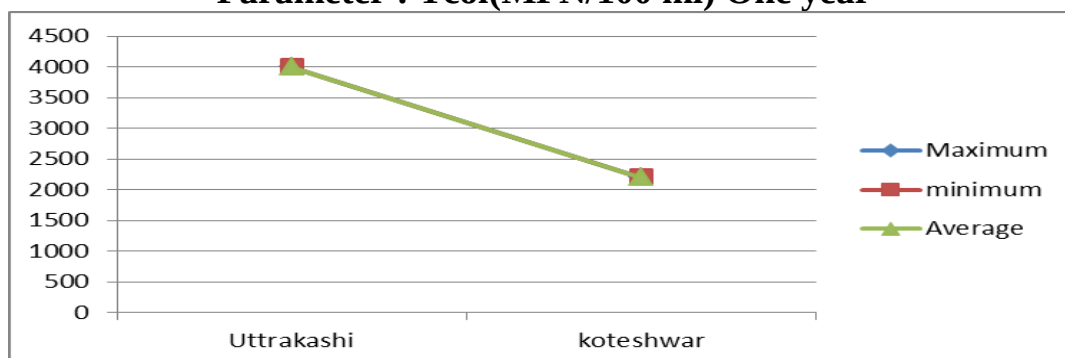
Parameter : Tcol(MPN/100 ml) since inception



Parameter : Tcol(MPN/100 ml) 10 Year



Parameter : Tcol(MPN/100 ml) One year



5. General Remark / Conclusion about W.Q. trend – River 1 Ganga(Main Stem) :

- The annual average BOD value since date of inception of the parameter observation, ranges from 1.3 mg/l at Deoprayag to 5.8 mg/l at Kanpur and more or less the same trend is observed during the last 10 years annual average values at all the sites. However during the current year 2015-16, the annual average values are appreciably high in comparison to past 10 years annual average data for the stations at Deoprayag, Rishikesh, Garhmukteshwar, Kachla Bridge, Fatehgarh, Ankinghat, Kanpur and Bhithaura, which may be due to poor monsoon and consequently low flows in the river..The average values are more than 3.0 mg/l for all stations from Garhmukteshwar to Varanasi except at Deoprayag and Rishikesh where it is below 3.0 mg/l. However the minimum observed values at all the sites are below 3.0 mg/l for all the sites. High BOD values in the range of 20-25 mg/l has been observed for stations from Kachlabridge to Bhithaura.
- The average D.O values in general is above 6.0 mg/l for all stations on long term basis. However during the past 10 years there is declining trend in DO for the river stretch from Garhmukteshwar to Bhithaura. Again during the current year the average values values of DO are less in comparison to long term/past 10 year values for the stretch from Garhmukteshwar to Bhithaura.

- The fluoride values are well below the tolerance limit of 1.5 mg/l for all the stations on all occasions.
- The TDS average values ranges from 97 to 289 mg/l and is well within the limit of 500 mg/l for Class A waters.
- The total coliform concentration in the river is very high and on an average it is about 5000 MPN/100 ml along the river from Rishikesh to Varanasi. At Deoprayag the average total coliform is around 2000 MPN/100 ml. The problem is more aggravated during the initial period of monsoon and during peak summer season.
- The faecal coliform on an average is about 3000 MPN/100 ml for the river except Deoprayag where it is on an average around 1400 MPN/100 ml. Open defaecation, animal carcass, cattle wallowing etc. are some of the prime reasons for increased F. Coli values.

River 2 -Alaknanda :

- The BOD values at the stations on this river is less than 2.0 mg/l and the D.O values on average is more than 7.0 mg/l throughout the year and the waters qualifies as Class A waters from DO and BOD point of view.
- Average fluoride value ranged 0.1 to 0.8 mg/l and is safe for human consumption with respect to the tolerance limit of 1.5 mg/l.
- Average TDS value are around 100 mg/l which is within the tolerance limit of 500 mg/l for Class A water.

River 3 Bhagirathi :

- Average BOD value is around 1.5 mg/l and D.O values are more than 7.0 mg/l for both the stations at Uttarkashi and Koteswar and classify under Class A waters.
- The Fluoride values ranges in between 0.08 to 0.92 mg/l which is well below the tolerance limit of 1.5 mg/l.
- The TDS values on average is around 90 mg/l.
- The Total coliform and Faecal coliform at the two stations ranges from 2200-4000 MPN/100 ml and 700 – 1500 MPN/100 ml respectively with higher values being observed at Uttarkashi.

The total and Faecal coliforms in the whole stretch of river from Uttarkashi to Varanasi is a matter of concern as its presence can cause health issue amongst people using river water specially for bathing and other rituals. The BOD values in middle stretch of river Ganga from Garhmukteswar to Varanasi during summer season is very high and proper measures are required to control the high BOD values.

History Sheet

Data

HISTORY SHEET

		Water Year	: 2015-2016
Site	: Uttarkashi	Code	: GG100K4
State	: Uttarakhand	District	Uttarkashi
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	: Bhagirathi-I	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Bhagirathi-I
Division	: HGD,Dehradun	Sub-Division	: Bhagirathi Sub Division,Tehri
Drainage Area	: 4555 Sq. Km.	Bank	:
Latitude	: 30°45'00"	Longitude	: 78°20'00"
	Opening Date	Closing Date	
Gauge	: 15-07-1971		
Discharge	: 15-07-1971		
Sediment	: 12-06-1989		
Water Quality	: 01-06-1989		

Water Quality Datasheet for the period : 2015-2016

Station Name : Uttarkashi (GG100K4)

Division : HGD,Dehradun

Local River : Bhagirathi-I

River Water Analysis

Sub-Division : Bhagirathi Sub Division,Tehri

S.No	Parameters	01-06-2015	01-07-2015	03-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	206.0	371.7	782.8	503.0	170.4	53.30	37.98	31.80	26.24	27.52	34.07	50.92
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (μmho/cm)	150	135	110	106	145	157	145	176	151	192	205	
4	EC_GEN (μmho/cm)	145	129	100	100	140	153	142	172	146	188	199	210
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.1	7.4	8.1	7.4	8.0	7.5	7.6	8.1	8.2	8.1	8.1	
7	pH_GEN (pH units)	7.3	7.6	8.4	7.6	8.2	7.7	7.8	8.3	8.4	8.3	8.3	8.2
8	TDS (mg/L)	100	90	70	60	100	100	90	90	100	120	130	140
9	Temp (deg C)	11.0	11.0	11.5	11.0	10.5	14.0	7.0	7.0	7.0	9.5	10.5	12.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	36	44	52	56	64	68	48	52	60	80	68	64
3	B (mg/L)	0.08	0.10	0.12	0.08	0.10	0.14	0.12	0.11	0.09	0.10	0.05	
4	Ca (mg/L)	18	22	21	22	26	24	42	35	37	24	29	34
5	Cl (mg/L)	14.0	20.0	18.0	16.0	14.0	16.0	14.0	16.0	12.0	12.0	16.0	14.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.10	0.14	0.15	0.13	0.11	0.14	0.12	0.10	0.12	0.15	0.11	0.16
8	Fe (mg/L)											0.0	
9	HCO3 (mg/L)	44	54	63	68	78	83	59	63	73	98	83	78
10	K (mg/L)	6.0	5.0	5.2	5.0	4.9	5.2	6.0	4.0	5.0	5.0	6.0	7.0
11	Mg (mg/L)	14.6	18.5	19.5	12.7	9.8	10.7	20.5	19.5	13.7	7.8	9.8	17.6
12	Na (mg/L)	8.0	7.3	6.8	6.4	7.0	7.4	8.0	6.0	8.0	9.0	9.0	12.0
13	NH3-N (mg N/L)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.62	0.62	0.66	0.58	0.40	0.30	0.36	0.32	0.39	0.40	0.32	
15	NO2-N (mgN/L)	0.34	0.30	0.36	0.32	0.24	0.20	0.22	0.21	0.24	0.26	0.22	
16	NO3-N (mgN/L)	0.28	0.32	0.30	0.26	0.16	0.10	0.14	0.11	0.15	0.14	0.10	
17	P-Tot (mgP/L)	0.100	0.080	0.120	0.008	0.005	0.007	0.140	0.200	0.160	0.180	0.014	0.170
18	SO4 (mg/L)	18.0	22.0	25.0	23.0	22.0	24.0	21.0	20.0	24.0	23.0	20.0	26.0
	BIOLOGICAL/BACTERIOLOGICAL												

Water Quality Datasheet for the period : 2015-2016

Station Name : Uttarkashi (GG100K4)

Division : HGD,Dehradun

Local River : Bhagirathi-I

River Water Analysis

Sub-Division : Bhagirathi Sub Division,Tehri

S.No	Parameters	01-06-2015	01-07-2015	03-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
1	BOD3-27 (mg/L)	1.4	2.5	2.3	1.0	1.8	2.2	0.6	1.4	1.3	1.8	1.8	1.4
2	COD (mg/L)	12.1	11.2	8.2	8.1	7.5	6.8	3.7	7.5	8.2	9.0	6.4	7.6
3	DO (mg/L)	7.9	10.2	7.5	8.1	7.1	7.7	8.5	8.5	7.2	7.4	6.8	
4	DO_SAT% (%)	72	92	68	74	63	74					60	
5	FCol-MPN (MPN/100mL)												1500
6	Tcol-MPN (MPN/100mL)												4000
	TRACE & TOXIC												
1	As (µg/L)							1.00				1.00	
2	Cd (µg/L)							0.01				0.01	
3	Cr (µg/L)							2.00				2.00	
4	Cu (µg/L)							1.00				1.00	
5	Ni (µg/L)							1.00				1.00	
6	Pb (µg/L)							1.00				1.00	
7	Zn (µg/L)							0.20				0.10	
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	44	56	52	56	64	60	104	88	92	60	72	84
2	HAR_Total (mgCaCO3/L)	105	133	133	109	105	105	190	170	149	93	113	157
3	Na% (%)	13	10	10	11	12	13	8	7	10	17	14	14
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.4	0.4
	PESTICIDES												

Water Quality Summary for the period : 2015-2016

Station Name : Uttarkashi (GG100K4)

Division : HGD,Dehradun

Local River : Bhagirathi-I

Sub-Division : Bhagirathi Sub Division,Tehri

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	1012	10.91	198.5
2	EC_FLD (μmho/cm)	11	205	106	152
3	EC_GEN (μmho/cm)	12	210	100	152
4	pH_FLD (pH units)	11	8.2	7.1	7.8
5	pH_GEN (pH units)	12	8.4	7.3	8
6	TDS (mg/L)	12	140	60	99
7	Temp (deg C)	12	14.0	7.0	10.2
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	80	36	58
3	B (mg/L)	11	0.14	0.05	0.1
4	Ca (mg/L)	12	42	18	28
5	Cl (mg/L)	12	20.0	12.0	15.2
6	CO3 (mg/L)	12	0.0	0.0	0
7	F (mg/L)	12	0.16	0.10	0.13
8	Fe (mg/L)	1	0.0	0.0	0
9	HCO3 (mg/L)	12	98	44	70
10	K (mg/L)	12	7.0	4.0	5.4
11	Mg (mg/L)	12	20.5	7.8	14.6
12	Na (mg/L)	12	12.0	6.0	7.9
13	NH3-N (mg N/L)	12	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	11	0.66	0.30	0.45
15	NO2-N (mgN/L)	11	0.36	0.20	0.26
16	NO3-N (mgN/L)	11	0.32	0.10	0.19
17	P-Tot (mgP/L)	12	0.200	0.005	0.099
18	SO4 (mg/L)	12	26.0	18.0	22.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	2.5	0.6	1.6
2	COD (mg/L)	12	12.1	3.7	8
3	DO (mg/L)	11	10.2	6.8	7.9
4	DO_SAT% (%)	7	92	60	72
5	FCol-MPN (MPN/100mL)	1	1500	1500	1500
6	Tcol-MPN (MPN/100mL)	1	4000	4000	4000
	TRACE & TOXIC				
1	As (μg/L)	2	1.00	1.00	1
2	Cd (μg/L)	2	0.01	0.01	0.01
3	Cr (μg/L)	2	2.00	2.00	2
4	Cu (μg/L)	2	1.00	1.00	1
5	Ni (μg/L)	2	1.00	1.00	1
6	Pb (μg/L)	2	1.00	1.00	1
7	Zn (μg/L)	2	0.20	0.10	0.15
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	104	44	69
2	HAR_Total (mgCaCO3/L)	12	190	93	130
3	Na% (%)	12	17	7	12
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.4	0.2	0.3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Uttarkashi (GG100K4)

Division : HGD,Dehradun

Local River : Bhagirathi-I

River Water

Sub-Division : Bhagirathi Sub Division,Tehri

S.No	Parameters	Flood														
		Jun - Oct														
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	PHYSICAL															
1	Q (cumec)	242.0	241.3	280.8	172.5	301.3	303.8	263.6	231.5	189.9	266.0	432.6	325.5	457.4	429.5	406.8
2	EC_FLD (µmho/cm)	152	149	120	108	114	114	193	120	137	119		100		140	129
3	EC_GEN (µmho/cm)	152	149	120	108	114	114	193	120	137	119	133	128	151	133	123
4	pH_FLD (pH units)	8.1	8.2	8.0	8.1	7.7	8.0	8.1	7.5	7.0	8.2	7.9	7.9		7.6	7.6
5	pH_GEN (pH units)	8.1	8.2	8.0	8.1	7.7	8.0	8.1	7.5	7.0	8.2	7.9	7.7	7.8	7.7	7.8
6	TDS (mg/L)											70	68	98	90	84
7	Temp (deg C)	14.0	12.7	13.6	14.6	14.3	13.2	13.0	12.2	12.7	12.6	13.1	12.5	12.4	11.4	11.0
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	64	59	59	55	44	60	57		63	45	50	28	40	48	50
2	B (mg/L)					0.14	0.10	0.12				0.60	0.15	0.11	0.10	0.10
3	Ca (mg/L)	24	23	19	26	22	25	23	22	14	8	12	9	15	15	22
4	Cl (mg/L)	8.2	7.4	8.4	8.4	9.3	8.8	9.5	7.6	8.8	6.4	8.3	4.8	9.8	10.0	16.4
5	F (mg/L)	0.04	0.09	0.11	0.15	0.57	0.65	1.40	0.58	0.78	0.66	0.54	0.26	0.31	0.15	0.13
6	Fe (mg/L)	0.1	0.2	0.2	0.2			0.9	0.9	0.8	0.8					
7	HCO3 (mg/L)	78	72	72	67	54	73	70	75	77	55	61	35	49	58	61
8	K (mg/L)	0.0	0.0	0.0	0.0	0.3	0.1	0.3	0.4	0.6	0.6	0.6		5.1	5.4	5.2
9	Mg (mg/L)	15.5	15.9	13.8	17.1	18.3	16.1	14.9	14.9	11.5	6.9	8.4	6.5	2.5	5.0	15.0
10	Na (mg/L)	1.0	0.9	1.1	0.8	2.2	2.1	2.9	3.0	3.0	3.2	3.3		6.5	6.6	7.1
11	NH3-N (mg N/L)	0.00	0.00	0.00	0.00				0.00		0.00			0.19	0.11	0.05
12	NO2+NO3 (mg N/L)	0.12	0.17	0.15	0.12			0.34	0.38	0.36	0.37			0.13	0.09	0.58
13	NO2-N (mgN/L)	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00			0.03	0.03	0.31
14	NO3-N (mgN/L)	0.12	0.17	0.15	0.12			0.34	0.38	0.36	0.37			0.10	0.06	0.26
15	o-PO4-P (mg P/L)	0.455	0.298	0.554	0.393			0.610	0.393	0.265	0.424					
16	P-Tot (mgP/L)					0.554	0.393					0.739	0.262	0.019	0.119	0.063
17	SiO2 (mg/L)	17.6	18.4	16.7		36.0	19.4	44.0	39.2	39.2	34.8			4.1		
18	SO4 (mg/L)	5.8	6.1	5.2	5.9	5.5	7.5	8.6	7.0	7.0	8.2	9.5	10.6	16.3	30.2	22.0
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Uttarkashi (GG100K4)

Division : HGD,Dehradun

Local River : Bhagirathi-I

River Water

Sub-Division : Bhagirathi Sub Division,Tehri

S.No	Parameters	Flood														
		Jun - Oct														
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	BOD3-27 (mg/L)	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.4	1.2	1.3	1.2	1.8
2	COD (mg/L)															9.4
3	DO (mg/L)	10.8	8.1	8.7	6.6	8.3	8.2	8.0	8.5	7.5	7.6	7.6	6.8	6.9	7.8	8.2
4	DO_SAT% (%)	104	76	83	64	80	78	76	79	71	72	72	64	64	71	74
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
1	Al (mg/L)	0.00	0.00	0.02												
2	As (µg/L)															
3	Cd (µg/L)															
4	Cr (µg/L)															
5	Cu (µg/L)															
6	Ni (µg/L)															
7	Pb (µg/L)															
8	Zn (µg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	60	58	47	66	54	62	57	55	36	21	29	24	38	39	54
2	HAR_Total (mgCaCO3/L)	125	125	105	137	130	129	119	117	84	49	64	51	49	60	117
3	Na% (%)	2	1	2	1	4	3	5	5	8	13	10		20	18	11
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2		0.4	0.4	0.3
	PESTICIDES															

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Uttarkashi (GG100K4)

Division : HGD,Dehradun

Local River : Bhagirathi-I

River Water

Sub-Division : Bhagirathi Sub Division,Tehri

S.No	Parameters	Winter														
		Nov - Feb														
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL															
1	Q (cumec)	6.923	6.935	7.400	6.330	8.600	3.590	5.328	4.913	4.415	47.38	41.95	41.54	11.49	40.78	37.33
2	EC_FLD (µmho/cm)	168	131	103	104	107	142	195	126	135	108	133			148	157
3	EC_GEN (µmho/cm)	168	131	103	104	107	142	195	126	135	108	134	156	145	140	153
4	pH_FLD (pH units)	8.1	8.2	8.0	8.0	7.9	8.1	8.1	8.1	7.7	8.3	7.6			7.8	7.9
5	pH_GEN (pH units)	8.1	8.2	8.0	8.0	7.9	8.1	8.1	8.1	7.7	8.3	7.6	7.6	8.0	8.0	8.0
6	TDS (mg/L)											71	86	98	100	95
7	Temp (deg C)	9.8	10.4	8.4	10.1	8.4	9.1	7.0	8.6	9.1	8.8	9.3	8.9	8.0	6.3	8.8
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	71	54	58	59	58	57	69		57	39	31	50	54	51	57
2	B (mg/L)						0.13	0.11				0.16	0.30	0.13	0.11	0.12
3	Ca (mg/L)	27	20	19	21	22	28	25	25	8	11	12	14	21	18	34
4	Cl (mg/L)	9.3	8.3	8.8	9.8	9.4	12.5	11.8	8.5	6.3	7.8	4.5	6.5	8.8	8.5	14.5
5	F (mg/L)	0.22	0.27	0.19	0.24	0.57	1.46	1.01	0.92	0.92	0.72	0.64	0.75	0.23	0.10	0.12
6	Fe (mg/L)	0.3	0.3	0.3	0.3			0.7	0.8	0.9	1.0				0.4	
7	HCO3 (mg/L)	87	66	71	72	71	69	84	84	70	48	38	62	66	63	70
8	K (mg/L)	0.1	0.0	0.3	0.4	0.3	0.2	0.5	0.5	0.7	0.6	0.8	3.2	4.9	5.8	5.0
9	Mg (mg/L)	16.5	16.2	12.8	14.1	14.4	17.0	15.7	15.7	13.9	8.6	10.3	5.1	3.2	4.9	16.1
10	Na (mg/L)	1.3	1.2	1.4	1.6	2.8	2.6	3.0	3.0	3.2	3.3	4.1	3.7	7.3	6.2	7.4
11	NH3-N (mg N/L)	0.00	0.00	0.00	0.00				0.00					0.20	0.09	0.05
12	NO2+NO3 (mg N/L)	0.19	0.13	0.19	0.28			0.47	0.37	0.47	0.48		0.24	0.11	0.13	0.34
13	NO2-N (mgN/L)	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00		0.10	0.03	0.03	0.22
14	NO3-N (mgN/L)	0.19	0.13	0.19	0.28			0.47	0.37	0.47	0.48		0.15	0.08	0.10	0.13
15	o-PO4-P (mg P/L)	0.568	0.610	0.692	0.452			0.692	0.419	0.447	0.568					
16	P-Tot (mgP/L)					0.692	0.331					0.773	0.390	0.233	0.089	0.127
17	SiO2 (mg/L)	19.0	20.5	16.5		42.0	20.8	40.0	42.0	36.5	35.5		9.7			
18	SO4 (mg/L)	5.3	6.0	6.0	6.6	7.7	7.8	8.6	7.8	8.4	8.8	8.9	13.3	18.1	25.6	22.3
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Uttarkashi (GG100K4)

Division : HGD,Dehradun

Local River : Bhagirathi-I

River Water

Sub-Division : Bhagirathi Sub Division,Tehri

S.No	Parameters	Winter														
		Nov - Feb														
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
1	BOD3-27 (mg/L)	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.4	1.0	1.0	1.3	1.4
2	COD (mg/L)														6.9	6.5
3	DO (mg/L)	9.8	9.4	9.5	8.4	8.2	8.7	8.1	8.5	8.0	8.0	8.1	8.2	8.6	9.2	8.0
4	DO_SAT% (%)	89	84		73	74	77	71	78	70	71	68	73	70		74
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
1	Al (mg/L)	0.02	0.00	0.00	0.00											
2	As (µg/L)															1.00
3	Cd (µg/L)														0.61	0.01
4	Cr (µg/L)														27.36	2.00
5	Cu (µg/L)														12.08	1.00
6	Ni (µg/L)														4.85	1.00
7	Pb (µg/L)														8.26	1.00
8	Zn (µg/L)														0.10	0.20
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	68	49	47	52	54	69	61	61	19	28	31	34	52	46	86
2	HAR_Total (mgCaCO3/L)	136	117	101	110	114	139	127	127	77	64	73	55	66	66	153
3	Na% (%)	2	2	3	3	5	4	5	5	8	10	11	13	18	16	9
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.4	0.3	0.3
	PESTICIDES															

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Uttarkashi (GG100K4)

Local River : Bhagirathi-I

River Water

Division : HGD,Dehradun

Sub-Division : Bhagirathi Sub Division,Tehri

S.No	Parameters	Summer														
		Mar - May														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	6.365	14.00	5.613	8.650	15.09	11.24	4.583	3.043	13.40	52.50	45.03	52.91	24.60	56.70	37.50
2	EC_FLD (µmho/cm)	177	130	109	111	116	173	161	152	149	125	141			127	199
3	EC_GEN (µmho/cm)	177	130	109	111	116	173	161	152	149	125	127	145	184	121	199
4	pH_FLD (pH units)	8.1	8.1	8.1	7.7	7.9	8.0	8.0	7.6	8.0	8.3	7.8			7.9	8.1
5	pH_GEN (pH units)	8.1	8.1	8.1	7.7	7.9	8.0	8.0	7.6	8.0	8.3	7.8	7.7	8.0	8.1	8.3
6	TDS (mg/L)											67	93	123	80	130
7	Temp (deg C)	10.5	10.8	14.3	12.7	12.0	11.5	11.0	11.7	14.3	11.7	10.7	11.5	9.3	9.3	10.7
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	71	64	67	45	60	56	76		59	39	32	43	54	61	71
2	B (mg/L)						0.13	0.10				0.20	0.14	0.13	0.11	0.08
3	Ca (mg/L)	29	24	26	21	26	27	26	21	8	14	18	16	18	16	29
4	Cl (mg/L)	8.3	10.0	9.7	11.7	9.6	13.0	14.7	12.7	7.3	8.0	5.5	18.0	8.3	10.0	14.0
5	F (mg/L)	0.25	0.26	0.22	0.52	0.53	1.64	1.00	0.95	0.79	0.79	0.45	0.33	0.22	0.11	0.14
6	Fe (mg/L)	0.3	0.4	0.5	0.8			1.2	0.9	1.0	1.0					0.0
7	HCO3 (mg/L)	86	78	81	55	73	68	93	89	72	47	39	52	65	75	86
8	K (mg/L)	0.1	0.1	0.1	0.4	0.1	0.3	0.4	0.5	0.8	0.7		3.0	5.6	3.4	6.0
9	Mg (mg/L)	17.4	19.9	17.4	18.8	16.8	17.1	17.1	13.9	10.8	10.8	12.3	2.4	3.8	3.9	11.7
10	Na (mg/L)	1.1	1.5	1.6	2.1	2.8	3.0	3.3	3.4	3.5	3.3		4.6	8.4	10.4	10.0
11	NH3-N (mg N/L)	0.00	0.00	0.00	0.00				0.00					0.17	0.08	0.05
12	NO2+NO3 (mg N/L)	0.28	0.22	0.27	0.45			0.50	0.40	0.47	0.50		0.25	0.11	0.33	0.36
13	NO2-N (mgN/L)	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00		0.07	0.03	0.15	0.24
14	NO3-N (mgN/L)	0.28	0.22	0.27	0.45			0.50	0.40	0.47	0.50		0.18	0.07	0.19	0.12
15	o-PO4-P (mg P/L)	0.489	3.210	0.816	0.255			0.816	0.255	0.541	0.489					
16	P-Tot (mgP/L)					0.816	0.255					0.237	0.080	0.463	0.054	0.121
17	SiO2 (mg/L)	21.3	23.3	22.0		49.3	22.0	46.7	42.7	38.0	36.7		4.3			
18	SO4 (mg/L)	7.2	7.3	6.8	6.2	8.6	9.2	8.7	8.4	9.2	9.7	11.0	21.4	24.7	14.7	23.0
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Uttarkashi (GG100K4)

Division : HGD,Dehradun

Local River : Bhagirathi-I

River Water

Sub-Division : Bhagirathi Sub Division,Tehri

S.No	Parameters	Summer														
		Mar - May														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	BOD3-27 (mg/L)	1.1	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.1	1.0	1.0	2.1	1.7
2	COD (mg/L)														18.1	7.7
3	DO (mg/L)	10.0	9.3	9.1	8.6	8.2	8.8	8.6	8.5	8.4	8.1	8.2	7.8	9.4	8.1	7.1
4	DO_SAT% (%)	89	84	88	84	76	84	82	78	81	74	73	72	82	68	60
5	FCol-MPN (MPN/100mL)															1500
6	Tcol-MPN (MPN/100mL)															4000
	TRACE & TOXIC															
1	Al (mg/L)	0.01	0.04	0.00												
2	As (µg/L)															1.00
3	Cd (µg/L)															0.01
4	Cr (µg/L)															2.00
5	Cu (µg/L)															1.00
6	Ni (µg/L)															1.00
7	Pb (µg/L)															1.00
8	Zn (µg/L)															0.10
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	73	60	66	52	65	68	66	52	20	34	45	41	45	40	72
2	HAR_Total (mgCaCO3/L)	146	143	138	130	135	139	137	110	65	79	96	51	60	56	121
3	Na% (%)	2	2	2	3	4	5	5	6	11	8		16	22	27	15
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
5	SAR (-)	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2		0.3	0.5	0.6	0.4
	PESTICIDES															

HISTORY SHEET

		Water Year	: 2015-2016
Site	: KOTESWAR	Code	: GG100E
State	: Uttarakhand	District	Tehri-Garhwal
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	: Bhagirathi-I	Sub Tributary	: -
Sub-Sub Tributary	:	Local River	:
Division	: Himalayan Ganga Div., Dehradun	Sub-Division	: Bhagirath SD, Tehri
Drainage Area	: 7413 Sq. Km.	Bank	: Right
Latitude	: 30°19'51"	Longitude	: 78°29'18"
	Opening Date	Closing Date	
Gauge	: 03-07-2011		
Discharge	: 03-07-2011		
Sediment	: 03-07-2011		
Water Quality	: 03-07-2011		

Water Quality Datasheet for the period : 2015-2016

Station Name : KOTESWAR (GG100E)

Division : Himalayan Ganga Div., Dehradun

Local River :

River Water Analysis

Sub-Division : Bhagirath SD, Tehri

S.No	Parameters	01-06-2015	01-07-2015	03-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	180.3	183.8	691.9	184.1	184.3	184.8	179.3	180.3	180.9	181.1	181.4	182.1
2	Colour_Cod (-)	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (μmho/cm)	160	157	114	116	126	126	130	175	124		155	
4	EC_GEN (μmho/cm)	155	152	110	115	120	120	120	168	118	120	148	180
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.1	7.2	8.1	7.4	8.1	7.4	7.4	8.2	8.1		8.3	
7	pH_GEN (pH units)	7.2	7.4	8.3	7.5	8.3	7.6	7.8	8.4	8.3	8.4	8.3	8.2
8	TDS (mg/L)	110	100	75	70	80	80	90	120	80	90	100	140
9	Temp (deg C)	17.5	17.5	17.0	17.0	17.0	16.5	14.0	14.0	14.0	15.0	16.5	17.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	44	52	60	64	56	60	48	52	64	60	56	60
3	B (mg/L)	0.05	0.07	0.06	0.08	0.04	0.08	0.16	0.05	0.07	0.10	0.09	0.14
4	Ca (mg/L)	21	27	29	22	19	21	34	32	40	29	21	26
5	Cl (mg/L)	14.0	20.0	24.0	18.0	12.0	14.0	18.0	16.0	12.0	10.0	12.0	12.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.08	0.10	0.14	0.26	0.18	0.16	0.14	0.15	0.14	0.16	0.12	0.16
8	Fe (mg/L)											0.0	
9	HCO3 (mg/L)	54	63	73	78	68	73	59	63	78	73	68	73
10	K (mg/L)	3.0	5.0	6.0	8.0	7.0	6.0	5.0	5.0	6.0	7.0	6.0	9.0
11	Mg (mg/L)	11.7	12.7	13.7	12.7	12.7	13.7	19.5	18.5	11.7	17.6	12.7	11.7
12	Na (mg/L)	14.0	16.0	15.0	18.0	15.0	16.0	15.0	13.0	15.0	17.0	14.0	16.0
13	NH3-N (mg N/L)	0.05	0.05	0.05	0.05	0.05	0.05	0.05		0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.48	0.44	0.56	0.52	0.38	0.40	0.42	0.37	0.42	0.48	0.38	0.48
15	NO2-N (mgN/L)	0.38	0.32	0.40	0.34	0.26	0.30	0.28	0.25	0.28	0.32	0.26	0.30
16	NO3-N (mgN/L)	0.10	0.12	0.16	0.18	0.12	0.10	0.14	0.12	0.14	0.16	0.12	0.18
17	P-Tot (mgP/L)	0.120	0.080	0.110	0.008	0.050	0.080	0.100	0.060	0.100	0.120	0.090	0.110
18	SO4 (mg/L)	16.0	18.0	20.0	19.0	16.0	18.0	19.0	17.0	18.0	20.0	18.0	24.0
	BIOLOGICAL/BACTERIOLOGICAL												

Water Quality Datasheet for the period : 2015-2016

Station Name : KOTESWAR (GG100E)

Division : Himalayan Ganga Div., Dehradun

Local River :

River Water Analysis

Sub-Division : Bhagirath SD, Tehri

S.No	Parameters	01-06-2015	01-07-2015	03-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
1	BOD3-27 (mg/L)	1.9	1.8	4.6	1.3	1.4	0.9	0.6	1.0	1.9	2.2	1.2	1.1
2	COD (mg/L)	17.2	8.6	12.0	9.5	6.5	5.2	4.9	4.1	9.2	9.5	7.9	5.8
3	DO (mg/L)	7.2	7.7	8.3	7.5	5.9	6.6	7.1	6.7	7.0	7.2	6.2	6.0
4	DO_SAT% (%)	74	80	86	78	61	66	69	65	68	71	63	62
5	FCol-MPN (MPN/100mL)												700
6	Tcol-MPN (MPN/100mL)												2200
	TRACE & TOXIC												
1	As (µg/L)							1.00				1.00	
2	Cd (µg/L)							0.01				0.01	
3	Cr (µg/L)							2.00				2.00	
4	Cu (µg/L)							1.00				1.00	
5	Ni (µg/L)							1.00					
6	Pb (µg/L)							1.00				1.00	
7	Zn (µg/L)							0.19				0.10	
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	52	68	72	56	48	52	84	80	100	72	52	64
2	HAR_Total (mgCaCO3/L)	101	121	129	109	101	109	165	157	149	146	105	113
3	Na% (%)	23	22	19	25	23	23	16	15	17	19	21	22
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.6	0.6	0.6	0.8	0.7	0.7	0.5	0.5	0.5	0.6	0.6	0.7
	PESTICIDES												

Water Quality Summary for the period : 2015-2016

Station Name : KOTESWAR (GG100E)

Division : Himalayan Ganga Div., Dehradun

Local River :

Sub-Division : Bhagirath SD, Tehri

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	855.9	11.39	249.3
2	EC_FLD (μmho/cm)	10	175	114	138
3	EC_GEN (μmho/cm)	12	180	110	136
4	pH_FLD (pH units)	10	8.3	7.1	7.7
5	pH_GEN (pH units)	12	8.4	7.2	8
6	TDS (mg/L)	12	140	70	95
7	Temp (deg C)	12	17.5	14.0	16.1
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	64	44	56
3	B (mg/L)	12	0.16	0.04	0.08
4	Ca (mg/L)	12	40	19	27
5	Cl (mg/L)	12	24.0	10.0	15.2
6	CO3 (mg/L)	12	0.0	0.0	0
7	F (mg/L)	12	0.26	0.08	0.15
8	Fe (mg/L)	1	0.0	0.0	0
9	HCO3 (mg/L)	12	78	54	69
10	K (mg/L)	12	9.0	3.0	6.1
11	Mg (mg/L)	12	19.5	11.7	14.1
12	Na (mg/L)	12	18.0	13.0	15.3
13	NH3-N (mg N/L)	11	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	12	0.56	0.37	0.44
15	NO2-N (mgN/L)	12	0.40	0.25	0.31
16	NO3-N (mgN/L)	12	0.18	0.10	0.14
17	P-Tot (mgP/L)	12	0.120	0.008	0.086
18	SO4 (mg/L)	12	24.0	16.0	18.6
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	4.6	0.6	1.6
2	COD (mg/L)	12	17.2	4.1	8.4
3	DO (mg/L)	12	8.3	5.9	7
4	DO_SAT% (%)	12	86	61	70
5	FCol-MPN (MPN/100mL)	1	700	700	700
6	Tcol-MPN (MPN/100mL)	1	2200	2200	2200
	TRACE & TOXIC				
1	As (μg/L)	2	1.00	1.00	1
2	Cd (μg/L)	2	0.01	0.01	0.01
3	Cr (μg/L)	2	2.00	2.00	2
4	Cu (μg/L)	2	1.00	1.00	1
5	Ni (μg/L)	1	1.00	1.00	1
6	Pb (μg/L)	2	1.00	1.00	1
7	Zn (μg/L)	2	0.19	0.10	0.14
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	100	48	67
2	HAR_Total (mgCaCO3/L)	12	165	101	125
3	Na% (%)	12	25	15	20
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.8	0.5	0.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2011-2016

Station Name : KOTESWAR (GG100E)

Division : Himalayan Ganga Div., Dehradun

Local River :

River Water

Sub-Division : Bhagirath SD, Tehri

S.No	Parameters	Flood					Winter					Summer				
		Jun - Oct					Nov - Feb					Mar - May				
		2011	2012	2013	2014	2015	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	551.6	212.7	487.1	286.4	284.9	134.6	239.6	206.1	178.0	181.4	190.9	202.5	260.3	220.4	181.5
2	EC_FLD (µmho/cm)				137	135				104	139				131	155
3	EC_GEN (µmho/cm)	146	143	136	132	130	112	124	110	97	132	118	163	124	125	149
4	pH_FLD (pH units)				7.4	7.6		7.4		7.8	7.8				7.7	8.3
5	pH_GEN (pH units)	7.9	7.8	7.8	7.7	7.7	7.6	7.6	7.9	7.9	8.0	7.7	7.7	8.0	8.0	8.3
6	TDS (mg/L)	77	76	88	94	87	59	68	75	63	93	62	104	87	83	110
7	Temp (deg C)	16.4	15.8	17.0	17.7	17.2	15.0	15.1	14.5	15.6	14.6	15.0	15.0	15.2	16.5	16.2
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	39	23	41	59	55	30	46	41	55	56	34	46	44	52	59
2	B (mg/L)	0.61	0.15	0.09	0.10	0.06	0.82	0.28	0.11	0.09	0.09	0.39	0.09	0.11	0.11	0.11
3	Ca (mg/L)	13	11	15	16	24	12	10	15	17	32	21	16	16	15	25
4	Cl (mg/L)	8.1	4.4	8.6	8.6	17.6	6.6	6.5	7.8	8.3	15.0	5.8	14.0	8.7	9.3	11.3
5	F (mg/L)	0.78	0.30	0.20	0.13	0.15	0.42	0.59	0.18	0.11	0.15	0.31	0.13	0.15	0.13	0.15
6	Fe (mg/L)				0.0					1.1						0.0
7	HCO3 (mg/L)	47	28	50	72	67	36	56	49	67	68	41	56	54	63	72
8	K (mg/L)	0.7		5.6	5.5	5.8	1.3	3.4	4.3	6.4	5.5		2.6	4.6	3.1	7.3
9	Mg (mg/L)	10.7	7.8	2.3	5.0	12.7	9.3	6.0	4.0	5.8	15.9	13.1	2.2	3.3	4.2	14.0
10	Na (mg/L)	3.9		5.9	5.9	15.6	4.0	3.5	6.9	6.3	14.8		3.1	7.8	9.4	15.7
11	NH3-N (mg N/L)			0.12	0.10	0.05			0.15	0.09	0.05			0.15	0.07	0.05
12	NO2+NO3 (mg N/L)			0.10	0.08	0.48		0.21	0.08	0.15	0.40		0.17	0.08	0.32	0.45
13	NO2-N (mgN/L)			0.03	0.03	0.34		0.09	0.03	0.04	0.28		0.04	0.03	0.14	0.29
14	NO3-N (mgN/L)			0.08	0.05	0.14		0.12	0.06	0.11	0.13		0.12	0.05	0.18	0.15
15	P-Tot (mgP/L)	0.044	0.192	0.029	0.132	0.074	0.640	0.320	0.208	0.087	0.085	0.091	0.070	0.360	0.036	0.107
16	SiO2 (mg/L)			2.8				7.8					5.6			
17	SO4 (mg/L)	10.8	11.2	11.5	23.0	17.8	10.0	12.3	13.3	25.1	18.0	10.8	13.0	17.8	11.3	20.7
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.4	1.1	1.2	1.2	2.2	1.0	1.0	1.1	1.4	1.1	0.9	1.1	1.1	1.2	1.5

Water Quality Seasonal Average for the period: 2011-2016

Station Name : KOTESWAR (GG100E)

Division : Himalayan Ganga Div., Dehradun

Local River :

River Water

Sub-Division : Bhagirath SD, Tehri

S.No	Parameters	Flood					Winter					Summer				
		Jun - Oct					Nov - Feb					Mar - May				
		2011	2012	2013	2014	2015	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2012	2013	2014	2015	2016
2	COD (mg/L)					10.8				8.2	5.8				10.5	7.7
3	DO (mg/L)	7.7	6.5	6.9	7.1	7.3	7.3	7.4	7.7	8.2	6.9	7.2	7.3	8.0	7.0	6.5
4	DO_SAT% (%)	78	65	72	74	76	72	73	75	82	67	72	73	79	71	66
5	FCol-MPN (MPN/100mL)															700
6	Tcol-MPN (MPN/100mL)															2200
	TRACE & TOXIC															
1	As (µg/L)										1.00					1.00
2	Cd (µg/L)									0.24	0.01					0.01
3	Cr (µg/L)									35.49	2.00					2.00
4	Cu (µg/L)									13.85	1.00					1.00
5	Ni (µg/L)									13.83	1.00					
6	Pb (µg/L)									15.45	1.00					1.00
7	Zn (µg/L)									0.10	0.19					0.10
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	33	29	38	41	59	29	25	37	43	79	53	40	39	37	63
2	HAR_Total (mgCaCO3/L)	78	61	47	61	112	68	50	54	66	145	108	49	53	55	121
3	Na% (%)	10		19	16	22	11	15	20	16	18		12	23	26	21
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
5	SAR (-)	0.2		0.4	0.3	0.6	0.2	0.2	0.4	0.3	0.5		0.2	0.5	0.6	0.6
	PESTICIDES															

HISTORY SHEET

		Water Year	: 2015-2016
Site	: Rudraprayag	Code	: GG200G5
State	: Uttarakhand	District	Rudraprayag
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	: Alaknanda	Sub Tributary	:
Sub-Sub Tributary	:	Local River	:
Division	: HGD,Dehradun	Sub-Division	: Alaknanda Sub Div,Srinagar
Drainage Area	: 9031 Sq. Km.	Bank	:
Latitude	: 31°17'20"	Longitude	: 78°59'00"
	Opening Date	Closing Date	
Gauge	: 09-02-1971		
Discharge	: 09-02-1971		
Sediment	: 22-09-1987		
Water Quality	: 15-05-1976		

Water Quality Datasheet for the period : 2015-2016

Station Name : Rudraprayag (GG200G5)

Local River : Alaknanda

River Water Analysis

Division : HGD,Dehradun

Sub-Division : Alaknanda Sub Div,Srinagar

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	356.8	1909	1326	1002	435.2	264.0	128.4	94.55	66.68	65.66	70.20	133.1
2	Colour_Cod (-)	Clear	Light Brown	Brown	Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	175	167	115	132	166	184	157	166	175	232	230	
4	EC_GEN (µmho/cm)	172	163	110	129	162	180	152	162	172	228	222	240
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.4	7.5	8.1	7.5	8.0	7.4	7.5	8.0	8.1	8.2	8.1	
7	pH_GEN (pH units)	7.6	7.7	8.3	7.6	8.1	7.5	7.7	8.2	8.3	8.4	8.3	8.1
8	TDS (mg/L)	120	110	80	90	110	130	110	100	110	145	160	165
9	Temp (deg C)	16.0	18.0	18.0	17.0	15.0	14.0	12.0	9.0	10.0	15.0	16.0	17.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	64	72	76	72	72	64	68	60	76	100	80	96
3	B (mg/L)	0.12	0.09	0.12	0.11	0.10	0.14	0.12	0.13	0.15	0.17	0.14	0.15
4	Ca (mg/L)	26	30	29	32	38	34	35	32	42	37	30	43
5	Cl (mg/L)	12.0	14.0	12.0	14.0	16.0	14.0	16.0	16.0	12.0	12.0	14.0	14.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.14	0.12	0.30	0.12	0.10	0.12	0.14	0.12	0.13	0.15	0.12	0.14
8	Fe (mg/L)											0.4	
9	HCO3 (mg/L)	78	88	93	88	88	78	83	73	93	122	98	117
10	K (mg/L)	4.0	6.0	5.0	7.0	7.0	6.0	4.0	4.0	8.0	9.0	7.0	9.0
11	Mg (mg/L)	16.6	20.5	19.5	20.5	22.5	23.4	22.5	19.5	12.7	14.6	11.7	13.7
12	Na (mg/L)	8.0	10.0	10.0	14.0	12.0	13.0	12.0	10.0	14.0	17.0	15.0	18.0
13	NH3-N (mg N/L)	0.05	0.05	0.05	0.05	0.05	5.00	0.05	0.05	0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.62	0.54	0.52	0.40	0.32	0.34	0.30	0.35	0.31	0.39	0.34	0.26
15	NO2-N (mgN/L)	0.48	0.44	0.46	0.32	0.22	0.20	0.19	0.22	0.20	0.13	0.22	0.16
16	NO3-N (mgN/L)	0.14	0.10	0.06	0.08	0.10	0.14	0.11	0.13	0.11	0.26	0.12	0.10
17	P-Tot (mgP/L)	0.090	0.090	0.140	0.120	0.100	0.120	0.110	0.130	0.160	0.180	0.150	0.170
18	SO4 (mg/L)	23.0	21.0	24.0	25.0	28.0	26.0	25.0	22.0	26.0	30.0	24.0	28.0
	BIOLOGICAL/BACTERIOLOGICAL												

Water Quality Datasheet for the period : 2015-2016

Station Name : Rudraprayag (GG200G5)

Division : HGD,Dehradun

Local River : Alaknanda

River Water Analysis

Sub-Division : Alaknanda Sub Div,Srinagar

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
1	BOD3-27 (mg/L)	0.6	2.3	0.9	1.1	2.0	2.1	1.9	2.9	3.3	2.1	1.4	2.0
2	COD (mg/L)	8.5	10.9	4.3	6.8	7.9	6.8	8.8	10.1	13.1	9.7	8.5	9.9
3	DO (mg/L)	8.1	10.0	6.1	7.3	7.3	7.3	9.4	9.6	8.1	6.7	7.2	6.4
4	DO_SAT% (%)	82	105	64	76	72	71	87		72	66	73	66
	TRACE & TOXIC												
1	As (µg/L)											1.00	
2	Cd (µg/L)											0.01	
3	Cr (µg/L)											2.00	
4	Cu (µg/L)											1.00	
5	Ni (µg/L)											1.00	
6	Pb (µg/L)											1.00	
7	Zn (µg/L)											0.10	
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	64	76	72	80	96	84	88	80	104	92	76	108
2	HAR_Total (mgCaCO3/L)	133	162	153	166	190	182	182	161	157	153	125	165
3	Na% (%)	11	11	12	15	12	13	12	12	15	18	20	18
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.3	0.3	0.4	0.5	0.4	0.4	0.4	0.3	0.5	0.6	0.6	0.6
	PESTICIDES												

Water Quality Summary for the period : 2015-2016

Station Name : Rudraprayag (GG200G5)

Division : HGD,Dehradun

Local River : Alaknanda

Sub-Division : Alaknanda Sub Div,Srinagar

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	2273	60.63	437.6
2	EC_FLD (μmho/cm)	11	232	115	173
3	EC_GEN (μmho/cm)	12	240	110	174
4	pH_FLD (pH units)	11	8.2	7.4	7.8
5	pH_GEN (pH units)	12	8.4	7.5	8
6	TDS (mg/L)	12	165	80	119
7	Temp (deg C)	12	18.0	9.0	14.8
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	100	60	75
3	B (mg/L)	12	0.17	0.09	0.13
4	Ca (mg/L)	12	43	26	34
5	Cl (mg/L)	12	16.0	12.0	13.8
6	CO3 (mg/L)	12	0.0	0.0	0
7	F (mg/L)	12	0.30	0.10	0.2
8	Fe (mg/L)	1	0.4	0.4	0.4
9	HCO3 (mg/L)	12	122	73	91
10	K (mg/L)	12	9.0	4.0	6.3
11	Mg (mg/L)	12	23.4	11.7	18.1
12	Na (mg/L)	12	18.0	8.0	12.8
13	NH3-N (mg N/L)	12	5.00	0.05	0.46
14	NO2+NO3 (mg N/L)	12	0.62	0.26	0.39
15	NO2-N (mgN/L)	12	0.48	0.13	0.27
16	NO3-N (mgN/L)	12	0.26	0.06	0.12
17	P-Tot (mgP/L)	12	0.180	0.090	0.13
18	SO4 (mg/L)	12	30.0	21.0	25.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	3.3	0.6	1.9
2	COD (mg/L)	12	13.1	4.3	8.8
3	DO (mg/L)	12	10.0	6.1	7.8
4	DO_SAT% (%)	11	105	64	76
	TRACE & TOXIC				
1	As (μg/L)	1	1.00	1.00	1
2	Cd (μg/L)	1	0.01	0.01	0.01
3	Cr (μg/L)	1	2.00	2.00	2
4	Cu (μg/L)	1	1.00	1.00	1
5	Ni (μg/L)	1	1.00	1.00	1
6	Pb (μg/L)	1	1.00	1.00	1
7	Zn (μg/L)	1	0.10	0.10	0.1
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	108	64	85
2	HAR_Total (mgCaCO3/L)	12	190	125	161
3	Na% (%)	12	20	11	14
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.6	0.3	0.4
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Rudraprayag (GG200G5)

Local River : Alaknanda

River Water

Division : HGD,Dehradun

Sub-Division : Alaknanda Sub Div,Srinagar

S.No	Parameters	Flood														
		Jun - Oct														
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	PHYSICAL															
1	Q (cumec)	658.3	689.1	869.7	650.1	1052	713.3	888.5	944.2	479.8	960.4	1231	819.9	1845	784.6	1006
2	EC_FLD (µmho/cm)	150	160	117	109	148	125	151	157	173	289				149	151
3	EC_GEN (µmho/cm)	150	160	117	109	148	125	151	157	173	289	178	165	174	145	147
4	pH_FLD (pH units)	8.1	8.1	8.0	8.1	7.9	7.9	8.0	7.4	7.4	7.9	8.3	7.7		7.8	7.7
5	pH_GEN (pH units)	8.1	8.1	8.0	8.1	7.9	7.9	8.0	7.4	7.4	7.9	8.3	7.9	7.9	8.0	7.9
6	TDS (mg/L)											94	88	112	96	102
7	Temp (deg C)	16.8	15.6	15.3	17.1	16.2	17.1	17.3	16.5	16.6	17.0	15.0	16.8	16.8	17.7	16.8
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	63	59	54	57	43	53	55		61	41	31	26	60	56	71
2	B (mg/L)					0.12	0.11	0.09				0.12	0.17	0.12	0.10	0.11
3	Ca (mg/L)	24	23	20	25	22	25	22	20	16	8	11	11	22	18	31
4	Cl (mg/L)	7.8	7.0	8.6	8.7	9.6	7.6	8.4	7.8	7.4	6.8	8.0	4.8	10.2	9.6	13.6
5	F (mg/L)	0.08	0.05	0.17	0.18	0.47		1.45	0.58	0.58	0.49	0.65	0.32	0.25	0.16	3.30
6	Fe (mg/L)	0.1	0.2	0.2	0.2			0.8	0.9	0.7	0.8					
7	HCO3 (mg/L)	77	72	66	69	52	65	67	76	74	50	38	32	74	68	87
8	K (mg/L)	0.1	0.0	0.1	0.1	0.3	0.1	0.3	0.3	0.5	0.6	0.7		4.8	5.5	5.8
9	Mg (mg/L)	15.5	15.3	13.6	16.5	14.6	15.7	14.6	13.4	12.3	9.8	10.0	8.2	3.1	4.4	19.9
10	Na (mg/L)	1.1	0.9	3.6	1.1	2.3	2.1	2.5	3.0	2.9	3.3	3.6		6.6	7.0	10.8
11	NH3-N (mg N/L)	0.00	0.00	0.00	0.00				0.00					0.12	0.43	0.05
12	NO2+NO3 (mg N/L)	0.09	0.13	0.20	0.19			0.29	0.36	0.36	0.36			0.15	0.10	0.48
13	NO2-N (mgN/L)	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00			0.04	0.03	0.38
14	NO3-N (mgN/L)	0.09	0.13	0.20	0.19			0.29	0.36	0.36	0.36			0.11	0.07	0.10
15	o-PO4-P (mg P/L)	0.455	0.265	0.552	0.523			0.552	0.523	0.265	0.393					
16	P-Tot (mgP/L)					0.552	0.523					0.080	0.222	0.043	0.136	0.108
17	SiO2 (mg/L)	18.0	16.4	16.7		36.8	18.2	41.2	37.6	37.2	34.8			2.8		
18	SO4 (mg/L)	6.0	6.2	6.0	6.2	5.5	7.2	7.8	7.3	7.2	7.5	9.2	10.9	13.3	24.2	24.2
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Rudraprayag (GG200G5)

Division : HGD,Dehradun

Local River : Alaknanda

River Water

Sub-Division : Alaknanda Sub Div,Srinagar

S.No	Parameters	Flood														
		Jun - Oct														
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	BOD3-27 (mg/L)	1.1	1.1	1.2	1.2	1.2	1.3	1.2	1.2	1.3	1.2	1.5	1.1	1.2	1.3	1.4
2	COD (mg/L)															7.7
3	DO (mg/L)	7.1	7.5	7.7	8.1	8.0	9.2	8.8	9.0	7.8	7.4	7.2	6.6	7.3	7.6	7.8
4	DO_SAT% (%)	73	75	77	84	81	95	92	92	80	76	71	68	75	80	80
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
1	Al (mg/L)	0.00	0.00	0.02												
2	As (µg/L)															
3	Cd (µg/L)															
4	Cr (µg/L)															
5	Cu (µg/L)															
6	Ni (µg/L)															
7	Pb (µg/L)															
8	Zn (µg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	59	58	51	63	55	62	54	51	40	21	28	27	54	45	78
2	HAR_Total (mgCaCO3/L)	124	121	107	132	115	127	115	107	91	62	69	61	67	64	161
3	Na% (%)	2	2	6	2	4	3	4	6	7	10	10		16	18	12
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2		0.3	0.4	0.4
	PESTICIDES															

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Rudraprayag (GG200G5)

Local River : Alaknanda

River Water

Division : HGD,Dehradun

Sub-Division : Alaknanda Sub Div,Srinagar

S.No	Parameters	Winter														
		Nov - Feb														
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL															
1	Q (cumec)	99.42	103.3	149.4	115.3	151.4	103.7	129.8	135.0	129.0	240.0	163.4	133.5	281.3	124.5	138.4
2	EC_FLD (µmho/cm)	170	124	103	103	133	144	171	187	179	186	188			169	171
3	EC_GEN (µmho/cm)	170	124	103	103	133	144	171	187	179	186	188	175	183	163	167
4	pH_FLD (pH units)	8.1	8.2	8.1	8.0	8.0	8.1	8.1	8.0	7.9	7.9	7.5			8.0	7.8
5	pH_GEN (pH units)	8.1	8.2	8.1	8.0	8.0	8.1	8.1	8.0	7.9	7.9	7.5	7.7	8.1	8.3	7.9
6	TDS (mg/L)											99	96	123	108	113
7	Temp (deg C)	11.1	10.5	10.4	10.9	7.3	10.8	10.0	10.1	10.0	11.0	8.7	9.8	11.0	11.5	11.3
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	66	54	51	62	51	54	62		52	34	31	61	74	64	67
2	B (mg/L)						0.12	0.09				0.10	0.23	0.14	0.12	0.13
3	Ca (mg/L)	28	21	20	19	21	26	22	15	8	12	13	16	28	19	36
4	Cl (mg/L)	9.5	8.3	9.5	10.0	9.8	10.3	11.0	8.3	5.3	7.8	7.9	7.8	9.8	8.5	14.5
5	F (mg/L)	0.23	0.25	0.19	0.24	0.66		1.25	0.84	0.72	0.76	0.70	0.58	0.24	0.11	0.13
6	Fe (mg/L)	0.3	0.3	0.3	0.3			0.6	0.7	0.9	1.0				0.6	
7	HCO3 (mg/L)	81	66	62	76	62	66	76	85	63	41	38	74	90	78	82
8	K (mg/L)	0.4	0.2	0.4	0.4	0.4	0.1	0.4	0.5	0.7	0.6	0.7	3.6	4.9	6.2	5.5
9	Mg (mg/L)	17.2	17.0	13.6	13.6	14.1	16.5	14.9	11.0	14.9	8.9	10.1	6.6	3.5	5.0	19.5
10	Na (mg/L)	1.4	1.2	1.5	1.4	2.6	2.6	2.8	3.1	3.3	3.3	4.1	4.4	7.9	6.4	12.3
11	NH3-N (mg N/L)	0.00	0.00	0.00	0.00				0.00					0.19	0.08	1.29
12	NO2+NO3 (mg N/L)	0.19	0.13	0.23	0.30			0.43	0.47	0.48	0.47		0.17	0.14	0.15	0.33
13	NO2-N (mgN/L)	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00		0.07	0.04	0.04	0.20
14	NO3-N (mgN/L)	0.19	0.13	0.23	0.30			0.43	0.47	0.48	0.47		0.10	0.10	0.11	0.12
15	o-PO4-P (mg P/L)	0.734	0.568	0.651	0.426			0.651	0.426	0.488	0.651					
16	P-Tot (mgP/L)					0.651	0.427					0.147	0.275	0.228	0.120	0.130
17	SiO2 (mg/L)	20.0	18.0	17.5		44.5	20.0	39.0	39.5	34.5	35.0		7.5			
18	SO4 (mg/L)	5.5	6.0	6.2	6.5	7.2	8.0	8.0	8.0	8.0	8.6	9.1	14.4	17.7	26.6	24.8
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Rudraprayag (GG200G5)

Division : HGD,Dehradun

Local River : Alaknanda

River Water

Sub-Division : Alaknanda Sub Div,Srinagar

S.No	Parameters	Winter														
		Nov - Feb														
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
1	BOD3-27 (mg/L)	1.1	1.1	1.2	1.2	1.2	1.3	1.1	1.2	1.2	1.2	1.0	1.0	1.2	1.8	2.5
2	COD (mg/L)														11.7	9.7
3	DO (mg/L)	7.9	9.6	9.5	10.3	9.2	9.9	10.5	8.3	8.1	7.8	7.7	8.2	8.5	8.7	8.6
4	DO_SAT% (%)	74	88	86	94	76	91	97	78	73	72	63	78	79	80	77
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
1	Al (mg/L)	0.04	0.00	0.00												
2	As (µg/L)															
3	Cd (µg/L)														0.11	
4	Cr (µg/L)														29.45	
5	Cu (µg/L)														11.88	
6	Ni (µg/L)														6.49	
7	Pb (µg/L)														13.08	
8	Zn (µg/L)														0.10	
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	69	53	49	48	53	64	56	39	19	31	32	40	69	48	89
2	HAR_Total (mgCaCO3/L)	141	123	106	105	112	132	118	84	81	68	74	68	84	69	170
3	Na% (%)	2	2	3	3	5	4	5	7	8	9	11	13	16	15	13
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
5	SAR (-)	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.4	0.3	0.4
	PESTICIDES															

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Rudraprayag (GG200G5)

Local River : Alaknanda

River Water

Division : HGD,Dehradun

Sub-Division : Alaknanda Sub Div,Srinagar

S.No	Parameters	Summer														
		Mar - May														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	118.7	127.3	107.7	122.7	157.7	140.3	92.36	89.40	127.4	155.2	137.1	81.89	114.0	178.2	89.65
2	EC_FLD (µmho/cm)	177	129	109	143	135	187	137	188	191	206	173			175	231
3	EC_GEN (µmho/cm)	177	129	109	143	135	187	137	188	191	206	176	171	182	170	230
4	pH_FLD (pH units)	8.1	8.1	8.1	7.9	8.0	8.0	8.0	7.7	8.0	8.1	8.0			8.0	8.2
5	pH_GEN (pH units)	8.1	8.1	8.1	7.9	8.0	8.0	8.0	7.7	8.0	8.1	7.7	7.9	8.1	8.3	8.2
6	TDS (mg/L)											93	109	120	107	157
7	Temp (deg C)	13.8	14.0	15.3	14.3	13.0	14.7	12.8	12.7	14.7	12.7	13.7	14.5	13.0	12.3	16.0
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	67	65	60	53	56	56	68		60	35	35	63	75	95	92
2	B (mg/L)						0.13	0.07				0.24	0.19	0.13	0.22	0.15
3	Ca (mg/L)	30	26	27	17	26	25	26	20	9	14	13	23	26	22	37
4	Cl (mg/L)	8.0	9.3	10.7	14.7	9.7	11.3	13.7	12.0	7.0	7.7	6.5	20.0	9.7	9.3	13.3
5	F (mg/L)	0.26	0.27	0.25	0.65	0.76		0.30	0.73	0.73	0.79	0.35	0.40	0.21	0.19	0.14
6	Fe (mg/L)	0.3	0.4	0.5	0.9			1.0	0.8	1.0	1.0					0.4
7	HCO3 (mg/L)	81	80	73	65	68	68	83	88	73	42	43	76	91	115	112
8	K (mg/L)	0.3	0.4	0.3	0.3	0.4	0.2	0.3	0.5	0.7	0.6		2.9	6.0	3.1	8.3
9	Mg (mg/L)	17.4	20.5	17.4	15.7	17.1	17.1	16.7	13.2	15.7	10.1	10.0	4.1	4.2	7.2	13.3
10	Na (mg/L)	1.2	1.3	1.8	2.1	2.5	2.7	3.1	3.2	3.6	3.3		3.6	8.7	8.4	16.7
11	NH3-N (mg N/L)	0.00	0.00	0.00	0.00				0.00					0.15	0.09	0.05
12	NO2+NO3 (mg N/L)	0.23	0.25	0.30	0.43			0.40	0.38	0.47	0.47		0.20	0.12	0.39	0.33
13	NO2-N (mgN/L)	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00		0.07	0.04	0.17	0.17
14	NO3-N (mgN/L)	0.23	0.25	0.30	0.43			0.40	0.38	0.47	0.47		0.14	0.08	0.22	0.16
15	o-PO4-P (mg P/L)	0.596	0.761	0.872	0.300			0.872	0.300	0.651	0.541					
16	P-Tot (mgP/L)					0.871	0.300					0.213	0.105	0.463	0.044	0.167
17	SiO2 (mg/L)	21.3	22.0	21.3		48.0	21.7	43.3	42.0	38.0	34.7		3.2			
18	SO4 (mg/L)	8.0	7.3	7.7	5.9	8.7	8.7	8.4	8.9	8.9	8.7	12.4	18.4	25.1	18.3	27.3
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2001-2016

Station Name : Rudraprayag (GG200G5)

Division : HGD,Dehradun

Local River : Alaknanda

River Water

Sub-Division : Alaknanda Sub Div,Srinagar

S.No	Parameters	Summer														
		Mar - May														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	BOD3-27 (mg/L)	1.1	1.1	1.3	1.2	1.3	1.1	1.1	1.2	1.2	1.2	1.0	1.1	1.1	1.4	1.8
2	COD (mg/L)														13.5	9.4
3	DO (mg/L)	8.0	8.4	9.7	9.1	9.1	10.5	9.9	8.7	8.1	7.9	7.7	7.6	9.2	8.3	6.8
4	DO_SAT% (%)	77	81	97	89	89	103	93	87	80	75	74	75	87	77	69
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
1	Al (mg/L)	0.03	0.05	0.00												
2	As (µg/L)															1.00
3	Cd (µg/L)															0.01
4	Cr (µg/L)															2.00
5	Cu (µg/L)															1.00
6	Ni (µg/L)															1.00
7	Pb (µg/L)															1.00
8	Zn (µg/L)															0.10
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	76	66	67	42	65	62	66	50	22	36	33	58	65	55	92
2	HAR_Total (mgCaCO3/L)	149	152	140	107	136	133	136	105	87	78	75	75	82	85	148
3	Na% (%)	2	2	3	4	4	4	5	6	8	8		9	18	17	19
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
5	SAR (-)	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2		0.2	0.4	0.4	0.6
	PESTICIDES															

HISTORY SHEET

		Water Year	: 2015-2016
Site	: SRINAGAR	Code	: GG200D5
State	: Uttarakhand	District	Pauri
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	: Alaknanda	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Alaknanda
Division	: Himalayan Ganga Div., Dehradun	Sub-Division	: Alaknanda Sub Div, Srinagar
Drainage Area	: 11332 Sq. Km.	Bank	: Left
Latitude	: 30°13'00"	Longitude	: 78°45'00"
	Opening Date		Closing Date
Gauge	: 06-06-1973		
Discharge	: 01-06-2014		
Sediment	: 01-06-2014		
Water Quality	: 01-06-2014		

Water Quality Datasheet for the period : 2015-2016

Station Name : SRINAGAR (GG200D5)

Local River : Alaknanda

River Water Analysis

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Alaknanda Sub Div, Srinagar

S.No	Parameters	01-10-2015
		A
	PHYSICAL	
1	Q (cumec)	
2	Colour_Cod (-)	Clear
3	EC_GEN (μmho/cm)	173
4	Odour_Code (-)	odour free
5	pH_GEN (pH units)	8.8
6	TDS (mg/L)	120
7	Temp (deg C)	19.0
	CHEMICAL	
1	Alk-Phen (mgCaCO3/L)	0.0
2	ALK-TOT (mgCaCO3/L)	96
3	B (mg/L)	0.04
4	Ca (mg/L)	38
5	Cl (mg/L)	12.0
6	CO3 (mg/L)	0.0
7	F (mg/L)	0.10
8	HCO3 (mg/L)	117
9	K (mg/L)	6.0
10	Mg (mg/L)	32.1
11	Na (mg/L)	18.0
12	NH3-N (mg N/L)	0.05
13	NO2+NO3 (mg N/L)	0.27
14	NO2-N (mgN/L)	0.26
15	NO3-N (mgN/L)	0.01
16	P-Tot (mgP/L)	0.040
17	SO4 (mg/L)	18.0
	BIOLOGICAL/BACTERIOLOGICAL	
1	BOD3-27 (mg/L)	1.2
2	COD (mg/L)	9.0
3	DO (mg/L)	6.7

Water Quality Datasheet for the period : 2015-2016**Station Name : SRINAGAR (GG200D5)****Local River : Alaknanda****Division : Himalayan Ganga Div., Dehradun****Sub-Division : Alaknanda Sub Div, Srinagar****River Water Analysis**

S.No	Parameters	01-10-2015
		A
4	DO_SAT% (%)	72
	TRACE & TOXIC	
	CHEMICAL INDICES	
1	HAR_Ca (mgCaCO ₃ /L)	96
2	HAR_Total (mgCaCO ₃ /L)	230
3	Na% (%)	14
4	RSC (-)	0.0
5	SAR (-)	0.5
	PESTICIDES	

Water Quality Summary for the period : 2015-2016

Station Name : SRINAGAR (GG200D5)

Division : Himalayan Ganga Div., Dehradun

Local River : Alaknanda

Sub-Division : Alaknanda Sub Div, Srinagar

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)				
2	EC_GEN (µmho/cm)	1	173	173	173
3	pH_GEN (pH units)	1	8.8	8.8	8.8
4	TDS (mg/L)	1	120	120	120
5	Temp (deg C)	1	19.0	19.0	19
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	1	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	1	96	96	96
3	B (mg/L)	1	0.04	0.04	0.04
4	Ca (mg/L)	1	38	38	38
5	Cl (mg/L)	1	12.0	12.0	12
6	CO3 (mg/L)	1	0.0	0.0	0
7	F (mg/L)	1	0.10	0.10	0.1
8	HCO3 (mg/L)	1	117	117	117
9	K (mg/L)	1	6.0	6.0	6
10	Mg (mg/L)	1	32.1	32.1	32.1
11	Na (mg/L)	1	18.0	18.0	18
12	NH3-N (mg N/L)	1	0.05	0.05	0.05
13	NO2+NO3 (mg N/L)	1	0.27	0.27	0.27
14	NO2-N (mgN/L)	1	0.26	0.26	0.26
15	NO3-N (mgN/L)	1	0.01	0.01	0.01
16	P-Tot (mgP/L)	1	0.040	0.040	0.04
17	SO4 (mg/L)	1	18.0	18.0	18
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	1	1.2	1.2	1.2
2	COD (mg/L)	1	9.0	9.0	9
3	DO (mg/L)	1	6.7	6.7	6.7
4	DO_SAT% (%)	1	72	72	72
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	1	96	96	96
2	HAR_Total (mgCaCO3/L)	1	230	230	230
3	Na% (%)	1	14	14	14
4	RSC (-)	1	0.0	0.0	0
5	SAR (-)	1	0.5	0.5	0.5
	PESTICIDES				

Water Quality Seasonal Average for the period: 2014-2016

Station Name : SRINAGAR (GG200D5)

Local River : Alaknanda

River Water

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Alaknanda Sub Div, Srinagar

S.No	Parameters	Flood		Winter		Summer	
		Jun - Oct		Nov - Feb		Mar - May	
		2014	2015	2014-2015	2015-2016	2015	2016
	PHYSICAL						
1	Q (cumec)						
2	EC_FLD (µmho/cm)	150		166			
3	EC_GEN (µmho/cm)	144	173	161			
4	pH_FLD (pH units)	7.8		8.0			
5	pH_GEN (pH units)	8.0	8.8	8.1			
6	TDS (mg/L)	100	120	110			
7	Temp (deg C)	17.6	19.0	15.0			
	CHEMICAL						
1	ALK-TOT (mgCaCO3/L)	55	96	55			
2	B (mg/L)	0.10	0.04	0.10			
3	Ca (mg/L)	18	38	18			
4	Cl (mg/L)	11.2	12.0	12.0			
5	F (mg/L)	0.17	0.10	0.12			
6	Fe (mg/L)			0.7			
7	HCO3 (mg/L)	68	117	67			
8	K (mg/L)	5.2	6.0	5.7			
9	Mg (mg/L)	4.5	32.1	5.0			
10	Na (mg/L)	7.2	18.0	6.4			
11	NH3-N (mg N/L)	0.11	0.05	0.09			
12	NO2+NO3 (mg N/L)	0.09	0.27	0.10			
13	NO2-N (mgN/L)	0.03	0.26	0.03			
14	NO3-N (mgN/L)	0.06	0.01	0.07			
15	P-Tot (mgP/L)	0.121	0.040	0.122			
16	SO4 (mg/L)	24.4	18.0	25.0			
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	1.4	1.2	1.5			
2	COD (mg/L)		9.0				

Water Quality Seasonal Average for the period: 2014-2016

Station Name : SRINAGAR (GG200D5)

Local River : Alaknanda

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Alaknanda Sub Div, Srinagar

River Water

S.No	Parameters	Flood		Winter		Summer	
		Jun - Oct		Nov - Feb		Mar - May	
		2014	2015	2014-2015	2015-2016	2015	2016
3	DO (mg/L)	7.3	6.7	7.3			
4	DO_SAT% (%)	77	72	72			
5	FCol-MPN (MPN/100mL)						
6	Tcol-MPN (MPN/100mL)						
	TRACE & TOXIC						
1	Cd (µg/L)			0.14			
2	Cr (µg/L)			20.82			
3	Cu (µg/L)			5.85			
4	Ni (µg/L)			2.69			
5	Pb (µg/L)			8.32			
6	Zn (µg/L)			0.10			
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	46	96	45			
2	HAR_Total (mgCaCO3/L)	64	230	66			
3	Na% (%)	18	14	16			
4	SAR (-)	0.4	0.5	0.3			
	PESTICIDES						

HISTORY SHEET

		Water Year	: 2015-2016
Site	: DEOPRAYAG	Code	: GG00029
State	: Uttarakhand	District	Tehri-Garhwal
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Ganga
Division	: Himalayan Ganga Div., Dehradun	Sub-Division	: Bhagirathi Sub Division, Tehri
Drainage Area	: 19600 Sq. Km.	Bank	: Left
Latitude	: 30°08'00"	Longitude	: 78°36'00"
	Opening Date		Closing Date
Gauge	: 06-03-1972		
Discharge	: 06-03-1972		
Sediment	: 05-11-1974		
Water Quality	: 09-11-1976		

Water Quality Datasheet for the period : 2015-2016

Station Name : DEOPRAYAG (GG000Z9)

Local River : Ganga

River Water Analysis

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Bhagirathi Sub Division, Tehri

S.No	Parameters	01-06-2015	01-07-2015	03-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	690.2	1200	1487	833.9	590.1	309.8	304.9	387.8	376.1	518.9	316.5	253.2
2	Colour_Cod (-)	Clear	Clear	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (μmho/cm)	170	172	135	148	145	160	136	136	126	142	180	
4	EC_GEN (μmho/cm)	165	169	131	142	141	156	132	132	120	137	174	230
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.0	7.5	8.1	7.2	8.2	7.1	7.8	7.9	8.1	8.1	8.0	
7	pH_GEN (pH units)	7.1	7.7	8.3	7.4	8.4	7.3	8.0	8.0	8.2	8.3	8.1	8.3
8	TDS (mg/L)	110	110	100	100	110	120	100	110	90	100	120	160
9	Temp (deg C)	18.0	18.0	18.5	19.5	19.5	20.0	14.0	14.0	14.0	16.5	17.5	20.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	64	76	72	68	76	80	72	76	68	60	69	84
3	B (mg/L)	0.06	0.04	0.06	0.07	0.05	0.04	0.05	0.06	0.08	0.07	0.05	0.08
4	Ca (mg/L)	22	26	29	34	38	32	43	35	37	38	32	42
5	Cl (mg/L)	12.0	20.0	22.0	16.0	12.0	16.0	14.0	16.0	18.0	14.0	16.0	14.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.10	0.10	0.08	0.10	0.12	0.14	0.14	0.12	0.16	0.14	0.11	0.13
8	Fe (mg/L)							0.0				0.0	
9	HCO3 (mg/L)	78	93	88	83	93	98	88	93	83	73	84	102
10	K (mg/L)	4.0	5.5	5.0	6.0	5.0	0.6	5.0	4.0	8.0	7.0	7.0	9.0
11	Mg (mg/L)	19.5	21.5	15.6	11.7	8.8	9.8	15.6	14.6	15.6	13.7	12.7	14.6
12	Na (mg/L)	11.0	14.2	15.0	16.0	18.0	20.0	19.0	17.0	20.0	22.0	18.0	21.0
13	NH3-N (mg N/L)	0.05	0.05	0.05	0.05	0.05	0.05	0.05		0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.70	0.50	0.56	0.64	0.46	0.52	0.52	0.51	0.44	0.48	0.41	0.41
15	NO2-N (mgN/L)	0.44	0.32	0.36	0.40	0.30	0.34	0.32	0.29	0.18	0.20	0.23	0.21
16	NO3-N (mgN/L)	0.26	0.18	0.20	0.24	0.16	0.18	0.20	0.22	0.26	0.28	0.18	0.20
17	P-Tot (mgP/L)	0.080	0.060	0.070	0.070	0.030	0.040	0.040	0.050	0.080	0.100	0.120	0.090
18	SO4 (mg/L)	18.0	20.0	22.0	18.0	19.0	21.0	20.0	18.0	22.0	20.0	24.0	28.0
	BIOLOGICAL/BACTERIOLOGICAL												

Water Quality Datasheet for the period : 2015-2016

Station Name : DEOPRAYAG (GG000Z9)

Local River : Ganga

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Bhagirathi Sub Division, Tehri

River Water Analysis

S.No	Parameters	01-06-2015	01-07-2015	03-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
1	BOD3-27 (mg/L)	1.9	3.2	2.5	3.5	3.1	1.5	1.0	1.9	3.5	1.3	3.7	1.7
2	COD (mg/L)	18.0	12.5	8.0	10.1	9.0	7.2	5.5	8.9	12.1	8.0	12.1	11.4
3	DO (mg/L)	8.7	10.0	7.0	8.3	8.2	8.4	8.7	9.4	9.1	8.9	8.4	8.6
4	DO_SAT% (%)	92	105	74	90	89	93	84	91	88	90	87	94
5	FCol-MPN (MPN/100mL)												2000
6	Tcol-MPN (MPN/100mL)												1400
	TRACE & TOXIC												
1	As (µg/L)							1.00				1.00	
2	Cd (µg/L)							0.01				0.01	
3	Cr (µg/L)							2.00				2.00	
4	Cu (µg/L)							1.00				1.00	
5	Ni (µg/L)							1.00					
6	Pb (µg/L)							1.00				1.00	
7	Zn (µg/L)							1.00				0.10	
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	56	64	72	84	96	80	108	88	92	96	80	104
2	HAR_Total (mgCaCO3/L)	137	154	137	133	133	121	173	149	157	153	133	165
3	Na% (%)	14	16	19	20	22	26	19	19	21	23	22	21
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.5	0.6	0.6	0.7	0.8	0.6	0.6	0.7	0.8	0.7	0.7
	PESTICIDES												

Water Quality Summary for the period : 2015-2016

Station Name : DEOPRAYAG (GG000Z9)

Division : Himalayan Ganga Div., Dehradun

Local River : Ganga

Sub-Division : Bhagirathi Sub Division, Tehri

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	4153	134.9	616.9
2	EC_FLD (μmho/cm)	11	180	126	150
3	EC_GEN (μmho/cm)	12	230	120	152
4	pH_FLD (pH units)	11	8.2	7.0	7.7
5	pH_GEN (pH units)	12	8.4	7.1	7.9
6	TDS (mg/L)	12	160	90	111
7	Temp (deg C)	12	20.0	14.0	17.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	84	60	72
3	B (mg/L)	12	0.08	0.04	0.06
4	Ca (mg/L)	12	43	22	34
5	Cl (mg/L)	12	22.0	12.0	15.8
6	CO3 (mg/L)	12	0.0	0.0	0
7	F (mg/L)	12	0.16	0.08	0.12
8	Fe (mg/L)	2	0.0	0.0	0
9	HCO3 (mg/L)	12	102	73	88
10	K (mg/L)	12	9.0	0.6	5.5
11	Mg (mg/L)	12	21.5	8.8	14.5
12	Na (mg/L)	12	22.0	11.0	17.6
13	NH3-N (mg N/L)	11	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	12	0.70	0.41	0.51
15	NO2-N (mgN/L)	12	0.44	0.18	0.3
16	NO3-N (mgN/L)	12	0.28	0.16	0.21
17	P-Tot (mgP/L)	12	0.120	0.030	0.069
18	SO4 (mg/L)	12	28.0	18.0	20.8
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	3.7	1.0	2.4
2	COD (mg/L)	12	18.0	5.5	10.2
3	DO (mg/L)	12	10.0	7.0	8.6
4	DO_SAT% (%)	12	105	74	90
5	FCol-MPN (MPN/100mL)	1	2000	2000	2000
6	Tcol-MPN (MPN/100mL)	1	1400	1400	1400
	TRACE & TOXIC				
1	As (μg/L)	2	1.00	1.00	1
2	Cd (μg/L)	2	0.01	0.01	0.01
3	Cr (μg/L)	2	2.00	2.00	2
4	Cu (μg/L)	2	1.00	1.00	1
5	Ni (μg/L)	1	1.00	1.00	1
6	Pb (μg/L)	2	1.00	1.00	1
7	Zn (μg/L)	2	1.00	0.10	0.55
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	108	56	85
2	HAR_Total (mgCaCO3/L)	12	173	121	145
3	Na% (%)	12	26	14	20
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.8	0.4	0.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : DEOPRAYAG (GG000Z9)

Local River : Ganga

River Water

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Bhagirathi Sub Division, Tehri

S.No	Parameters	Flood														
		Jun - Oct														
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	PHYSICAL															
1	Q (cumec)	1257	1285	1212	995.2	1278	974.9	1128	1043	528.4	1140	1404	1011	1315	922.0	960.2
2	EC_FLD (µmho/cm)	152	157	118	110	146	140	165	127	166	150				151	154
3	EC_GEN (µmho/cm)	152	157	118	110	146	140	165	127	166	150	167	168	183	147	150
4	pH_FLD (pH units)	8.1	8.2	8.0	8.1	8.0	8.0	8.0	7.6	6.8	7.6	8.2	7.3		7.8	7.6
5	pH_GEN (pH units)	8.1	8.2	8.0	8.1	8.0	8.0	8.0	7.6	6.8	7.6	8.2	7.8	7.8	7.9	7.8
6	TDS (mg/L)											88	89	119	106	106
7	Temp (deg C)	18.2	16.6	16.5	18.9	17.8	17.3	18.0	17.6	16.5	17.8	17.7	17.4	17.8	18.6	18.7
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	62	57	58	54	39	56	55		59	41	30	24	57	69	71
2	B (mg/L)					0.10	0.12	0.12				0.10	0.11	0.09	0.12	0.06
3	Ca (mg/L)	25	23	21	25	21	77	22	20	14	7	11	9	20	18	30
4	Cl (mg/L)	7.2	5.7	8.2	8.4	8.3	8.0	8.4	7.6	6.4	5.4	4.1	3.9	9.2	9.8	16.4
5	F (mg/L)	0.00	0.04	0.14	0.18	0.56	0.65	1.54	0.57	0.66	0.58	0.06	0.14	0.22	0.16	0.10
6	Fe (mg/L)	0.0	0.0	0.2	0.1			0.8	0.9	0.8	0.8				18.6	
7	HCO3 (mg/L)	76	69	70	65	48	68	67	76	72	50	37	29	70	84	87
8	K (mg/L)	0.0	0.0	0.0	0.0	0.2	0.1	0.3	0.3	0.5	0.6	1.3		4.6	5.1	5.1
9	Mg (mg/L)	15.9	15.9	14.2	16.3	15.3	15.7	14.9	13.6	11.9	8.2	9.8	6.6	2.4	5.8	15.4
10	Na (mg/L)	1.0	0.8	1.0	0.7	2.3	2.1	2.6	3.1	2.9	3.2	5.3		5.2	7.9	14.8
11	NH3-N (mg N/L)	0.00	0.00	0.00	0.00				0.00					0.22	0.11	0.05
12	NO2+NO3 (mg N/L)	0.03	0.13	0.10	0.10			0.34	0.38	0.38	0.36			0.12	0.12	0.57
13	NO2-N (mgN/L)	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00			0.03	0.04	0.36
14	NO3-N (mgN/L)	0.03	0.13	0.10	0.10			0.34	0.38	0.38	0.36			0.09	0.08	0.21
15	o-PO4-P (mg P/L)	0.457	0.265	0.426	0.424			0.457	0.424	0.231	0.488					
16	Org-N (mgN/L)															
17	P-Tot (mgP/L)					0.426	0.454					0.048	0.206	0.018	0.127	0.062
18	SiO2 (mg/L)	18.0	16.8	14.7		38.4	18.6	41.6	38.4	38.0	35.2			4.9		
19	SO4 (mg/L)	6.2	6.0	5.3	5.6	5.2	7.3	7.9	7.2	7.2	7.3	10.0	10.7	12.1	26.2	19.4

Water Quality Seasonal Average for the period: 2001-2016

Station Name : DEOPRAYAG (GG000Z9)

Local River : Ganga

River Water

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Bhagirathi Sub Division, Tehri

S.No	Parameters	Flood Jun - Oct														
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.1	1.1	1.2	1.1	1.1	1.0	1.2	1.2	1.3	1.2	1.5	1.1	1.3	1.4	2.9
2	COD (mg/L)															11.5
3	DO (mg/L)	8.6	7.2	7.9	6.8	6.5	7.2	7.3	7.7	7.7	7.6	7.7	6.9	6.5	7.4	8.5
4	DO_SAT% (%)	91	73	81	73	68	74	77	80	78	80	80	71	69	79	90
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
1	Al (mg/L)	0.00	0.00	0.02	0.00						0.00					
2	As (µg/L)															
3	Cd (µg/L)															
4	Cr (µg/L)															
5	Cu (µg/L)															
6	Ni (µg/L)															
7	Pb (µg/L)															
8	Zn (µg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	62	58	52	63	52	192	54	51	35	18	27	22	50	45	75
2	HAR_Total (mgCaCO3/L)	128	124	111	131	116	257	116	107	85	52	68	49	60	69	139
3	Na% (%)	2	1	2	1	4	2	5	6	7	12	14		15	19	18
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
5	SAR (-)	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.3		0.3	0.4	0.6
	PESTICIDES															

Water Quality Seasonal Average for the period: 2001-2016

Station Name : DEOPRAYAG (GG000Z9)

Local River : Ganga

River Water

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Bhagirathi Sub Division, Tehri

S.No	Parameters	Winter														
		Nov - Feb														
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL															
1	Q (cumec)	140.8	186.0	228.4	221.6	163.0	278.9	380.9	379.8	263.4	308.3	286.1	514.0	487.7	496.9	344.7
2	EC_FLD (µmho/cm)	169	129	100	104	139	161	198	149	133	117	140			132	140
3	EC_GEN (µmho/cm)	169	129	100	104	139	161	198	149	133	117	145	140	173	128	135
4	pH_FLD (pH units)	8.1	8.1	8.0	8.0	8.1	8.0	8.1	7.9	7.8	7.9	7.6			7.9	7.7
5	pH_GEN (pH units)	8.1	8.1	8.0	8.0	8.1	8.0	8.1	7.9	7.8	7.9	7.6	7.5	8.1	8.1	7.9
6	TDS (mg/L)											77	77	118	88	105
7	Temp (deg C)	11.8	12.5	10.3	12.6	12.9	14.4	12.9	13.0	12.1	12.4	13.8	14.3	13.5	15.2	15.5
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	65	54	53	58	53	54	66		53	33	31	44	61	66	74
2	B (mg/L)						0.13	0.11				0.10	0.17	0.12	0.11	0.06
3	Ca (mg/L)	26	20	21	20	23	27	23	18	7	11	12	14	24	19	37
4	Cl (mg/L)	9.3	7.8	8.8	10.5	9.1	11.0	9.5	8.3	4.8	7.0	2.9	7.0	8.5	9.3	16.0
5	F (mg/L)	0.21	0.27	0.18	0.19	0.66	1.52	1.25	0.97	0.80	0.72	0.05	0.52	0.24	0.12	0.14
6	Fe (mg/L)	0.1	0.2	0.3	0.2			0.7	0.7	0.9	0.9				2.6	0.0
7	HCO3 (mg/L)	79	66	65	71	65	66	81	88	65	40	38	54	74	80	90
8	K (mg/L)	0.3	0.0	0.3	0.2	0.4	0.2	0.4	0.4	0.6	0.6	1.9	5.9	4.5	5.6	4.4
9	Mg (mg/L)	16.2	16.5	14.1	14.4	15.2	17.2	16.0	11.8	14.1	8.9	10.1	6.0	4.1	7.2	13.9
10	Na (mg/L)	1.3	0.9	1.2	1.3	2.6	2.6	2.9	2.9	3.2	3.2	4.2	4.1	7.7	8.1	19.0
11	NH3-N (mg N/L)	0.00	0.00	0.00	0.00				0.00					0.22	0.10	0.05
12	NO2+NO3 (mg N/L)	0.17	0.12	0.23	0.25			0.43	0.41	0.43	0.47		0.16	0.13	0.10	0.50
13	NO2-N (mgN/L)	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00		0.09	0.04	0.03	0.28
14	NO3-N (mgN/L)	0.17	0.12	0.23	0.25			0.43	0.41	0.43	0.47		0.07	0.10	0.12	0.21
15	o-PO4-P (mg P/L)	0.651	0.568	0.610	0.468			0.610	0.460	0.447	0.610				0.110	
16	Org-N (mgN/L)															
17	P-Tot (mgP/L)					0.610	0.468					0.011	0.158	0.217	0.114	0.052
18	SiO2 (mg/L)	18.5	19.5	15.5		43.0	20.0	40.0	40.5	36.0	35.5		8.7			
19	SO4 (mg/L)	5.3	6.0	5.9	6.5	7.4	7.8	8.4	8.0	7.6	8.4	10.5	12.3	15.3	27.7	20.3

Water Quality Seasonal Average for the period: 2001-2016

Station Name : DEOPRAYAG (GG000Z9)

Local River : Ganga

River Water

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Bhagirathi Sub Division, Tehri

S.No	Parameters	Winter														
		Nov - Feb														
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.1	1.1	1.1	1.2	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.7	2.0
2	COD (mg/L)														12.1	8.4
3	DO (mg/L)	9.3	7.9	9.1	8.0	7.2	7.1	8.5	7.8	7.8	7.8	7.8	7.9	7.9	8.2	8.9
4	DO_SAT% (%)	87	75	83	75	68	69	80	74	72	74	75	77	75	81	89
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
1	Al (mg/L)	0.01	0.00	0.00												
2	As (µg/L)															1.00
3	Cd (µg/L)														0.50	0.01
4	Cr (µg/L)														126.14	2.00
5	Cu (µg/L)														26.45	1.00
6	Ni (µg/L)														70.19	1.00
7	Pb (µg/L)														4.62	1.00
8	Zn (µg/L)														0.10	1.00
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	66	51	53	50	58	68	57	44	18	27	29	35	59	48	92
2	HAR_Total (mgCaCO3/L)	133	119	111	109	121	140	123	93	77	64	71	60	76	77	150
3	Na% (%)	2	2	2	2	5	4	5	6	8	10	11	14	17	17	21
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.7
	PESTICIDES															

Water Quality Seasonal Average for the period: 2001-2016

Station Name : DEOPRAYAG (GG000Z9)

Local River : Ganga

River Water

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Bhagirathi Sub Division, Tehri

S.No	Parameters	Summer														
		Mar - May														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	200.2	235.5	164.5	225.5	144.1	250.3	240.1	442.8	201.8	388.9	343.4	435.2	478.7	620.0	362.9
2	EC_FLD (µmho/cm)	176	129	110	150	136	193	133	162	155	138	164			145	161
3	EC_GEN (µmho/cm)	176	129	110	150	136	193	133	162	155	138	144	153	144	141	180
4	pH_FLD (pH units)	8.1	8.1	8.1	7.9	8.0	8.0	8.0	7.3	8.9	8.1	7.7			7.8	8.1
5	pH_GEN (pH units)	8.1	8.1	8.1	7.9	8.0	8.0	8.0	7.3	8.9	8.1	7.9	7.8	8.0	8.0	8.2
6	TDS (mg/L)											76	94	97	90	127
7	Temp (deg C)	14.7	14.0	16.3	15.5	16.5	16.8	16.2	14.7	12.3	15.3	15.0	15.0	15.5	16.5	18.0
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	68	64	64	43	57	56	68		57	36	30	46	62	53	71
2	B (mg/L)						0.14	0.13				0.07	0.29	0.13	0.18	0.07
3	Ca (mg/L)	28	26	28	20	27	22	27	19	9	14	22	20	19	16	37
4	Cl (mg/L)	7.7	9.0	11.0	9.8	8.7	12.0	14.0	12.0	6.0	6.7	4.0	12.0	10.0	10.0	14.7
5	F (mg/L)	0.25	0.26	0.22	0.57	0.76	1.64	0.80	0.79	0.68	0.73	0.14	0.21	0.22	0.08	0.13
6	Fe (mg/L)	0.2	0.3	0.4	0.6			1.0	0.9	0.9	1.0					0.0
7	HCO3 (mg/L)	83	78	78	52	70	68	83	89	70	44	37	59	76	65	87
8	K (mg/L)	0.1	0.0	0.0	0.4	0.6	0.2	0.3	0.5	0.7	0.7		3.7	5.2	4.0	7.7
9	Mg (mg/L)	28.9	19.9	18.8	15.7	17.5	17.4	16.7	12.6	12.9	10.8	8.6	3.1	4.4	7.5	13.7
10	Na (mg/L)	1.1	1.1	1.4	1.8	2.6	2.7	3.0	3.2	3.5	3.3		3.9	8.7	10.2	20.3
11	NH3-N (mg N/L)	0.00	0.00	0.00	0.00				0.00					0.18	0.15	0.05
12	NO2+NO3 (mg N/L)	0.25	0.25	0.27	0.39			0.41	0.43	0.43	0.43		0.23	0.13	0.37	0.43
13	NO2-N (mgN/L)	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00		0.08	0.04	0.19	0.21
14	NO3-N (mgN/L)	0.25	0.25	0.27	0.39			0.41	0.43	0.43	0.43		0.15	0.09	0.20	0.22
15	o-PO4-P (mg P/L)	0.434	0.596	0.816	0.265			0.816	0.265	0.596	0.489				0.060	
16	Org-N (mgN/L)															
17	P-Tot (mgP/L)					0.761	0.265					0.031	0.087	0.360	0.052	0.103
18	SiO2 (mg/L)	22.0	21.3	21.3		46.7	21.7	44.0	41.3	39.3	36.0		6.3			
19	SO4 (mg/L)	7.3	7.2	6.5	6.2	8.6	8.5	8.8	8.4	8.4	9.2	12.6	13.9	24.8	13.7	24.0

Water Quality Seasonal Average for the period: 2001-2016

Station Name : DEOPRAYAG (GG000Z9)

Local River : Ganga

River Water

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Bhagirathi Sub Division, Tehri

S.No	Parameters	Summer														
		Mar - May														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.1	1.2	1.2	1.2	1.1	1.1	1.3	1.3	1.2	1.2	1.1	1.1	1.2	1.6	2.2
2	COD (mg/L)														14.3	10.5
3	DO (mg/L)	9.4	8.3	8.5	8.2	7.7	7.2	7.4	7.7	7.7	7.7	7.8	7.4	8.9	6.9	8.6
4	DO_SAT% (%)	93	80	86	82	78	74	75	76	71	76	77	73	89	70	90
5	FCol-MPN (MPN/100mL)															2000
6	Tcol-MPN (MPN/100mL)															1400
	TRACE & TOXIC															
1	Al (mg/L)	0.01	0.01	0.00												
2	As (µg/L)															1.00
3	Cd (µg/L)															0.01
4	Cr (µg/L)															2.00
5	Cu (µg/L)															1.00
6	Ni (µg/L)															
7	Pb (µg/L)															1.00
8	Zn (µg/L)															0.10
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	70	65	70	50	68	54	67	49	22	34	55	50	48	41	94
2	HAR_Total (mgCaCO3/L)	191	147	149	115	141	127	136	101	75	79	91	63	67	72	150
3	Na% (%)	1	2	2	3	4	5	5	6	9	8		11	21	22	22
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2		0.2	0.5	0.5	0.7
	PESTICIDES															

HISTORY SHEET

		Water Year	: 2015-2016
Site	: RISHIKESH	Code	: GG000Y4
State	: Uttarakhand	District	Dehradun
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	:	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: GANGA
Division	: Himalayan Ganga Div., Dehradun	Sub-Division	: Upper Ganga Sub Divi, Haridwar
Drainage Area	: 21794 Sq. Km.	Bank	: Right
Latitude	: 30°05'00"	Longitude	: 78°17'00"
	Opening Date	Closing Date	
Gauge	: 01-12-1970		
Discharge	: 05-12-1970		
Sediment	: 23-10-1971		
Water Quality	: 20-10-1971		

Water Quality Datasheet for the period : 2015-2016

Station Name : RISHIKESH (GG000Y4)

Local River : GANGA

River Water Analysis

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Upper Ganga Sub Divi, Haridwar

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	449.8	988.6	1496	819.6	518.2	305.3	266.5	206.7	183.0	292.9	295.6	252.3
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	165	356	250	244	230	160	165	146	147	235	245	256
4	EC_GEN (µmho/cm)	160	350	243	240	224	154	161	140	143	230	240	260
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.4	7.0	8.1	7.3	8.1	7.7	8.0	8.0	8.2	8.2	7.7	7.8
7	pH_GEN (pH units)	7.6	7.1	8.3	7.5	8.3	7.9	8.1	8.3	8.4	8.3	7.9	8.1
8	TDS (mg/L)	120	240	210	160	165	110	140	100	90	150	170	210
9	Temp (deg C)	17.9	16.5	21.5	20.3	21.5	17.5	14.0	14.0	15.5	15.5	18.0	19.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	84	112	104	88	96	100	84	80	92	104	100	104
3	B (mg/L)	0.07	0.05	0.06	0.04	0.05	0.03	0.04	0.04	0.06		0.08	0.12
4	Ca (mg/L)	32	48	37	42	48	40	27	30	32	40	37	51
5	Cl (mg/L)	20.0	18.0	22.0	10.0	16.0	18.0	16.0	18.0	16.0	14.0	14.0	16.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.10	0.20	0.14	0.14	0.18	0.16	0.15	0.13	0.13	0.15	0.12	0.16
8	Fe (mg/L)							0.0					
9	HCO3 (mg/L)	102	137	127	107	117	122	102	98	112	126	122	127
10	K (mg/L)	3.2	4.5	5.5	6.0	6.0	6.5	5.0	4.0	5.0	7.0	6.0	9.0
11	Mg (mg/L)	14.6	18.5	16.6	19.5	22.5	21.5	19.5	20.5	17.6	16.6	12.7	21.5
12	Na (mg/L)	10.0	14.0	15.0	16.0	16.5	13.0	10.0	12.0	10.0	12.0	10.0	14.0
13	NH3-N (mg N/L)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.88	0.64	0.68	0.64	0.44	0.46	0.42	0.38	0.32	0.39	0.34	0.41
15	NO2-N (mgN/L)	0.40	0.32	0.38	0.24	0.18	0.16	0.14	0.13	0.11	0.25	0.12	0.15
16	NO3-N (mgN/L)	0.48	0.32	0.30	0.40	0.26	0.30	0.28	0.25	0.21	0.14	0.22	0.26
17	P-Tot (mgP/L)	0.060	0.060	0.070	0.040	0.013	0.014	0.120	0.100	0.100	0.160	0.110	0.180
18	SO4 (mg/L)	19.0	22.0	20.0	24.0	26.0	27.0	22.0	27.0	18.0	20.0	22.0	25.0
	BIOLOGICAL/BACTERIOLOGICAL												

Water Quality Datasheet for the period : 2015-2016

Station Name : RISHIKESH (GG000Y4)

Local River : GANGA

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Upper Ganga Sub Divi, Haridwar

River Water Analysis

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
1	BOD3-27 (mg/L)	1.7	4.5	3.3	5.2	2.2	1.1	1.0	0.8	2.2	4.6	1.6	1.9
2	COD (mg/L)	13.5	14.1	10.2	12.2	8.6	6.9	4.4	3.8	9.8	12.0	8.0	8.0
3	DO (mg/L)	8.3	3.9	5.6	6.7	7.1	7.1	8.1	9.2	9.3	5.2	7.4	5.8
4	DO_SAT% (%)	86	39	63	73	79	74	78	90	92	52	78	63
5	FCol-MPN (MPN/100mL)											12000	3000
6	Tcol-MPN (MPN/100mL)											20000	6200
	TRACE & TOXIC												
1	As (µg/L)							1.00				1.00	
2	Cd (µg/L)							0.01				0.01	
3	Cr (µg/L)							2.00				2.00	
4	Cu (µg/L)							1.00				1.00	
5	Ni (µg/L)							1.00				1.00	
6	Pb (µg/L)							1.00				1.00	
7	Zn (µg/L)							0.10				0.10	
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	80	121	92	104	120	100	68	76	80	100	92	128
2	HAR_Total (mgCaCO3/L)	141	198	161	186	214	190	149	162	153	169	145	218
3	Na% (%)	13	13	16	15	14	13	12	14	12	13	13	12
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	PESTICIDES												

Water Quality Summary for the period : 2015-2016

Station Name : RISHIKESH (GG000Y4)

Division : Himalayan Ganga Div., Dehradun

Local River : GANGA

Sub-Division : Upper Ganga Sub Divi, Haridwar

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	2813	114.8	566.5
2	EC_FLD (μmho/cm)	12	356	146	217
3	EC_GEN (μmho/cm)	12	350	140	212
4	pH_FLD (pH units)	12	8.2	7.0	7.8
5	pH_GEN (pH units)	12	8.4	7.1	8
6	TDS (mg/L)	12	240	90	155
7	Temp (deg C)	12	21.5	14.0	17.6
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	112	80	96
3	B (mg/L)	11	0.12	0.03	0.06
4	Ca (mg/L)	12	51	27	39
5	Cl (mg/L)	12	22.0	10.0	16.5
6	CO3 (mg/L)	12	0.0	0.0	0
7	F (mg/L)	12	0.20	0.10	0.15
8	Fe (mg/L)	1	0.0	0.0	0
9	HCO3 (mg/L)	12	137	98	117
10	K (mg/L)	12	9.0	3.2	5.6
11	Mg (mg/L)	12	22.5	12.7	18.5
12	Na (mg/L)	12	16.5	10.0	12.7
13	NH3-N (mg N/L)	12	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	12	0.88	0.32	0.5
15	NO2-N (mgN/L)	12	0.40	0.11	0.21
16	NO3-N (mgN/L)	12	0.48	0.14	0.28
17	P-Tot (mgP/L)	12	0.180	0.013	0.086
18	SO4 (mg/L)	12	27.0	18.0	22.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	4.5	0.8	2.6
2	COD (mg/L)	12	100.1	3.8	16.4
3	DO (mg/L)	12	9.3	3.9	7
4	DO_SAT% (%)	12	92	39	72
5	FCol-MPN (MPN/100mL)	2	12000	3000	7500
6	Tcol-MPN (MPN/100mL)	2	20000	6200	13100
	TRACE & TOXIC				
1	As (μg/L)	2	1.00	1.00	1
2	Cd (μg/L)	2	0.01	0.01	0.01
3	Cr (μg/L)	2	2.00	2.00	2
4	Cu (μg/L)	2	1.00	1.00	1
5	Ni (μg/L)	2	1.00	1.00	1
6	Pb (μg/L)	2	1.00	1.00	1
7	Zn (μg/L)	2	0.10	0.10	0.1
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	128	68	97
2	HAR_Total (mgCaCO3/L)	12	218	141	174
3	Na% (%)	12	16	12	13
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.5	0.4	0.4
	PESTICIDES				

Water Quality Seasonal Average for the period: 2001-2016

Station Name : RISHIKESH (GG000Y4)

Local River : GANGA

River Water

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Upper Ganga Sub Divi, Haridwar

S.No	Parameters	Flood														
		Jun - Oct														
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	PHYSICAL															
1	Q (cumec)	1351	1284	1714	1072	1318	1284	1719	1581	779.0	1594	1650	870.8	1852	794.4	854.5
2	EC_FLD (µmho/cm)	132	128	130	140	156	140	130	201	194	198		165		191	249
3	EC_GEN (µmho/cm)	132	128	130	140	156	140	130	201	194	198	174	190	244	186	243
4	pH_FLD (pH units)	8.1	8.1	7.8	8.0	8.0	8.0	7.9	8.1	7.7	8.4	8.1	8.1		7.8	7.6
5	pH_GEN (pH units)	8.1	8.1	7.8	8.0	8.0	8.0	7.9	8.1	7.7	8.4	8.1	7.9	7.9	8.1	7.8
6	TDS (mg/L)											92	101	155	132	179
7	Temp (deg C)	18.3	14.5	9.6	18.5	17.9	19.0	19.7	20.0	19.5	20.0	19.6	20.5	21.2	20.9	19.5
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	74	62	66	65	45	61	62		66	43	31	23	75	69	97
2	B (mg/L)					0.04	0.10	0.11				0.08	0.11	0.11	0.12	0.05
3	Ca (mg/L)	27	25	22	26	31	123	24	23	15	9	11	9	27	20	41
4	Cl (mg/L)	10.0	8.8	9.8	10.2	9.3	9.0	9.8	9.4	7.8	7.0	6.6	4.1	9.6	10.4	17.2
5	F (mg/L)	0.16	0.08	0.12	0.24	0.47	0.50	1.38	0.58	0.84	0.63	0.17	0.19	0.28	0.19	0.15
6	Fe (mg/L)	0.2	0.2	0.4	0.3			0.9	1.1	1.0	0.9					
7	HCO3 (mg/L)	90	76	80	79	55	75	75	76	80	53	38	28	91	84	118
8	K (mg/L)	0.3	0.2	0.3	0.2	0.4	0.2	0.3	0.3	0.5	0.6	2.1		4.6	5.2	5.0
9	Mg (mg/L)	18.0	17.1	15.3	17.4	22.1	16.6	15.2	15.1	11.9	10.4	8.6	6.7	3.7	5.0	18.3
10	Na (mg/L)	1.3	1.0	1.4	1.2	2.5	2.6	2.9	3.1	2.9	3.2	10.1		5.4	7.9	14.3
11	NH3-N (mg N/L)	0.00	0.00	0.00	0.00				0.00					0.15	0.18	0.05
12	NO2+NO3 (mg N/L)	0.14	0.24	0.26	0.24			0.43	0.42	0.39	0.38			0.14	0.13	0.66
13	NO2-N (mgN/L)	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00			0.03	0.04	0.30
14	NO3-N (mgN/L)	0.14	0.24	0.26	0.24			0.43	0.42	0.39	0.38			0.11	0.08	0.35
15	o-PO4-P (mg P/L)	0.651	0.393	0.717	0.585			0.717	0.585	0.393	0.651					
16	Org-N (mgN/L)															
17	P-Tot (mgP/L)					0.717	0.585					0.019	0.244	0.024	0.132	0.049
18	SiO2 (mg/L)	19.6	20.0	19.3		39.2	19.6	41.6	41.6	39.6	36.0			4.7		
19	SO4 (mg/L)	7.1	6.9	6.1	6.8	5.9	8.1	7.9	7.8	6.9	7.6	10.0	10.3	15.5	30.0	22.2

Water Quality Seasonal Average for the period: 2001-2016

Station Name : RISHIKESH (GG000Y4)

Local River : GANGA

River Water

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Upper Ganga Sub Divi, Haridwar

S.No	Parameters	Flood														
		Jun - Oct														
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.0	1.1	1.2	1.1	1.2	1.2	1.1	1.2	1.2	1.2	1.4	1.2	1.5	1.7	12.5
2	COD (mg/L)															28.9
3	DO (mg/L)	5.7	6.0	5.9	6.7	6.4	6.7	6.3	6.5	7.0	6.9	8.0	6.5	6.4	7.4	6.3
4	DO_SAT% (%)	60	59	54	71	68	72	69	72	77	76	87	72	71	82	68
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
1	Al (mg/L)	0.02	0.00	0.04												
2	As (µg/L)															
3	Cd (µg/L)															
4	Cr (µg/L)															
5	Cu (µg/L)															
6	Ni (µg/L)															
7	Pb (µg/L)															
8	Zn (µg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	67	62	55	65	78	308	61	58	38	22	28	23	68	51	104
2	HAR_Total (mgCaCO3/L)	142	133	119	137	170	377	124	121	88	65	64	51	83	71	180
3	Na% (%)	2	2	2	2	3	1	5	5	7	10	25		12	18	14
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.6		0.3	0.4	0.5
	PESTICIDES															

Water Quality Seasonal Average for the period: 2001-2016

Station Name : RISHIKESH (GG000Y4)

Local River : GANGA

River Water

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Upper Ganga Sub Divi, Haridwar

S.No	Parameters	Winter														
		Nov - Feb														
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	PHYSICAL															
1	Q (cumec)	226.5	206.9	249.8	240.7	207.1	223.7	304.3	286.0	232.4	476.2	359.5	224.8	334.2	264.2	240.4
2	EC_FLD (µmho/cm)	188	199	158	126	146	161	144	174	123	184	210			165	155
3	EC_GEN (µmho/cm)	188	199	158	126	146	161	144	174	123	184	196	177	258	160	150
4	pH_FLD (pH units)	8.1	8.2	7.4	8.1	8.1	8.1	8.0	8.3	7.8	8.2	7.5			7.9	8.0
5	pH_GEN (pH units)	8.1	8.2	7.4	8.1	8.1	8.1	8.0	8.3	7.8	8.2	7.5	7.8	8.1	8.1	8.2
6	TDS (mg/L)											104	97	178	120	110
7	Temp (deg C)	13.9	11.0	10.1	12.9	13.8	12.8	14.1	14.9	14.4	13.6	14.5	15.6	15.6	14.8	15.3
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	76	58	62	69	60	59	66	64	53	29	27	39	93	70	89
2	B (mg/L)						0.13	0.10				0.09	0.22	0.14	0.11	0.04
3	Ca (mg/L)	30	22	21	21	24	118	24	18	8	12	10	23	34	21	32
4	Cl (mg/L)	11.5	9.5	10.5	11.0	10.5	12.0	11.0	9.0	5.5	7.8	7.1	8.0	10.3	11.3	17.0
5	F (mg/L)	0.26	0.25	0.19	0.31	0.47	1.46	1.25	0.92	0.92	0.72	0.05	0.26	0.28	0.14	0.14
6	Fe (mg/L)	0.4	0.4	0.4	0.5			0.7	0.9	1.0	1.0				3.7	0.0
7	HCO3 (mg/L)	93	71	76	84	73	72	81	85	65	35	33	47	114	85	109
8	K (mg/L)	0.5	0.4	0.4	0.4	0.6	0.2	0.4	0.5	0.6	0.6	1.5	3.2	5.2	6.3	5.1
9	Mg (mg/L)	18.8	17.8	14.1	14.6	15.2	17.8	16.0	12.6	15.2	9.1	7.5	9.9	4.9	5.4	19.8
10	Na (mg/L)	1.7	1.2	1.7	1.6	3.0	2.9	3.1	3.3	3.1	3.3	11.2	3.9	8.0	8.0	11.3
11	NH3-N (mg N/L)	0.00	0.00	0.00	0.00				0.00		0.00			0.33	0.10	0.05
12	NO2+NO3 (mg N/L)	0.25	0.18	0.31	0.35			0.52	0.47	0.48	0.33		0.24	0.17	0.27	0.40
13	NO2-N (mgN/L)	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00		0.12	0.04	0.14	0.13
14	NO3-N (mgN/L)	0.25	0.18	0.31	0.35			0.52	0.47	0.48	0.33		0.12	0.13	0.13	0.26
15	o-PO4-P (mg P/L)	0.775	0.775	0.855	0.362			0.858	0.431	0.610	0.816					
16	Org-N (mgN/L)															
17	P-Tot (mgP/L)					0.858	0.483					0.014	0.190	0.259	0.124	0.084
18	SiO2 (mg/L)	22.0	22.5	19.5		45.0	21.3	39.5	44.0	36.0	37.0		7.8			
19	SO4 (mg/L)	5.7	6.9	6.6	6.8	10.5	8.2	8.2	8.4	7.8	9.2	10.4	13.9	19.4	28.4	23.5

Water Quality Seasonal Average for the period: 2001-2016

Station Name : RISHIKESH (GG000Y4)

Local River : GANGA

River Water

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Upper Ganga Sub Divi, Haridwar

S.No	Parameters	Winter														
		Nov - Feb														
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.1	1.0	1.2	1.2	1.2	1.2	1.1	1.3	1.2	1.2	1.5	1.1	1.4	1.7	1.3
2	COD (mg/L)														10.4	6.2
3	DO (mg/L)	6.6	6.5	6.5	6.8	6.6	7.2	7.1	7.2	7.3	7.1	7.5	7.7	7.7	8.7	8.4
4	DO_SAT% (%)	64	62	58	64	64	69	69	71	71	68	73	77	77	85	83
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
1	Al (mg/L)	0.04	0.02	0.00	0.00											
2	As (µg/L)															1.00
3	Cd (µg/L)														0.39	0.01
4	Cr (µg/L)														211.40	2.00
5	Cu (µg/L)														6.12	1.00
6	Ni (µg/L)														1.00	1.00
7	Pb (µg/L)														10.76	1.00
8	Zn (µg/L)														1.00	0.10
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	74	56	53	53	59	295	60	45	20	30	25	56	86	54	81
2	HAR_Total (mgCaCO3/L)	153	130	111	114	122	369	127	97	83	68	56	98	106	76	164
3	Na% (%)	2	2	3	3	5	2	5	7	8	9	29	6	14	17	13
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.7	0.1	0.3	0.4	0.4
	PESTICIDES															

Water Quality Seasonal Average for the period: 2001-2016

Station Name : RISHIKESH (GG000Y4)

Local River : GANGA

River Water

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Upper Ganga Sub Divi, Haridwar

S.No	Parameters	Summer														
		Mar - May														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	271.1	346.6	175.2	264.1	142.9	304.9	381.0	352.2	317.9	524.5	260.0	276.7	286.1	422.0	280.3
2	EC_FLD (µmho/cm)	190	185	167	168	150	161	145	181	155	195	201			159	245
3	EC_GEN (µmho/cm)	190	185	167	168	150	161	145	181	155	195	144	184	153	153	243
4	pH_FLD (pH units)	8.1	8.1	7.7	8.0	8.0	8.0	8.1	8.0	7.9	8.2	8.1			7.9	7.9
5	pH_GEN (pH units)	8.1	8.1	7.7	8.0	8.0	8.0	8.1	8.0	7.9	8.2	7.8	7.8	8.2	8.2	8.1
6	TDS (mg/L)											76	118	103	97	177
7	Temp (deg C)	12.7	9.0	16.2	15.7	17.5	16.7	16.8	16.3	17.3	16.7	16.5	18.2	16.9	16.0	17.5
	CHEMICAL															
1	ALK-TOT (mgCaCO3/L)	73	68	73	56	67	61	69		57	37	24	55	63	72	103
2	B (mg/L)						0.14	0.12				0.09	0.15	0.15	0.15	0.10
3	Ca (mg/L)	31	27	27	30	28	123	28	20	8	13	13	18	23	17	43
4	Cl (mg/L)	10.3	11.3	12.0	12.3	10.8	13.7	14.3	13.7	7.0	7.3	5.1	19.5	10.7	10.0	14.7
5	F (mg/L)	0.27	0.25	0.22	0.65	0.76	1.48	1.00	1.18	0.90	0.79	0.09	0.29	0.27	0.15	0.14
6	Fe (mg/L)	0.4	0.5	0.5	1.0			1.0	0.9	1.0	1.0					
7	HCO3 (mg/L)	89	83	89	68	81	75	85	93	70	46	29	65	76	88	125
8	K (mg/L)	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.6	0.7	0.6		2.9	4.8	3.2	7.3
9	Mg (mg/L)	19.2	20.5	18.8	21.2	17.1	17.4	17.8	13.6	16.7	10.1	8.3	5.4	4.5	7.8	16.9
10	Na (mg/L)	1.4	1.7	1.9	2.1	3.0	3.2	3.2	3.2	3.5	3.3		3.7	8.6	8.4	12.0
11	NH3-N (mg N/L)	0.00	0.00	0.00	0.00				0.00					0.17	0.09	0.05
12	NO2+NO3 (mg N/L)	0.33	0.30	0.33	0.50			0.47	0.40	0.50	0.47		0.21	0.14	0.44	0.38
13	NO2-N (mgN/L)	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00		0.06	0.05	0.15	0.17
14	NO3-N (mgN/L)	0.33	0.30	0.33	0.50			0.47	0.40	0.50	0.47		0.15	0.10	0.29	0.21
15	o-PO4-P (mg P/L)	0.596	0.982	0.982	0.344			0.982	0.334	0.706	0.541					
16	Org-N (mgN/L)															
17	P-Tot (mgP/L)					0.982	0.345					0.084	0.135	0.447	0.030	0.150
18	SiO2 (mg/L)	24.7	24.0	24.0		44.7	22.7	43.3	45.3	39.3	35.3		5.1			
19	SO4 (mg/L)	8.0	8.0	8.0	6.7	13.8	8.9	8.7	8.7	8.7	9.2	11.0	16.9	28.2	15.0	22.3

Water Quality Seasonal Average for the period: 2001-2016

Station Name : RISHIKESH (GG000Y4)

Local River : GANGA

River Water

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Upper Ganga Sub Divi, Haridwar

S.No	Parameters	Summer														
		Mar - May														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.1	1.1	1.2	1.2	1.3	1.1	1.1	1.3	1.2	1.2	1.0	1.2	1.4	2.1	2.7
2	COD (mg/L)														16.7	9.3
3	DO (mg/L)	6.4	6.5	6.8	6.7	6.6	7.0	7.0	7.2	7.2	7.1	7.9	7.0	8.6	8.2	6.2
4	DO_SAT% (%)	60		69	67	68	72	72	73	75	73	81	74	88	83	64
5	FCol-MPN (MPN/100mL)															7500
6	Tcol-MPN (MPN/100mL)															13100
	TRACE & TOXIC															
1	Al (mg/L)	0.07	0.07	0.02												
2	As (µg/L)															1.00
3	Cd (µg/L)															0.01
4	Cr (µg/L)															2.00
5	Cu (µg/L)															1.00
6	Ni (µg/L)															1.00
7	Pb (µg/L)															1.00
8	Zn (µg/L)															0.10
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	77	67	67	75	71	307	69	50	20	33	33	46	57	43	107
2	HAR_Total (mgCaCO3/L)	157	153	146	163	142	379	143	107	90	75	68	69	76	75	177
3	Na% (%)	2	2	3	3	4	2	5	6	8	9		10	19	19	12
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
5	SAR (-)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2		0.2	0.4	0.4	0.4
	PESTICIDES															

HISTORY SHEET

		Water Year	: 2015-2016
Site	: HARIDWAR	Code	: GG000X7
State	: Uttarakhand	District	Haridwar
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Ganga
Division	: Himalayan Ganga Div., Dehradun	Sub-Division	: Upper Ganga Sub-Div., Haridwar
Drainage Area	: 23029 Sq. Km.	Bank	: Right
Latitude	: 29°52'00"	Longitude	: 78°14'00"
	Opening Date	Closing Date	
Gauge	: 01-06-1972		
Discharge	: 01-06-2014		
Sediment	: 01-06-2014		
Water Quality	: 01-06-2014		

Water Quality Datasheet for the period : 2015-2016

Station Name : HARIDWAR (GG000X7)

Local River : Ganga

River Water Analysis

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Upper Ganga Sub-Div., Haridwar

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)												
2	Colour_Cod (-)	Clear	Dark Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (µmho/cm)	187	186	182	170	165	195	177	171	132	157	205	
4	EC_GEN (µmho/cm)	182	184	179	165	160	190	174	166	127	152	200	220
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.7	7.7	8.1	7.5	8.0	7.3	7.5	7.8	8.1	8.1	8.1	
7	pH_GEN (pH units)	7.9	7.9	8.3	7.8	8.2	7.5	7.7	8.0	8.3	8.4	8.2	8.1
8	TDS (mg/L)	120	120	90	110	110	130	120	90	80	110	150	155
9	Temp (deg C)	24.0	23.5	22.0	21.0	22.0	18.0	16.0	14.5	14.5	16.0	18.5	20.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	64	68	68	72	60	68	72	64	64	88	68	72
3	B (mg/L)	0.10	0.13	0.15	0.14	0.12	0.16	0.14	0.13	0.15	0.17	0.15	0.12
4	Ca (mg/L)	29	32	29	34	37	37	45	38	40	29	22	23
5	Cl (mg/L)	12.0	14.0	16.0	14.0	16.0	18.0	12.0	16.0	10.0	12.0	10.0	18.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.13	0.14	0.12	0.16	0.20	0.22	0.19	0.17	0.20	0.18	0.17	0.18
8	HCO3 (mg/L)	78	83	83	88	73	83	88	78	78	107	83	88
9	K (mg/L)	4.0	4.4	5.0	7.0	7.0	6.0	6.5	6.0	9.0	9.0	7.0	8.0
10	Mg (mg/L)	11.7	14.6	13.7	17.6	19.5	18.5	19.5	18.5	16.6	19.2	14.6	18.5
11	Na (mg/L)	10.0	12.0	12.0	14.0	10.0	12.0	14.0	15.0	18.0	20.0	17.0	19.0
12	NH3-N (mg N/L)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	5.00	0.05
13	NO2+NO3 (mg N/L)	0.50	0.46	0.39	0.44	0.24	0.34	0.40	0.30	0.38	0.39	0.32	0.30
14	NO2-N (mgN/L)	0.30	0.22	0.18	0.20	0.16	0.20	0.22	0.18	0.22	0.24	0.20	0.16
15	NO3-N (mgN/L)	0.20	0.24	0.21	0.24	0.08	0.14	0.18	0.12	0.16	0.15	0.12	0.14
16	P-Tot (mgP/L)	0.120	0.140	0.110	0.008	0.120	0.140	0.150	0.130	0.150	0.170	0.150	0.110
17	SiO2 (mg/L)				0.2								
18	SO4 (mg/L)	20.0	23.0	26.0	28.0	25.0	28.0	30.0	26.0	28.0	31.0	26.0	22.0
	BIOLOGICAL/BACTERIOLOGICAL												

Water Quality Datasheet for the period : 2015-2016

Station Name : HARIDWAR (GG000X7)

Local River : Ganga

River Water Analysis

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Upper Ganga Sub-Div., Haridwar

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
1	BOD3-27 (mg/L)	1.8	2.3	1.8	1.0	1.6	2.4	3.1	0.6	1.1	2.8	2.2	1.6
2	COD (mg/L)	13.2	10.9	7.0	7.9	8.8	7.1	12.0	3.3	7.5	10.0	7.4	8.2
3	DO (mg/L)	8.1	10.2	6.8	8.6	8.6	7.9	9.8	7.7	7.4	6.8	8.2	7.6
4	DO_SAT% (%)	97	119	77	96	99	83	99	75	72	69	86	83
5	FCol-MPN (MPN/100mL)											3500	2700
6	Tcol-MPN (MPN/100mL)											7000	4200
	TRACE & TOXIC												
1	As (µg/L)											1.00	
2	Cd (µg/L)											0.01	
3	Cr (µg/L)											2.00	
4	Cu (µg/L)											1.00	
5	Ni (µg/L)											1.00	
6	Pb (µg/L)											1.00	
7	Zn (µg/L)											0.10	
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	72	80	72	84	94	92	112	96	100	72	56	57
2	HAR_Total (mgCaCO3/L)	121	141	129	157	175	169	194	173	169	152	117	134
3	Na% (%)	15	15	16	16	11	13	13	15	18	21	23	22
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.4	0.5	0.5	0.3	0.4	0.4	0.5	0.6	0.7	0.7	0.7
	PESTICIDES												

Water Quality Summary for the period : 2015-2016

Station Name : HARIDWAR (GG000X7)

Division : Himalayan Ganga Div., Dehradun

Local River : Ganga

Sub-Division : Upper Ganga Sub-Div., Haridwar

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)				
2	EC_FLD (μmho/cm)	11	205	132	175
3	EC_GEN (μmho/cm)	12	220	127	175
4	pH_FLD (pH units)	11	8.1	7.3	7.8
5	pH_GEN (pH units)	12	8.4	7.5	8
6	TDS (mg/L)	12	155	80	115
7	Temp (deg C)	12	24.0	14.5	19.2
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	0.0	0.0	0
2	ALK-TOT (mgCaCO3/L)	12	88	60	69
3	B (mg/L)	12	0.17	0.10	0.14
4	Ca (mg/L)	12	45	22	33
5	Cl (mg/L)	12	18.0	10.0	14
6	CO3 (mg/L)	12	0.0	0.0	0
7	F (mg/L)	12	0.22	0.12	0.17
8	HCO3 (mg/L)	12	107	73	84
9	K (mg/L)	12	9.0	4.0	6.6
10	Mg (mg/L)	12	19.5	11.7	16.9
11	Na (mg/L)	12	20.0	10.0	14.4
12	NH3-N (mg N/L)	12	5.00	0.05	0.46
13	NO2+NO3 (mg N/L)	12	0.50	0.24	0.37
14	NO2-N (mgN/L)	12	0.30	0.16	0.21
15	NO3-N (mgN/L)	12	0.24	0.08	0.16
16	P-Tot (mgP/L)	12	0.170	0.008	0.125
17	SiO2 (mg/L)	1	0.2	0.2	0.2
18	SO4 (mg/L)	12	31.0	20.0	26.1
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	3.1	0.6	1.8
2	COD (mg/L)	12	13.2	3.3	8.6
3	DO (mg/L)	12	10.2	6.8	8.1
4	DO_SAT% (%)	12	119	69	88
5	FCol-MPN (MPN/100mL)	2	3500	2700	3100
6	Tcol-MPN (MPN/100mL)	2	7000	4200	5600
	TRACE & TOXIC				
1	As (μg/L)	1	1.00	1.00	1
2	Cd (μg/L)	1	0.01	0.01	0.01
3	Cr (μg/L)	1	2.00	2.00	2
4	Cu (μg/L)	1	1.00	1.00	1
5	Ni (μg/L)	1	1.00	1.00	1
6	Pb (μg/L)	1	1.00	1.00	1
7	Zn (μg/L)	1	0.10	0.10	0.1
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	112	56	82
2	HAR_Total (mgCaCO3/L)	12	194	117	153
3	Na% (%)	12	23	11	17
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.7	0.3	0.5
	PESTICIDES				

Water Quality Seasonal Average for the period: 2014-2016

Station Name : HARIDWAR (GG000X7)

Local River : Ganga

River Water

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Upper Ganga Sub-Div., Haridwar

S.No	Parameters	Flood		Winter		Summer	
		Jun - Oct		Nov - Feb		Mar - May	
		2014	2015	2014-2015	2015-2016	2015	2016
	PHYSICAL						
1	Q (cumec)						
2	EC_FLD (µmho/cm)	167	178	165	169	192	181
3	EC_GEN (µmho/cm)	162	174	160	164	187	191
4	pH_FLD (pH units)	7.7	7.8	8.0	7.7	8.0	8.1
5	pH_GEN (pH units)	7.9	8.0	8.2	7.9	8.3	8.2
6	TDS (mg/L)	114	110	107	105	120	138
7	Temp (deg C)	19.4	22.5	15.3	15.8	17.0	18.2
	CHEMICAL						
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	74	66	76	67	79	76
3	B (mg/L)	0.13	0.13	0.13	0.14	0.19	0.15
4	Ca (mg/L)	21	32	24	40	22	25
5	Cl (mg/L)	11.6	14.4	12.0	14.0	8.7	13.3
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.17	0.15	0.13	0.20	0.14	0.18
8	Fe (mg/L)			1.2			
9	HCO3 (mg/L)	90	81	93	82	96	93
10	K (mg/L)	5.6	5.5	7.0	6.9	2.7	8.0
11	Mg (mg/L)	5.9	15.4	6.8	18.3	5.9	17.5
12	Na (mg/L)	8.2	11.6	7.9	14.8	8.1	18.7
13	NH3-N (mg N/L)	0.12	0.05	0.10	0.05	0.07	1.70
14	NO2+NO3 (mg N/L)	0.13	0.41	0.31	0.36	0.28	0.34
15	NO2-N (mgN/L)	0.04	0.21	0.09	0.21	0.12	0.20
16	NO3-N (mgN/L)	0.09	0.19	0.22	0.15	0.16	0.14
17	P-Tot (mgP/L)	0.133	0.100	0.129	0.143	0.069	0.143
18	SiO2 (mg/L)		0.2				
19	SO4 (mg/L)	26.3	24.4	28.1	28.0	21.8	26.3

Water Quality Seasonal Average for the period: 2014-2016

Station Name : HARIDWAR (GG000X7)

Local River : Ganga

Division : Himalayan Ganga Div., Dehradun

Sub-Division : Upper Ganga Sub-Div., Haridwar

River Water

S.No	Parameters	Flood		Winter		Summer	
		Jun - Oct		Nov - Feb		Mar - May	
		2014	2015	2014-2015	2015-2016	2015	2016
	BIOLOGICAL/BACTERIOLOGICAL						
1	BOD3-27 (mg/L)	2.2	1.7	2.0	1.8	1.9	2.2
2	COD (mg/L)		9.5	14.3	7.5	15.8	8.5
3	DO (mg/L)	7.2	8.5	7.8	8.2	7.4	7.5
4	DO_SAT% (%)	78	97	78	82	76	80
5	FCol-MPN (MPN/100mL)						3100
6	Tcol-MPN (MPN/100mL)						5600
	TRACE & TOXIC						
1	As (µg/L)						1.00
2	Cd (µg/L)			0.02			0.01
3	Cr (µg/L)			52.46			2.00
4	Cu (µg/L)			1.45			1.00
5	Ni (µg/L)			23.10			1.00
6	Pb (µg/L)			10.31			1.00
7	Zn (µg/L)			0.10			0.10
	CHEMICAL INDICES						
1	HAR_Ca (mgCaCO3/L)	53	80	59	100	55	62
2	HAR_Total (mgCaCO3/L)	77	145	87	176	79	134
3	Na% (%)	18	14	15	15	18	22
4	RSC (-)	0.0	0.0	0.0	0.0	0.1	0.0
5	SAR (-)	0.4	0.4	0.4	0.5	0.4	0.7
	PESTICIDES						

HISTORY SHEET

		Water Year	: 2015-2016
Site	: GARHMIKTESHWAR	Code	: GGOOOT2
State	: Uttar Pradesh	District	Ghaziabad
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	:	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: GANGA
Division	: M Ganga Div. II, Lucknow	Sub-Division	: M Ganga UR Ganga SD, Moradabad
Drainage Area	: 29709 Sq. Km.	Bank	: Right
Latitude	: 28°48'00"	Longitude	: 78°07'30"
	Opening Date	Closing Date	
Gauge	: 01-04-1967		
Discharge	: 01-04-1967		
Sediment	: 25-03-1968		
Water Quality	: 21-11-1980		

Water Quality Datasheet for the period : 2015-2016

Station Name : GARH Mukteshwar (GG00T2)

Local River : GANGA

River Water Analysis

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga UR Ganga SD, Moradabad

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	297.6	428.9	817.6	441.9	207.3	258.7	210.9	347.2	361.6	362.7	153.6	145.2
2	Colour_Cod (-)	Light Brown	Brown	Brown	Light Brown	Clear	Light Green	Light Green	Light Green	Light Green	Light Green	Clear	Clear
3	EC_GEN (µmho/cm)	200	230	199	230	200	176	210	150	197	180	210	200
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
5	pH_FLD (pH units)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
6	pH_GEN (pH units)	8.5	8.2	8.0	8.0	8.3	8.0	8.2	8.0	8.0	8.1	8.4	8.3
7	TDS (mg/L)	121	130	116	138	125	110	133	96	124	112	130	128
8	Temp (deg C)	25.0	25.5	25.0	25.5	24.0	19.0	19.0	10.0	9.0	13.0	18.5	24.5
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	8.0
2	ALK-TOT (mgCaCO3/L)	68	68	0	0	52	44	60	40	64	0	100	80
3	B (mg/L)						0.24						0.29
4	Ca (mg/L)	28	24	17	17	17	15	22	17	24	22	30	24
5	Cl (mg/L)	8.2	9.9	8.0	6.0	6.0	8.2	9.9	8.2	8.2	8.2	8.2	9.9
6	CO3 (mg/L)	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.4	9.6
7	F (mg/L)	0.30	0.32	0.25	0.49	0.48	0.40	0.46	0.40	0.44	0.40	0.44	0.40
8	HCO3 (mg/L)	63	83	68	68	63	54	73	49	78	68	93	78
9	K (mg/L)	4.7	4.3	5.9	6.3	7.0	5.1	5.5	5.1	5.1	5.1	5.1	5.1
10	Mg (mg/L)	10.3	11.3	4.1	5.1	4.1	4.1	7.2	6.2	8.3	7.2	11.2	16.0
11	Na (mg/L)	5.3	5.5	6.0	4.6	3.9	5.3	5.3	4.8	5.3	5.1	6.0	6.4
12	NH3-N (mg N/L)	0.39	0.42	0.37	0.60	0.55	0.51	0.72	0.65	6.60	0.65	0.67	0.65
13	NO2+NO3 (mg N/L)	7.90	8.23	7.18	7.80	6.38	5.82	6.40	5.33	6.57	6.41	6.62	6.30
14	NO2-N (mgN/L)	0.33	0.39	0.32	0.37	0.36	0.36	0.37	0.29	0.40	0.39	0.46	0.41
15	NO3-N (mgN/L)	7.57	7.85	6.87	7.43	6.03	5.46	6.03	5.04	6.17	6.03	6.17	5.89
16	o-PO4-P (mg P/L)	0.196	0.207	0.165	0.186	0.176	0.165	0.196	0.165	0.176	0.165	0.186	0.176
17	SO4 (mg/L)	14.9	15.8	4.8	6.7	5.8	7.7	8.6	13.0	14.9	20.2	20.6	19.2
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	14.7	11.8	2.8	4.8	4.1	13.3	10.0	4.3	1.4	2.2	6.3	5.9
2	COD (mg/L)	25.0	12.0	6.0	7.0	9.0	18.0	12.0	10.0	8.0	9.0	21.0	10.0

Water Quality Datasheet for the period : 2015-2016

Station Name : GARH Mukteshwar (GG0002)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

River Water Analysis

Sub-Division : M Ganga UR Ganga SD, Moradabad

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
3	DO (mg/L)	3.9	2.0	6.5	5.5	7.5	5.7	5.9	7.6	7.6	7.1	4.9	3.9
4	DO_SAT% (%)	47	24	78	67	89	61	63	68		67	52	47
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	69	60	43	43	43	39	56	43	60	56	74	61
2	HAR_Total (mgCaCO3/L)	112	107	60	64	60	56	86	69	94	86	121	127
3	Na% (%)	9	10	16	12	11	16	11	12	10	11	9	10
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2
	PESTICIDES												

Water Quality Summary for the period : 2015-2016

Station Name : GARHMUKTESHWAR (GGOOOT2)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Sub-Division : M Ganga UR Ganga SD, Moradabad

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	174	1754	145.2	412.6
2	EC_GEN (µmho/cm)	12	230	150	199
3	pH_FLD (pH units)	12	7.5	7.5	7.5
4	pH_GEN (pH units)	12	8.5	8.0	8.2
5	TDS (mg/L)	12	138	96	122
6	Temp (deg C)	12	25.5	9.0	19.8
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	9	12.0	0.0	3.1
2	ALK-TOT (mgCaCO3/L)	9	100	40	64
3	B (mg/L)	2	0.29	0.24	0.26
4	Ca (mg/L)	12	30	15	22
5	Cl (mg/L)	12	9.9	6.0	8.2
6	CO3 (mg/L)	12	14.4	0.0	2.8
7	F (mg/L)	12	0.49	0.25	0.4
8	HCO3 (mg/L)	12	93	49	70
9	K (mg/L)	12	7.0	4.3	5.3
10	Mg (mg/L)	12	16.0	4.1	7.9
11	Na (mg/L)	12	6.4	3.9	5.3
12	NH3-N (mg N/L)	12	6.60	0.37	1.06
13	NO2+NO3 (mg N/L)	12	8.23	5.33	6.75
14	NO2-N (mgN/L)	12	0.46	0.29	0.37
15	NO3-N (mgN/L)	12	7.85	5.04	6.38
16	o-PO4-P (mg P/L)	12	0.207	0.165	0.18
17	SO4 (mg/L)	12	20.6	4.8	12.7
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	14.7	1.4	6.8
2	COD (mg/L)	12	25.0	6.0	12.3
3	DO (mg/L)	12	7.6	2.0	5.7
4	DO_SAT% (%)	11	89	24	60
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	74	39	54
2	HAR_Total (mgCaCO3/L)	12	127	56	87
3	Na% (%)	12	16	9	11
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.3	0.2	0.3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2006-2016

Station Name : GARHUKTESHWAR (GG000T2)

Local River : GANGA

River Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga UR Ganga SD, Moradabad

S.No	Parameters	Flood										Wet				
		Jun - Oct										Nov - Mar				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	Q (cumec)	665.9	1011	916.5	382.4	1605	1551	810.8	1348	500.7	415.1	149.5	290.0	185.4	142.0	236.3
2	EC_GEN (µmho/cm)	194	184	206	206	228	213	248	276	224	212	300	210	228	205	230
3	pH_FLD (pH units)	7.4	7.3	7.2	7.3	7.2	7.3	7.5	7.4	7.4	7.5	7.3	7.3	7.5	7.5	7.5
4	pH_GEN (pH units)	7.9	7.9	7.4	7.8	7.8	7.9	8.3	8.0	7.9	8.2	8.0	7.3	7.5	8.0	7.7
5	TDS (mg/L)			127	127	136	134	152	165	149	126			119	123	153
6	Temp (deg C)	21.5	20.7	20.9	24.2	23.8	21.6	25.5	22.9	26.1	25.0	12.6	13.0	12.8	13.5	14.4
7	Turb (NTU)				9.1	4.2	3.6	5.0	7.8	2.9					1.2	1.5
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		0.0	0.0	13.4	0.0	2.4	2.7			0.0		
2	ALK-TOT (mgCaCO3/L)	136	212	71		94	92	120	108	121	63			82		
3	B (mg/L)	0.02	0.00	0.04								0.02	0.01	0.07		
4	Ca (mg/L)	24	25	23	21	19	20	23	37	34	21	31	28	24	21	21
5	Cl (mg/L)	7.3	9.7	10.8	8.1	8.4	11.3	12.0	13.6	11.6	7.6	16.5	11.4	11.3	8.5	12.1
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.0	2.9	1.9	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.10	0.10	0.19	0.19	0.12	0.21	0.22	0.34	0.12	0.37	0.24	0.17	0.23	0.18	0.12
8	Fe (mg/L)	0.0	0.0	0.1	0.0	0.0						0.1	0.1	0.0	0.0	0.0
9	HCO3 (mg/L)	94	111	87	97	118	112	113	150	142	69	165	102	100	85	122
10	K (mg/L)	2.7	3.1	2.3	1.7	2.0	2.3	2.0	2.6	1.9	5.6	3.8	3.3	2.5	2.1	2.5
11	Mg (mg/L)	10.9	11.5	10.3	10.3	11.3	11.1	16.1	18.5	18.8	7.0	20.1	12.8	12.6	10.8	11.1
12	Na (mg/L)	6.7	6.6	4.0	4.6	6.0	6.9	8.4	9.2	7.4	5.1	9.0	6.3	5.3	4.7	7.8
13	NH3-N (mg N/L)				0.00	0.00	0.10	0.09	0.08	0.00	0.47				0.00	0.02
14	NO2+NO3 (mg N/L)	0.17	0.17	0.20	0.24	0.18	3.62	5.93	9.39	8.06	7.50	0.34	0.19	0.31	0.22	0.19
15	NO2-N (mgN/L)	0.02	0.02	0.07	0.07	0.05	0.14	0.18	0.40	0.15	0.35	0.03	0.03	0.13	0.05	0.05
16	NO3-N (mgN/L)	0.15	0.15	0.13	0.17	0.13	3.47	5.74	9.00	7.90	7.15	0.31	0.16	0.18	0.16	0.14
17	o-PO4-P (mg P/L)	0.019	0.060	0.023	0.029	0.039	0.112	0.087	0.074	0.045	0.186	0.031	0.021	0.034	0.034	0.054
18	P-Tot (mgP/L)															
19	SiO2 (mg/L)	5.6	5.1	2.6								6.1	4.6	2.7		

Water Quality Seasonal Average for the period: 2006-2016

Station Name : GARHMUKTESHWAR (GG00OT2)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

River Water

Sub-Division : M Ganga UR Ganga SD, Moradabad

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
20	SO4 (mg/L)	10.9	10.4	8.6	8.2	4.2	2.3	5.9	9.4	9.6	9.6	14.4	9.2	10.4	7.4	3.2
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)					2.2	1.0	1.1	1.3	1.1	7.6				2.4	0.9
2	COD (mg/L)					10.5	4.0	6.0	3.4	3.4	11.8					
3	DO (mg/L)	7.3	7.2	6.9	8.0	7.5	7.1	7.1	6.0	7.7	5.1	8.1	7.7	7.7	7.9	7.3
4	DO_SAT% (%)	82	81	77	96	89	81	87	69	95	61	82	74	73	78	81
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	59	62	57	53	47	49	58	92	84	52	76	70	61	53	52
2	HAR_Total (mgCaCO3/L)	105	110	100	96	95	95	125	169	162	81	160	123	114	98	98
3	Na% (%)	12	11	8	9	12	13	12	10	9	12	11	10	9	9	15
4	RSC (-)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
5	SAR (-)	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : GARH Mukteshwar (GG000T2)

Local River : GANGA

River Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga UR Ganga SD, Moradabad

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	249.6	491.9	374.1	232.2	294.6	138.2	189.6	162.3	118.6	254.5	269.7	352.3	239.8	301.1	220.5
2	EC_GEN (µmho/cm)	233	218	250	318	183	253	220	253	263	247	260	267	340	285	197
3	pH_FLD (pH units)	7.6	7.5	7.5	7.5	7.5	7.2	7.1	7.5	7.3	7.4	7.5	7.5	7.5	7.5	7.5
4	pH_GEN (pH units)	8.0	7.9	8.2	8.1	8.0	7.6	7.7	7.4	8.0	7.9	8.2	8.3	8.2	8.4	8.3
5	TDS (mg/L)	143	131	155	178	116			142	161	165	157	162	210	162	123
6	Temp (deg C)	17.3	16.3	15.6	16.0	14.3	14.8	18.3	17.3	20.0	19.2	19.2	18.2	19.3	17.0	18.7
7	Turb (NTU)	2.1	3.6	2.0						0.7	2.3	3.4	3.2	1.5		
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	4.0	0.0	3.0	7.0	0.0	0.0	0.0	0.0		0.0	0.0	3.0	4.0	12.0	10.0
2	ALK-TOT (mgCaCO3/L)	120	114	133	122	52	232	160	94		108	120	120	151	124	90
3	B (mg/L)	0.06	0.04	0.06	0.80	0.24	0.02	0.02	0.08	0.06	0.08	0.04	0.06	0.10		0.29
4	Ca (mg/L)	23	31	38	37	20	30	26	27	23	22	24	37	44	32	25
5	Cl (mg/L)	15.0	11.9	14.5	18.0	8.6	13.3	10.1	12.7	10.6	14.0	14.0	14.0	15.3	14.0	8.8
6	CO3 (mg/L)	3.6	0.0	3.6	8.4	0.0	0.0	0.0	0.0	0.0	0.0	9.6	2.4	4.8	7.2	8.0
7	F (mg/L)	0.23	0.24	0.28	0.40	0.42	0.13	0.24	0.27	0.18	0.15	0.18	0.31	0.17	0.41	0.41
8	Fe (mg/L)		0.0				0.0	0.1	0.0	0.0	0.0					
9	HCO3 (mg/L)	139	139	155	132	63	138	91	115	115	127	142	137	174	124	80
10	K (mg/L)	2.7	2.1	2.9	48.4	5.2	4.2	3.1	2.5	2.9	2.9	2.1	2.6	3.0	4.7	5.1
11	Mg (mg/L)	16.0	18.0	20.9	17.0	6.4	14.8	11.3	13.1	13.0	11.3	16.8	16.8	22.7	16.5	11.5
12	Na (mg/L)	9.8	8.5	9.8	12.9	5.2	8.4	6.2	5.9	6.9	8.5	9.8	9.7	10.3	7.4	5.8
13	NH3-N (mg N/L)	0.14	0.00	0.00	0.12	2.12			0.00	0.00	0.09	0.12	0.00	0.00	0.48	0.66
14	NO2+NO3 (mg N/L)	4.80	5.19	10.32	8.50	6.03	0.21	0.18	0.36	0.26	0.30	6.51	8.04	12.26	7.69	6.44
15	NO2-N (mgN/L)	1.52	0.22	0.19	0.30	0.36	0.02	0.03	0.13	0.08	0.11	0.12	0.38	0.16	0.34	0.42
16	NO3-N (mgN/L)	3.28	4.97	10.12	8.20	5.67	0.18	0.15	0.23	0.18	0.19	6.40	7.66	12.10	7.36	6.03
17	o-PO4-P (mg P/L)	0.320	0.078	0.062	0.132	0.176	0.021	0.034	0.041	0.055	0.083	0.079	0.062	0.041	0.258	0.176
18	P-Tot (mgP/L)														0.024	
19	SiO2 (mg/L)						5.4	4.3	2.7							

Water Quality Seasonal Average for the period: 2006-2016

Station Name : GARHMUKTESHWAR (GG00OT2)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

River Water

Sub-Division : M Ganga UR Ganga SD, Moradabad

S.No	Parameters	Winter					Summer									
		Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
20	SO4 (mg/L)	4.1	5.5	12.5	35.5	11.0	11.8	8.8	10.7	8.3	3.2	3.8	8.5	10.7	29.5	20.0
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.2	1.2	1.2	2.4	7.2				2.8	1.3	1.5	1.4	1.5	2.3	4.8
2	COD (mg/L)	5.0	5.8	3.3	5.5	12.0					10.5	6.0	4.3	4.0	5.0	13.3
3	DO (mg/L)	7.1	7.1	7.0	5.0	6.7	8.0	7.8	8.5	7.7	7.3	7.1	7.1	7.6	5.7	5.3
4	DO_SAT% (%)	73	72	70	50	64	79	83	89	84	86	76	75	83	59	55
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	58	77	96	94	49	75	65	67	57	55	59	94	110	80	64
2	HAR_Total (mgCaCO3/L)	125	153	183	164	76	136	112	122	112	102	129	164	205	148	111
3	Na% (%)	14	11	10	12	12	11	11	9	12	15	14	11	10	10	10
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.3	0.4	0.4	0.3	0.3	0.3	0.2
	PESTICIDES															

HISTORY SHEET

		Water Year	: 2015-2016
Site	: KACHLABRIDGE	Code	: GG000PI
State	: Uttar Pradesh	District	Budaun
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	:	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: GANGA
Division	: M Ganga Div. II, Lucknow	Sub-Division	: M Ganga LR Ganga SD, Bareilly
Drainage Area	: 34446 Sq. Km.	Bank	: Left
Latitude	: 27°56'00"	Longitude	: 78°52'30"
	Opening Date	Closing Date	
Gauge	: 10-12-1971		
Discharge	: 10-12-1971		
Sediment	: 17-04-1972		
Water Quality	: 01-01-1974		

Water Quality Datasheet for the period : 2015-2016

Station Name : KACHLABRIDGE (GG000PI)

Local River : GANGA

River Water Analysis

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	56.06	1077	1766	1652	191.1	552.3	272.9	294.5	242.1	190.5	80.86	70.64
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_GEN (μmho/cm)	210	200	250	200	250	195	220	186	181	179	199	220
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
5	pH_FLD (pH units)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.0	8.0	8.5	8.5
6	pH_GEN (pH units)	8.3	8.2	8.3	8.0	8.3	8.0	8.3	8.0	8.3	7.9	8.1	8.3
7	TDS (mg/L)	124	121	146	119	156	117	135	117	113	112	125	142
8	Temp (deg C)	27.0	27.5	26.0	29.0	26.0	23.0	18.0	10.0	9.0	12.0	14.0	23.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	8.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	68	64	80	60	64	52	92	84	80	84	88	0
3	B (mg/L)						0.27						0.30
4	Ca (mg/L)	26	28	40	31	34	31	34	31	29	29	29	23
5	Cl (mg/L)	13.8	7.8	9.9	6.0	6.0	6.0	9.0	8.2	8.2	8.2	9.9	8.2
6	CO3 (mg/L)	9.6	0.0	0.0	0.0	0.0	0.0	9.6	0.0	0.0	0.0	0.0	9.6
7	F (mg/L)	0.11	0.15	0.25	0.13	0.17	0.15	0.17	0.15	0.17	0.17	0.23	0.25
8	HCO3 (mg/L)	63	78	98	73	78	63	93	102	98	102	107	59
9	K (mg/L)	3.9	4.3	4.8	3.1	3.5	3.1	5.9	5.5	5.5	5.5	5.9	5.9
10	Mg (mg/L)	6.2	7.2	12.4	7.2	9.2	8.3	10.3	9.2	8.3	8.3	9.1	13.4
11	Na (mg/L)	8.3	4.4	6.2	3.2	4.4	3.9	6.4	6.2	6.0	6.0	7.1	6.0
12	NH3-N (mg N/L)	0.74	0.72	0.77	0.66	0.79	0.69	0.72	0.70	0.65	0.17	0.65	0.69
13	NO2+NO3 (mg N/L)	9.36	9.19	9.89	8.58	7.90	7.55	7.43	7.36	7.22	7.22	7.41	7.57
14	NO2-N (mgN/L)	0.25	0.22	0.36	0.32	0.47	0.40	0.43	0.36	0.36	0.36	0.40	0.43
15	NO3-N (mgN/L)	9.11	8.97	9.53	8.27	7.43	7.15	7.01	7.01	6.87	6.87	7.01	7.15
16	o-PO4-P (mg P/L)	0.134	0.134	0.165	0.124	0.248	0.124	0.134	0.124	0.124	0.465	0.134	0.145
17	SO4 (mg/L)	13.9	14.9	38.4	28.8	33.6	38.4	24.5	17.3	13.4	12.5	13.0	14.4
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	25.1	9.4	8.6	1.6	3.3	3.5	9.0	4.7	4.3	4.5	5.5	5.5
2	COD (mg/L)	28.0	11.0	9.0	5.0	16.0	14.0	11.0	9.0	8.0	10.0	15.0	9.0

Water Quality Datasheet for the period : 2015-2016

Station Name : KACHLABRIDGE (GG000PI)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

River Water Analysis

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
3	DO (mg/L)	4.1	4.3	4.1	6.9	6.9	6.5	6.3	7.8	7.8	7.6	5.1	4.3
4	DO_SAT% (%)	52	54	51	89	85	75	66	69		71	49	50
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	65	69	99	78	86	78	86	78	73	73	72	57
2	HAR_Total (mgCaCO3/L)	90	99	151	107	124	112	129	116	107	107	110	112
3	Na% (%)	16	8	8	6	7	7	9	10	10	10	12	10
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2
	PESTICIDES												

Water Quality Summary for the period : 2015-2016

Station Name : KACHLABRIDGE (GG000PI)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Sub-Division : M Ganga LR Ganga SD, Bareilly

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	217	3604	35.62	793.6
2	EC_GEN (μmho/cm)	12	250	179	208
3	pH_FLD (pH units)	12	8.5	7.0	7.7
4	pH_GEN (pH units)	12	8.3	7.9	8.2
5	TDS (mg/L)	12	156	112	127
6	Temp (deg C)	12	29.0	9.0	20.4
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	11	8.0	0.0	1.4
2	ALK-TOT (mgCaCO3/L)	11	92	52	74
3	B (mg/L)	2	0.30	0.27	0.29
4	Ca (mg/L)	12	40	23	30
5	Cl (mg/L)	12	13.8	6.0	8.4
6	CO3 (mg/L)	12	9.6	0.0	2.4
7	F (mg/L)	12	0.25	0.11	0.18
8	HCO3 (mg/L)	12	107	59	85
9	K (mg/L)	12	5.9	3.1	4.7
10	Mg (mg/L)	12	13.4	6.2	9.1
11	Na (mg/L)	12	8.3	3.2	5.7
12	NH3-N (mg N/L)	12	0.79	0.17	0.66
13	NO2+NO3 (mg N/L)	12	9.89	7.22	8.06
14	NO2-N (mgN/L)	12	0.47	0.22	0.36
15	NO3-N (mgN/L)	12	9.53	6.87	7.69
16	o-PO4-P (mg P/L)	12	0.465	0.124	0.171
17	SO4 (mg/L)	12	38.4	12.5	21.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	25.1	1.6	7.1
2	COD (mg/L)	12	28.0	5.0	12.1
3	DO (mg/L)	12	7.8	4.1	6
4	DO_SAT% (%)	11	89	49	65
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	99	57	76
2	HAR_Total (mgCaCO3/L)	12	151	90	114
3	Na% (%)	12	16	6	9
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.4	0.1	0.2
	PESTICIDES				

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KACHLABRIDGE (GG000PI)

Local River : GANGA

River Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	Q (cumec)	543.0	1244	1619	134.9	1475	1320	870.4	2119	727.9	948.2	98.08	85.80	115.0	65.11	200.4
2	EC_GEN (µmho/cm)	288	190	248	240	252	214	222	226	256	222	265	238	278	205	250
3	pH_FLD (pH units)	7.9	7.4	7.8	8.0	7.9	7.8	7.5	7.3	7.9	7.5	8.0	7.6	8.0	7.6	7.8
4	pH_GEN (pH units)	7.9	8.0	8.0	8.1	8.0	7.9	8.1	7.8	8.2	8.2	8.0	7.6	7.8	7.8	8.0
5	TDS (mg/L)			146	147	154	131	144	136	154	133			168	124	159
6	Temp (deg C)	30.9	30.7	30.2	30.2	29.7	29.6	28.8	28.0	27.0	27.1	21.8	18.9	20.2	17.6	19.4
7	Turb (NTU)				8.1	8.8	3.5	6.8	7.1	3.7					0.9	2.8
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)		0.0	3.2	0.0	0.0	0.0	2.7	0.0	3.2	1.6	0.0	0.0	0.0		15.9
2	ALK-TOT (mgCaCO3/L)		98	136	120	153	123	117	108	104	67	232	188	135		188
3	B (mg/L)	0.02	0.00	0.03							0.00	0.02	0.01	0.09		
4	Ca (mg/L)	33	30	32	29	34	28	24	32	31	32	34	33	34	29	34
5	Cl (mg/L)	18.0	11.2	15.1	16.0	14.3	10.8	11.6	13.6	12.0	8.7	14.5	16.0	19.0	13.9	12.5
6	CO3 (mg/L)	0.0	0.0	3.8	0.0	3.8	0.0	1.9	0.0	3.8	1.9	0.0	0.0	0.0	0.0	4.8
7	F (mg/L)	0.18	0.19	0.26	0.27	0.22	0.19	0.26	0.35	0.33	0.16	0.21	0.29	0.30	0.19	0.19
8	Fe (mg/L)	0.1	0.1	0.0	0.0	0.0						0.1	0.1	0.0	0.0	0.0
9	HCO3 (mg/L)	139	120	158	140	183	149	139	132	119	78	135	118	165	132	196
10	K (mg/L)	4.7	4.2	3.3	4.5	6.8	3.8	2.7	3.0	2.7	3.9	6.1	3.0	5.0	4.2	5.5
11	Mg (mg/L)	17.3	14.7	19.6	17.5	18.3	16.5	16.7	17.5	16.5	8.4	17.1	19.6	20.7	16.2	18.3
12	Na (mg/L)	10.4	4.7	8.3	9.2	9.3	6.4	8.2	9.2	7.7	5.3	11.7	3.6	10.6	8.4	7.8
13	NH3-N (mg N/L)				0.00	0.00	0.00	0.00	0.00	0.10	0.74				0.00	0.00
14	NO2+NO3 (mg N/L)	0.45	0.39	0.22	0.25	0.26	3.18	5.07	7.97	9.51	8.98	0.35	0.38	0.23	0.22	0.26
15	NO2-N (mgN/L)	0.03	0.04	0.01	0.05	0.06	0.07	0.19	0.23	0.93	0.32	0.03	0.03	0.04	0.04	0.07
16	NO3-N (mgN/L)	0.42	0.35	0.21	0.20	0.20	3.11	4.88	7.73	8.58	8.66	0.32	0.35	0.19	0.18	0.19
17	o-PO4-P (mg P/L)	0.116	0.025	0.017	0.041	0.050	0.052	0.107	0.107	0.122	0.161	0.031	0.036	0.041	0.028	0.049
18	P-Tot (mgP/L)															
19	SiO2 (mg/L)	6.6	4.6	3.5								6.0	4.8	3.5		

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KACHLABRIDGE (GG000PI)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

River Water

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
20	SO4 (mg/L)	16.1	10.2	9.9	12.3	10.4	2.5	6.9	12.2	13.2	25.9	14.5	10.1	12.2	12.1	5.5
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)					2.0	1.3	1.4	1.4	1.7	9.6				3.4	2.2
2	COD (mg/L)					9.0	6.6	7.8	4.0	4.6	13.8					
3	DO (mg/L)	6.2	7.1	7.5	7.8	7.6	8.1	6.9	6.3	6.4	5.3	6.8	7.5	7.8	8.5	8.0
4	DO_SAT% (%)	82	94	99	102	100	106	89	80	80	66	76	80	85	89	87
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	82	74	81	71	84	71	61	81	78	79	86	82	85	72	86
2	HAR_Total (mgCaCO3/L)	154	135	162	144	161	134	131	154	147	114	157	163	171	140	162
3	Na% (%)	12	6	10	12	11	9	12	11	10	9	13	5	12	11	9
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
5	SAR (-)	0.4	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.4	0.1	0.4	0.3	0.3
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KACHLABRIDGE (GG000PI)

Local River : GANGA

River Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	222.7	150.4	286.8	179.3	340.5	64.48	36.37	40.29	25.26	124.5	46.62	109.4	97.03	108.4	114.0
2	EC_GEN (µmho/cm)	228	220	215	310	196	290	287	333	310	233	277	280	287	265	199
3	pH_FLD (pH units)	8.1	7.5	7.4	7.5	7.4	8.2	8.0	8.0	7.7	8.0	7.5	7.5	8.3	7.5	8.3
4	pH_GEN (pH units)	8.1	7.9	8.3	8.4	8.1	8.0	8.0	7.9	8.2	8.3	8.2	8.4	8.3	8.8	8.1
5	TDS (mg/L)	155	133	129	182	121			193	192	137	170	169	180	149	126
6	Temp (deg C)	18.4	17.9	18.1	15.3	15.0	25.7	24.3	24.8	25.5	25.2	23.8	23.2	22.0	21.5	16.3
7	Turb (NTU)	2.4	6.7	2.9						1.8	2.4	2.8	4.3	2.8		
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	5.3	0.0	4.0	12.0	2.0	0.0	0.0	0.0		0.0	0.0	4.6	9.3	8.0	0.0
2	ALK-TOT (mgCaCO3/L)	121	106	107	117	77	232	197	128		148	144	121	131	88	86
3	B (mg/L)	0.10	0.04	0.08	0.12	0.27	0.01	0.02	0.11	0.20	0.06	0.06	0.08	0.10	0.31	0.30
4	Ca (mg/L)	21	27	33	38	31	37	36	33	34	33	26	37	38	32	27
5	Cl (mg/L)	10.9	10.6	12.5	14.0	7.8	14.0	18.0	22.0	18.0	10.6	17.3	17.3	16.0	14.0	8.8
6	CO3 (mg/L)	4.8	0.0	4.8	14.4	2.4	0.0	0.0	6.4	4.8	9.6	0.0	5.6	11.2	9.6	3.2
7	F (mg/L)	0.22	0.29	0.33	0.35	0.16	0.23	0.33	0.34	0.28	0.13	0.30	0.41	0.42	0.30	0.22
8	Fe (mg/L)						0.0	0.1	0.0	0.0	0.0					
9	HCO3 (mg/L)	138	129	121	114	89	143	120	161	163	185	174	137	137	88	89
10	K (mg/L)	2.9	2.8	3.1	5.5	5.0	7.3	4.4	5.9	5.5	4.4	3.1	3.5	3.5	5.5	5.7
11	Mg (mg/L)	16.8	17.8	17.5	21.0	9.0	20.0	21.3	21.7	19.2	16.5	18.9	22.0	21.0	10.3	10.2
12	Na (mg/L)	7.4	7.3	8.8	9.0	5.6	12.6	4.1	11.7	10.8	6.1	10.9	12.3	11.0	8.9	6.4
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.69			0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.50
14	NO2+NO3 (mg N/L)	3.30	5.30	9.75	11.23	7.39	0.42	0.40	0.29	0.35	0.19	4.72	8.37	11.03	10.83	7.40
15	NO2-N (mgN/L)	0.08	0.26	0.29	0.35	0.39	0.05	0.06	0.06	0.12	0.05	0.15	0.43	0.43	0.25	0.40
16	NO3-N (mgN/L)	3.22	5.04	9.46	10.88	7.01	0.37	0.34	0.23	0.23	0.14	4.58	7.94	10.60	10.58	7.01
17	o-PO4-P (mg P/L)	0.062	0.085	0.078	0.155	0.127	0.034	0.034	0.069	0.059	0.038	0.079	0.121	0.138	0.145	0.248
18	P-Tot (mgP/L)															
19	SiO2 (mg/L)						7.6	4.4	3.3							

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KACHLABRIDGE (GG000PI)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

River Water

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Winter					Summer									
		Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
20	SO4 (mg/L)	3.6	9.1	14.0	16.2	23.4	13.4	9.6	14.4	16.6	4.2	6.7	16.6	16.0	21.8	13.3
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.2	1.5	1.7	2.2	5.4				3.4	2.0	1.4	1.4	1.8	10.4	5.2
2	COD (mg/L)	6.5	9.3	4.5	3.0	10.5					17.5	5.3	4.7	5.0	13.0	11.3
3	DO (mg/L)	8.4	7.4	6.3	5.5	7.1	7.1	7.3	7.5	7.4	7.9	7.1	7.6	6.3	4.7	5.7
4	DO_SAT% (%)	89	78	66	56	70	87	87	90	89	95	83	88	72	53	57
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	54	68	82	96	79	92	89	82	86	82	66	92	96	80	67
2	HAR_Total (mgCaCO3/L)	123	142	155	183	116	175	178	188	166	150	145	183	183	122	110
3	Na% (%)	11	10	11	9	9	13	5	12	12	8	14	12	11	13	11
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.3	0.3	0.3	0.3	0.2	0.4	0.1	0.4	0.4	0.2	0.4	0.4	0.4	0.4	0.3
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KACHLABRIDGE (GG000PI)

Local River : GANGA

Well Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	EC_GEN (µmho/cm)	2070	1454	1568								1348	1360	1273	1010	1380
2	pH_FLD (pH units)		7.9	8.3									8.0	7.5	8.0	7.5
3	pH_GEN (pH units)	7.8	7.9	7.9								8.1	8.0	7.9	7.9	7.6
4	TDS (mg/L)			946										768	610	833
5	Temp (deg C)	30.0	30.8	26.2								21.7	22.9	24.3	26.5	29.0
6	Turb (NTU)														20.4	16.2
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	4.8								4.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	872	872	373								698	808	310	324	300
3	B (mg/L)	0.00	0.04	0.02								0.00	0.03	0.05	0.10	0.16
4	Ca (mg/L)	58	62	61								49	60	61	69	64
5	Cl (mg/L)	35.6	30.9	100.5								25.6	22.5	101.6	130.3	180.3
6	CO3 (mg/L)	0.0	0.0	5.8								4.8	0.0	0.0	0.0	0.0
7	F (mg/L)	0.43	0.49	0.59								0.32	0.28	0.22	0.28	0.30
8	Fe (mg/L)	0.1	0.2	0.1								0.1	0.2	0.1		
9	HCO3 (mg/L)	429	532	443								421	493	397	395	366
10	K (mg/L)	22.2	24.6	22.1								15.7	23.8	19.9	22.7	21.5
11	Mg (mg/L)	47.9	36.1	30.3								33.3	31.0	31.7	36.1	34.1
12	Na (mg/L)	79.0	79.7	72.4								53.5	79.7	70.9	82.3	94.5
13	NH3-N (mg N/L)														0.21	0.21
14	NO2+NO3 (mg N/L)	3.42	2.40	2.65								2.37	2.23	2.14	2.93	7.10
15	NO2-N (mgN/L)	0.06	0.04	0.12								0.03	0.03	0.04	0.10	0.10
16	NO3-N (mgN/L)	3.36	2.36	2.53								2.34	2.20	2.09	2.83	7.01
17	o-PO4-P (mg P/L)	0.194	0.103	0.052								0.137	0.072	0.031	0.083	0.093
18	SiO2 (mg/L)	11.4	10.0	9.9								8.5	9.0	7.2		
19	SO4 (mg/L)	22.4	20.5	19.1								16.9	18.7	15.5	20.2	29.8
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KACHLABRIDGE (GG000PI)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Well Water

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Flood										Wet				
		Jun - Oct										Nov -				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	145	156	152								122	149	154	172	159
2	HAR_Total (mgCaCO3/L)	345	306	279								260	278	286	322	301
3	Na% (%)	32	34	34								29	36	33	34	39
4	RSC (-)	1.3	2.6	1.9								1.9	2.5	0.8	0.1	0.0
5	SAR (-)	1.9	2.0	1.9								1.4	2.1	1.8	2.0	2.4
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KACHLABRIDGE (GG000PI)

Local River : GANGA

Well Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	EC_GEN (µmho/cm)	1200	1280	1150	1090		1447	1853	1633	1730	1440	1300	1510	1430	1400	
2	pH_FLD (pH units)	8.5	7.0	8.5				8.0	7.7	7.5	6.5	8.0	8.0	7.0		
3	pH_GEN (pH units)	7.8	8.6	8.2	8.6		8.0	8.3	8.0	8.3	9.1	8.2	8.2	8.3	8.9	
4	TDS (mg/L)	730	770	690	610				997	1040	870	790	910	860	800	
5	Temp (deg C)	29.0	30.0	29.0			25.7	25.2	27.7	30.0	29.0	30.5	27.0	28.0		
6	Turb (NTU)	11.3	6.2	6.6						32.3	16.6	5.1	10.2	5.5		
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0			59.8		0.0	0.0		39.8		0.0		0.0	39.8	
2	ALK-TOT (mgCaCO3/L)	276			300		700	856		400		296		464	436	
3	B (mg/L)	0.16	0.14	0.16	0.16		0.07	0.06	0.16	0.18	0.20	0.18	0.20	0.20	0.91	
4	Ca (mg/L)	60	64	77	84		55	64	69	72	67	76	105	103	76	
5	Cl (mg/L)	204.1	210.2	176.1	173.9		32.0	32.1	135.5	206.3	250.3	232.2	248.9	256.3	188.1	
6	CO3 (mg/L)	0.0	12.0	0.0	72.0		0.0	0.0	0.0	48.0	48.0	0.0	0.0	0.0	48.0	
7	F (mg/L)	0.34	0.36	0.36	0.70		0.34	0.44	0.39	0.36	0.40	0.40	0.47	0.40	0.36	
8	Fe (mg/L)						0.1	0.2	0.2							
9	HCO3 (mg/L)	337	332	390	220		439	522	483	390	395	361	425	566	434	
10	K (mg/L)	17.2	16.8	17.6	68.0		20.3	27.2	26.2	26.6	24.6	19.2	22.3	21.9	140.8	
11	Mg (mg/L)	31.0	32.0	43.3	46.4		37.5	34.1	37.8	39.2	36.1	25.8	39.2	67.1	44.3	
12	Na (mg/L)	130.4	138.9	110.9	61.0		70.2	87.1	84.2	119.6	160.1	151.1	181.7	162.1	119.6	
13	NH3-N (mg N/L)	0.20	0.25	0.25	0.41					0.27	0.25	0.15	0.41	0.39	0.41	
14	NO2+NO3 (mg N/L)	3.07	3.51	7.44	7.42		2.42	3.87	3.48	4.10	3.78	3.99	9.05	9.46	9.77	
15	NO2-N (mgN/L)	2.77	0.29	0.29	0.41		0.03	0.06	0.13	0.15	0.14	0.34	0.50	0.50	0.80	
16	NO3-N (mgN/L)	0.29	3.22	7.15	7.01		2.39	3.81	3.35	3.95	3.64	3.64	8.55	8.97	8.97	
17	o-PO4-P (mg P/L)	0.093	0.093	0.134	0.217		0.179	0.096	0.062	0.114	0.134	0.217	0.196	0.227	0.258	
18	SiO2 (mg/L)						9.1	15.3	10.9							
19	SO4 (mg/L)	25.0	20.2	36.0	36.0		19.8	25.9	22.7	35.0	39.8	27.8	42.2	39.8	68.2	
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KACHLABRIDGE (GG000PI)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Well Water

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Winter					Summer									
		Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	151	159	194	211		137	161	174	181	168	189	263	258	189	
2	HAR_Total (mgCaCO3/L)	280	292	374	404		293	303	331	344	318	296	426	537	374	
3	Na% (%)	49	49	38	21		32	36	34	41	50	51	47	39	32	
4	RSC (-)	0.0	0.0	0.0	0.0		1.4	2.5	1.3	1.2	1.8	0.0	0.0	0.0	1.3	
5	SAR (-)	3.4	3.5	2.5	1.3		1.8	2.2	2.0	2.8	3.9	3.8	3.8	3.1	2.7	
	PESTICIDES															

HISTORY SHEET

		Water Year	: 2015-2016
Site	: FATEHGARH	Code	: GG000K6
State	: Uttar Pradesh	District	Farrukhabad
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	:	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: GANGA
Division	: M Ganga Div. II, Lucknow	Sub-Division	: M Ganga LR Ganga SD, Bareilly
Drainage Area	: 40096 Sq. Km.	Bank	: Left
Latitude	: 27°24'00"	Longitude	: 79°37'45"
	Opening Date	Closing Date	
Gauge	: 14-11-1971		
Discharge	: 14-11-1971		
Sediment	: 23-01-1976		
Water Quality	: 01-07-1976		

Water Quality Datasheet for the period : 2015-2016

Station Name : FATEHGARH (GGOOOK6)

Local River : GANGA

River Water Analysis

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	125.1	360.8	1316	1300	185.9	215.5	202.9	179.3	186.6	177.5	149.6	138.8
2	Colour_Cod (-)	Clear	Brown	Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	230	250	210	310	220	370	230	260	260	240	240	260
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
5	pH_FLD (pH units)	7.0	7.0	7.5	7.5	7.0	7.0	7.5	7.5	7.5	8.0	6.5	7.0
6	pH_GEN (pH units)	8.5	8.2	8.2	8.0	8.6	8.1	8.2	7.9	8.0	8.1	8.3	8.6
7	TDS (mg/L)	134	147	122	184	139	222	141	162	162	150	155	155
8	Temp (deg C)	31.0	28.0	29.0	28.0	26.0	26.5	23.0	18.0	17.0	22.0	23.5	26.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	19.9	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	124	72	60	68	56	64	48	60	60	52	0	0
3	B (mg/L)						0.29						0.36
4	Ca (mg/L)	48	36	21	26	24	34	22	26	26	24	31	20
5	Cl (mg/L)	9.9	8.5	6.0	14.0	12.1	13.8	9.9	12.1	12.1	9.9	8.2	13.8
6	CO3 (mg/L)	24.0	0.0	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0	14.4	9.6
7	F (mg/L)	0.36	0.34	0.32	0.57	0.48	0.49	0.36	0.38	0.36	0.34	0.32	0.34
8	HCO3 (mg/L)	102	88	73	83	49	78	59	73	73	63	102	73
9	K (mg/L)	4.7	5.1	4.7	3.9	3.4	2.7	2.0	2.3	2.3	2.0	6.3	6.2
10	Mg (mg/L)	16.5	9.2	15.4	19.6	17.5	20.7	18.6	20.7	19.6	18.6	11.8	21.1
11	Na (mg/L)	6.2	4.8	4.4	8.3	8.3	8.3	6.9	7.4	7.4	7.1	6.2	10.4
12	NH3-N (mg N/L)	0.58	0.60	0.53	0.83	0.62	0.97	0.74	0.79	0.79	0.73	0.72	0.73
13	NO2+NO3 (mg N/L)	14.23	14.41	13.81	14.41	12.31	14.80	10.59	10.89	10.74	10.45	10.28	10.45
14	NO2-N (mgN/L)	0.22	0.26	0.22	0.40	0.26	0.51	0.50	0.52	0.51	0.50	0.47	0.50
15	NO3-N (mgN/L)	14.01	14.15	13.59	14.01	12.05	14.29	10.09	10.37	10.23	9.95	9.81	9.95
16	o-PO4-P (mg P/L)	0.196	0.207	0.176	0.207	0.176	0.196	0.165	0.176	0.186	0.165	0.176	0.196
17	SO4 (mg/L)	14.9	20.2	12.0	21.6	38.4	48.0	44.2	51.4	48.0	39.8	21.6	23.0
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	23.5	8.1	3.9	2.4	4.1	3.5	8.6	4.5	3.7	2.5	7.1	9.4
2	COD (mg/L)	26.0	10.0	7.0	8.0	9.0	10.0	13.0	8.0	7.0	8.0	15.0	15.0

Water Quality Datasheet for the period : 2015-2016

Station Name : FATEHGARH (GG000K6)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

River Water Analysis

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
3	DO (mg/L)	4.7	3.8	5.5	5.1	7.8	6.3	6.5	7.3	7.3	7.1	2.9	3.3
4	DO_SAT% (%)	63	48	71	65	97	77	75	77	75	81	34	41
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	121	91	52	65	60	86	56	65	65	60	79	50
2	HAR_Total (mgCaCO3/L)	189	129	116	146	133	172	133	151	146	137	128	138
3	Na% (%)	7	7	7	11	12	9	10	10	10	10	9	13
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.4
	PESTICIDES												

Water Quality Datasheet for the period : 2015-2016

Station Name : FATEHGARH (GG00OK6)

Local River : GANGA

Well Water Analysis

Division : M Ganga Div. II, Lucknow
Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	02-11-2015	02-05-2016
		B	B
	PHYSICAL		
1	Colour_Cod (-)	Clear	Clear
2	EC_GEN (μmho/cm)	1310	1510
3	Odour_Code (-)	odour free	odour free
4	pH_FLD (pH units)	8.0	7.0
5	pH_GEN (pH units)	8.2	8.7
6	TDS (mg/L)	790	920
7	Temp (deg C)	24.0	25.0
	CHEMICAL		
1	Alk-Phen (mgCaCO3/L)	0.0	43.8
2	ALK-TOT (mgCaCO3/L)	288	356
3	B (mg/L)	0.47	0.52
4	Ca (mg/L)	50	68
5	Cl (mg/L)	220.1	291.1
6	CO3 (mg/L)	0.0	52.8
7	F (mg/L)	0.76	0.48
8	HCO3 (mg/L)	351	327
9	K (mg/L)	120.8	131.0
10	Mg (mg/L)	34.0	69.5
11	Na (mg/L)	148.1	178.5
12	NH3-N (mg N/L)	0.44	0.51
13	NO2+NO3 (mg N/L)	8.06	1.35
14	NO2-N (mgN/L)	0.77	0.84
15	NO3-N (mgN/L)	7.29	0.50
16	o-PO4-P (mg P/L)	0.176	0.207
17	SO4 (mg/L)	70.6	80.2
	BIOLOGICAL/BACTERIOLOGICAL		
	TRACE & TOXIC		
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)	125	170

Water Quality Datasheet for the period : 2015-2016

Station Name : FATEHGARH (GG000K6)

Local River : GANGA

Well Water Analysis

S.No	Parameters	02-11-2015	02-05-2016
		B	B
2	HAR_Total (mgCaCO3/L)	266	460
3	Na% (%)	43	38
4	RSC (-)	0.5	0.0
5	SAR (-)	4.0	3.6
	PESTICIDES		

Division : M Ganga Div. II, Lucknow
Sub-Division : M Ganga LR Ganga SD, Bareilly

Water Quality Summary for the period : 2015-2016

Station Name : FATEHGARH (GG000K6)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Sub-Division : M Ganga LR Ganga SD, Bareilly

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	219	2235	98.29	547.7
2	EC_GEN (μmho/cm)	12	370	210	257
3	pH_FLD (pH units)	12	8.0	6.5	7.3
4	pH_GEN (pH units)	12	8.6	7.9	8.2
5	TDS (mg/L)	12	222	122	156
6	Temp (deg C)	12	31.0	17.0	24.8
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	10	19.9	0.0	2.8
2	ALK-TOT (mgCaCO3/L)	10	124	48	66
3	B (mg/L)	2	0.36	0.29	0.33
4	Ca (mg/L)	12	48	20	28
5	Cl (mg/L)	12	14.0	6.0	10.9
6	CO3 (mg/L)	12	24.0	0.0	4.8
7	F (mg/L)	12	0.57	0.32	0.39
8	HCO3 (mg/L)	12	102	49	76
9	K (mg/L)	12	6.3	2.0	3.8
10	Mg (mg/L)	12	21.1	9.2	17.4
11	Na (mg/L)	12	10.4	4.4	7.1
12	NH3-N (mg N/L)	12	0.97	0.53	0.72
13	NO2+NO3 (mg N/L)	12	14.80	10.28	12.28
14	NO2-N (mgN/L)	12	0.52	0.22	0.41
15	NO3-N (mgN/L)	12	14.29	9.81	11.88
16	o-PO4-P (mg P/L)	12	0.207	0.165	0.185
17	SO4 (mg/L)	12	51.4	12.0	31.9
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	23.5	2.4	6.8
2	COD (mg/L)	12	26.0	7.0	11.3
3	DO (mg/L)	12	7.8	2.9	5.6
4	DO_SAT% (%)	12	97	34	67
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	121	50	71
2	HAR_Total (mgCaCO3/L)	12	189	116	143
3	Na% (%)	12	13	7	10
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.4	0.2	0.3
	PESTICIDES				

Water Quality Summary for the period : 2015-2016

Station Name : FATEHGARH (GG000K6)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Sub-Division : M Ganga LR Ganga SD, Bareilly

Well Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	EC_GEN (µmho/cm)	2	1510	1310	1410
2	pH_FLD (pH units)	2	8.0	7.0	7.5
3	pH_GEN (pH units)	2	8.7	8.2	8.5
4	TDS (mg/L)	2	920	790	855
5	Temp (deg C)	2	25.0	24.0	24.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	2	43.8	0.0	21.9
2	ALK-TOT (mgCaCO3/L)	2	356	288	322
3	B (mg/L)	2	0.52	0.47	0.49
4	Ca (mg/L)	2	68	50	59
5	Cl (mg/L)	2	291.1	220.1	255.6
6	CO3 (mg/L)	2	52.8	0.0	26.4
7	F (mg/L)	2	0.76	0.48	0.62
8	HCO3 (mg/L)	2	351	327	339
9	K (mg/L)	2	131.0	120.8	125.9
10	Mg (mg/L)	2	69.5	34.0	51.8
11	Na (mg/L)	2	178.5	148.1	163.3
12	NH3-N (mg N/L)	2	0.51	0.44	0.47
13	NO2+NO3 (mg N/L)	2	8.06	1.35	4.70
14	NO2-N (mgN/L)	2	0.84	0.77	0.81
15	NO3-N (mgN/L)	2	7.29	0.50	3.90
16	o-PO4-P (mg P/L)	2	0.207	0.176	0.191
17	SO4 (mg/L)	2	80.2	70.6	75.4
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	2	170	125	147
2	HAR_Total (mgCaCO3/L)	2	460	266	363
3	Na% (%)	2	43	38	41
4	RSC (-)	2	0.5	0.0	0.2
5	SAR (-)	2	4.0	3.6	3.8
	PESTICIDES				

Water Quality Seasonal Average for the period: 2006-2016

Station Name : FATEHGARH (GGOOOK6)

Local River : GANGA

River Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	Q (cumec)	859.1	795.5	884.1	92.62	1389	1847	594.1	1179	459.2	657.6	104.6	83.78	90.15	66.38	206.7
2	EC_GEN (µmho/cm)	286	200	264	262	322	210	238	244	282	244	275	273	260	198	283
3	pH_FLD (pH units)	8.5	8.1	7.7	8.1	8.8	7.8	7.5	7.3	7.0	7.2	8.5	8.3	8.0	8.0	8.4
4	pH_GEN (pH units)	7.8	8.0	7.8	8.0	8.0	7.9	8.3	7.7	8.2	8.3	8.2	7.8	8.0	8.1	8.0
5	TDS (mg/L)			161	160	195	130	145	148	169	145			161	119	169
6	Temp (deg C)	29.3	26.3	28.8	29.2	29.2	26.5	26.8	27.5	28.0	28.4	18.3	17.3	18.3	18.1	17.3
7	Turb (NTU)				6.5	4.4	3.8	5.9	9.5	4.6					1.0	2.4
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)		0.0	3.2		0.0	0.0	5.5	0.0	2.4	5.6	0.0	0.0	0.0		0.0
2	ALK-TOT (mgCaCO3/L)		88	160		172	141	124	119	110	76	216	200	147		180
3	B (mg/L)	0.02	0.00	0.03								0.02	0.01	0.09		
4	Ca (mg/L)	32	29	37	32	34	30	21	34	35	31	35	36	36	25	35
5	Cl (mg/L)	16.8	11.6	18.3	21.0	22.8	12.4	12.8	14.0	12.4	10.1	13.9	16.0	23.0	10.3	24.6
6	CO3 (mg/L)	0.0	0.0	3.8	2.9	2.9	0.0	5.3	0.0	2.9	6.7	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.19	0.35	0.30	0.36	0.37	0.21	0.26	0.23	0.20	0.41	0.25	0.46	0.39	0.27	0.29
8	Fe (mg/L)	0.1	0.1	0.1	0.0	0.0						0.1	0.1	0.0	0.0	0.0
9	HCO3 (mg/L)	151	121	187	165	219	180	132	145	128	79	128	126	179	155	224
10	K (mg/L)	5.7	4.2	4.3	9.5	7.2	3.4	2.7	3.0	2.7	4.4	8.3	4.3	4.8	5.3	7.2
11	Mg (mg/L)	16.3	16.5	24.1	24.1	21.8	17.1	16.3	18.0	17.3	15.6	17.0	19.3	25.2	21.1	22.2
12	Na (mg/L)	10.9	5.3	11.5	14.1	14.8	7.6	9.0	9.4	8.0	6.4	11.2	4.9	15.8	6.2	15.5
13	NH3-N (mg N/L)				0.00	0.00	0.00	0.00	0.00	0.00	0.63				0.02	0.00
14	NO2+NO3 (mg N/L)	0.53	0.38	0.33	0.40	0.45	3.35	4.04	6.46	9.80	13.84	0.24	0.43	0.44	0.34	0.62
15	NO2-N (mgN/L)	0.10	0.04	0.03	0.07	0.07	0.10	0.17	0.15	0.30	0.27	0.03	0.04	0.09	0.06	0.24
16	NO3-N (mgN/L)	0.43	0.33	0.31	0.33	0.38	3.25	3.87	6.31	9.50	13.56	0.21	0.39	0.35	0.29	0.38
17	o-PO4-P (mg P/L)	0.019	0.031	0.017	0.091	0.058	0.076	0.068	0.081	0.103	0.192	0.031	0.039	0.078	0.049	0.256
18	P-Tot (mgP/L)															
19	SiO2 (mg/L)	6.8	4.7	4.5								6.1	5.3	5.1		

Water Quality Seasonal Average for the period: 2006-2016

Station Name : FATEHGARH (GG000K6)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

River Water

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
20	SO4 (mg/L)	18.3	12.2	11.5	16.5	13.5	6.3	6.0	10.5	13.8	21.4	15.6	10.1	16.7	15.5	8.0
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)					3.7	1.1	1.5	1.3	1.4	8.4				3.5	2.9
2	COD (mg/L)					12.5	4.2	8.4	4.0	4.6	12.0					
3	DO (mg/L)	7.1	6.4	7.2	6.2	5.3	6.9	6.7	7.6	7.4	5.4	6.2	6.7	7.5	5.0	5.1
4	DO_SAT% (%)	93	79	93	81	69	85	84	96	94	69	66	69	79	53	53
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	81	73	94	79	84	75	53	84	87	77	88	89	89	63	88
2	HAR_Total (mgCaCO3/L)	149	142	194	180	175	146	121	159	159	143	159	170	194	151	181
3	Na% (%)	13	7	11	14	15	10	14	11	10	9	13	6	15	8	15
4	RSC (-)	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
5	SAR (-)	0.4	0.2	0.4	0.5	0.5	0.3	0.4	0.3	0.3	0.2	0.4	0.2	0.5	0.2	0.5
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : FATEHGARH (GGOOOK6)

Local River : GANGA

River Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Winter					Summer									
		Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	150.3	98.20	284.6	195.7	196.1	56.61	38.31	23.42	14.88	120.7	49.89	75.41	148.8	157.0	155.3
2	EC_GEN (µmho/cm)	250	228	255	288	280	333	313	340	347	270	293	263	337	343	247
3	pH_FLD (pH units)	8.1	7.6	7.0	7.3	7.4	7.9	8.1	8.0	8.2	8.5	7.5	7.7	7.0	7.3	7.2
4	pH_GEN (pH units)	8.2	7.9	8.2	8.3	8.1	8.3	8.1	8.0	8.4	8.4	8.1	8.4	8.3	8.7	8.3
5	TDS (mg/L)	157	138	153	161	172			212	208	160	180	159	202	186	153
6	Temp (deg C)	19.5	19.4	18.5	22.3	21.1	24.3	24.2	22.5	23.7	24.7	22.0	19.3	20.7	22.8	23.8
7	Turb (NTU)	2.6	6.6	3.1						1.7	2.0	2.8	4.1	4.3		
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	4.0	0.0	0.0	10.6	0.0	0.0		0.0		0.0	0.0	7.0	12.0	13.3	0.0
2	ALK-TOT (mgCaCO3/L)	151	109	129	135	58	240		152		184	160	126	140	119	52
3	B (mg/L)	0.04	0.08	0.08	0.10	0.29	0.02	0.03	0.15	0.18	0.12	0.10	0.08	0.10	0.19	0.36
4	Ca (mg/L)	30	28	37	39	27	38	42	36	35	37	33	37	42	33	25
5	Cl (mg/L)	14.5	11.5	16.0	11.4	12.0	16.6	20.0	31.4	22.6	22.0	17.3	14.7	19.3	26.0	10.6
6	CO3 (mg/L)	3.6	0.0	3.6	15.6	0.0	0.0	0.0	0.0	11.2	8.0	6.4	5.6	14.4	16.0	8.0
7	F (mg/L)	0.29	0.19	0.26	0.24	0.40	0.29	0.36	0.49	0.53	0.30	0.32	0.20	0.30	0.44	0.34
8	Fe (mg/L)						0.0	0.1	0.0	0.0	0.0					
9	HCO3 (mg/L)	176	133	145	116	71	138	130	185	189	229	177	140	142	112	80
10	K (mg/L)	3.5	2.3	3.2	4.1	2.3	8.0	5.1	5.9	8.1	6.0	3.4	3.0	3.5	4.7	4.8
11	Mg (mg/L)	18.8	17.3	19.3	15.7	19.9	18.9	23.4	26.1	24.7	21.3	18.5	18.9	21.7	18.9	17.2
12	Na (mg/L)	10.2	7.6	11.0	7.9	7.5	12.8	5.9	18.9	13.7	13.8	11.2	10.2	13.0	16.1	7.9
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.18	0.82			0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.73
14	NO2+NO3 (mg N/L)	3.49	4.71	9.22	10.08	11.76	0.38	0.46	0.51	0.60	0.40	4.94	5.69	11.31	14.80	10.39
15	NO2-N (mgN/L)	0.12	0.23	0.14	0.27	0.51	0.05	0.06	0.11	0.14	0.07	0.13	0.23	0.19	0.32	0.49
16	NO3-N (mgN/L)	3.36	4.48	9.07	9.81	11.24	0.34	0.40	0.40	0.45	0.33	4.81	5.46	11.12	14.48	9.90
17	o-PO4-P (mg P/L)	0.039	0.085	0.078	0.145	0.181	0.038	0.041	0.145	0.079	0.048	0.072	0.072	0.114	0.296	0.179
18	P-Tot (mgP/L)															
19	SiO2 (mg/L)						6.2	4.7	5.7							

Water Quality Seasonal Average for the period: 2006-2016

Station Name : FATEHGARH (GGOOOK6)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

River Water

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Winter					Summer									
		Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
20	SO4 (mg/L)	5.2	9.4	13.9	15.0	47.9	16.2	9.9	18.4	22.6	8.5	6.9	9.4	21.9	21.6	28.2
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.0	1.3	1.6	7.7	5.1				4.7	4.0	1.6	1.4	1.8	10.2	6.3
2	COD (mg/L)	7.0	9.0	4.3	7.5	9.5					26.0	6.0	4.3	5.0	14.3	12.7
3	DO (mg/L)	7.0	6.8	6.3	5.1	6.8	7.1	7.1	7.4	6.1	6.3	6.7	7.2	6.7	4.8	4.4
4	DO_SAT% (%)	76	74	67	59	76	85	85	85	72	76	76	78	74	55	52
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	75	70	91	98	68	95	106	90	87	93	82	92	105	83	63
2	HAR_Total (mgCaCO3/L)	154	142	172	165	151	173	204	199	190	182	159	170	195	162	134
3	Na% (%)	12	10	12	9	10	13	6	17	13	14	13	11	12	16	11
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.3	0.4	0.3	0.3	0.4	0.2	0.6	0.4	0.4	0.4	0.3	0.4	0.5	0.3
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : FATEHGARH (GG000K6)

Local River : GANGA

Well Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	EC_GEN (µmho/cm)	4440	3320	2602								3550	2825	1665	1350	1100
2	pH_FLD (pH units)		8.0	8.0									8.0	8.0	8.0	8.0
3	pH_GEN (pH units)	7.8	7.9	7.7								8.0	7.9	7.9	7.9	8.1
4	TDS (mg/L)			1564										1008	890	875
5	Temp (deg C)	25.7	25.2	26.1								22.0	20.9	21.1	23.5	24.0
6	Turb (NTU)														2.5	7.5
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0		6.4								0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	1150		438								783	888	436	340	308
3	B (mg/L)	0.49	0.13	0.10								0.44	0.10	0.06	0.08	0.00
4	Ca (mg/L)	73	73	72								59	72	68	67	64
5	Cl (mg/L)	93.4	92.5	223.0								73.0	83.6	191.7	124.3	144.1
6	CO3 (mg/L)	1.9	0.0	7.7								0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.67	0.63	0.57								0.67	0.56	0.39	0.49	0.46
8	Fe (mg/L)	0.3	0.3	0.2								0.3	0.3	0.1		
9	HCO3 (mg/L)	604	500	518								477	538	532	415	376
10	K (mg/L)	29.6	37.7	30.8								18.9	35.6	23.9	27.8	21.5
11	Mg (mg/L)	60.3	49.9	49.3								43.3	49.3	46.9	45.3	44.3
12	Na (mg/L)	225.0	194.1	152.8								164.3	182.7	132.0	94.3	94.5
13	NH3-N (mg N/L)														0.17	0.17
14	NO2+NO3 (mg N/L)	6.78	3.63	6.04								12.96	2.99	1.73	2.30	2.02
15	NO2-N (mgN/L)	0.08	0.10	0.07								0.07	0.08	0.04	0.12	0.10
16	NO3-N (mgN/L)	6.70	3.53	5.96								12.89	2.91	1.69	2.17	1.92
17	o-PO4-P (mg P/L)	0.188	0.163	0.097								0.178	0.127	0.212	0.134	0.114
18	SiO2 (mg/L)	18.6	17.6	15.0								16.2	15.6	9.6		
19	SO4 (mg/L)	126.5	109.3	75.8								106.7	99.6	63.0	48.0	40.3
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : FATEHGARH (GG00OK6)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Well Water

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
1	COD (mg/L)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	181	182	180								148	181	170	168	159
2	HAR_Total (mgCaCO3/L)	433	390	385								329	386	366	356	344
3	Na% (%)	51	49	44								50	48	42	35	36
4	RSC (-)	1.5	0.5	1.1								1.3	1.2	1.5	0.0	0.0
5	SAR (-)	4.7	4.3	3.4								4.0	4.1	3.0	2.2	2.2
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : FATEHGARH (GGOOOK6)

Local River : GANGA

Well Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	EC_GEN (µmho/cm)	2100	1900	1810	2000	1310	3967	3667	1940	1480	1440	2100	2100	1990	1900	1510
2	pH_FLD (pH units)	8.0	8.0	7.0		8.0		7.8	8.2	8.0	8.0	8.5	8.5	7.0		7.0
3	pH_GEN (pH units)	7.9	8.1	8.3	8.4	8.2	8.0	7.9	8.1	8.3	9.0	7.9	8.5	8.3	9.0	8.7
4	TDS (mg/L)	1250	1150	1090	1140	790			1237	890	875	1250	1260	1200	1200	920
5	Temp (deg C)	24.0	25.0	25.0		24.0	23.5	23.5	23.0	24.0	25.5	26.5	22.5	24.0		25.0
6	Turb (NTU)	6.6	7.4	6.8						8.5	4.3	6.6	7.2	6.0		
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0			51.8	0.0	4.0		21.9	0.0		0.0	0.0	23.9	39.8	43.8
2	ALK-TOT (mgCaCO3/L)	520			440	288	1115		502	336		560	636	456	340	356
3	B (mg/L)	0.22	0.20	0.20	0.18	0.47	0.72	0.11	0.11	0.15	0.18	0.26	0.26	0.20	0.66	0.52
4	Ca (mg/L)	105	100	112	112	50	71	77	74	69	77	105	157	115	64	68
5	Cl (mg/L)	280.5	250.3	290.4	332.3	220.1	85.4	92.8	188.3	160.1	264.5	302.5	338.0	328.4	226.5	291.1
6	CO3 (mg/L)	0.0	0.0	24.0	62.4	0.0	4.8	0.0	17.6	0.0	38.4	0.0	0.0	28.8	48.0	52.8
7	F (mg/L)	0.61	0.59	0.59	0.99	0.76	0.90	0.85	0.58	0.55	0.51	0.70	0.74	0.70	1.04	0.47
8	Fe (mg/L)						0.3	0.3	0.3							
9	HCO3 (mg/L)	634	639	444	410	351	675	577	560	410	488	683	776	498	317	327
10	K (mg/L)	28.5	25.8	18.4	63.3	120.8	37.4	41.3	27.4	27.8	26.2	31.7	23.9	23.5	75.5	131.0
11	Mg (mg/L)	72.2	70.1	44.3	49.5	34.0	48.8	52.2	51.2	46.4	46.4	72.2	75.3	46.4	42.3	69.5
12	Na (mg/L)	181.2	170.4	185.6	194.6	148.1	192.1	191.1	134.4	94.3	167.7	196.6	228.6	208.8	157.8	178.5
13	NH3-N (mg N/L)	0.34	0.34	0.41	0.55	0.44				0.22	0.25	0.51	0.60	0.51	0.48	0.51
14	NO2+NO3 (mg N/L)	4.65	5.81	8.37	8.40	8.06	17.08	3.92	2.82	2.81	5.90	5.84	10.40	10.59	10.34	1.35
15	NO2-N (mgN/L)	0.40	0.34	0.39	0.55	0.77	0.11	0.11	0.14	0.15	0.15	0.10	0.59	0.50	0.95	0.84
16	NO3-N (mgN/L)	4.25	5.46	7.99	7.85	7.29	16.97	3.81	2.68	2.66	5.74	5.74	9.81	10.09	9.39	0.50
17	o-PO4-P (mg P/L)	0.165	0.165	0.093	0.186	0.176	0.231	0.148	0.489	1.550	0.165	0.196	0.165	0.196	0.238	0.207
18	SiO2 (mg/L)						17.9	20.4	13.6							
19	SO4 (mg/L)	40.3	30.2	32.2	46.1	70.6	122.6	108.2	65.9	59.5	59.5	48.0	39.8	37.9	61.4	80.2
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : FATEHGARH (GG000K6)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Well Water

Sub-Division : M Ganga LR Ganga SD, Bareilly

S.No	Parameters	Winter					Summer									
		Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	COD (mg/L)	37.0									48.0	59.0				
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	263	250	280	280	125	176	192	185	172	194	263	392	288	159	170
2	HAR_Total (mgCaCO3/L)	563	542	464	486	266	380	410	398	365	387	563	705	481	335	460
3	Na% (%)	40	39	45	43	43	50	47	40	34	47	42	40	47	44	38
4	RSC (-)	0.0	0.0	0.0	0.0	0.5	3.7	1.3	1.9	0.0	1.6	0.0	0.0	0.0	0.1	0.0
5	SAR (-)	3.3	3.2	3.8	3.9	4.0	4.3	4.1	2.9	2.2	3.7	3.6	3.8	4.2	3.8	3.6
	PESTICIDES															

HISTORY SHEET

		Water Year	: 2015-2016
Site	: ANKINGHAT	Code	: GG000I7
State	: Uttar Pradesh	District	Kanpur (Rural)
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	:	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: GANGA
Division	: M Ganga Div. II, Lucknow	Sub-Division	: M Ganga SD, Kanpur
Drainage Area	: 82209 Sq. Km.	Bank	: Right
Latitude	: 26°55'00"	Longitude	: 80°05'00"
	Opening Date	Closing Date	
Gauge	: 14-05-1968		
Discharge	: 14-05-1968		
Sediment	: 11-04-1977		
Water Quality	: 01-02-1974		

Water Quality Datasheet for the period : 2015-2016

Station Name : ANKINGHAT (GG000I7)

Local River : GANGA

River Water Analysis

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	132.6	1270	2250	2050	590.0	314.3	598.9	190.4	209.5	179.9	152.3	121.8
2	Colour_Cod (-)	Clear	Brown	Brown	Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_GEN (µmho/cm)	340	230	240	260	260	360	240	350	350	300	310	330
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
5	pH_FLD (pH units)	7.5	7.5	7.5	7.5	7.0	7.5	8.0	7.0	7.2	7.5	7.5	7.5
6	pH_GEN (pH units)	8.8	8.3	8.3	8.2	8.2	8.2	8.3	8.2	8.4	8.0	8.2	8.3
7	TDS (mg/L)	204	130	139	150	155	216	148	216	192	182	190	206
8	Temp (deg C)	26.5	25.0	25.0	27.0	28.0	24.0	22.0	17.0	18.0	20.0	24.0	27.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	12.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	8.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	100	72	76	76	76	92	76	116	112	0	96	92
3	B (mg/L)				0.00		0.25						0.24
4	Ca (mg/L)	38	29	28	29	29	43	33	50	48	41	34	23
5	Cl (mg/L)	18.1	9.9	8.2	7.8	7.8	9.9	8.2	9.9	9.9	8.2	19.9	16.0
6	CO3 (mg/L)	14.4	0.0	0.0	0.0	0.0	0.0	9.6	0.0	9.6	0.0	0.0	0.0
7	F (mg/L)	0.36	0.46	0.38	0.57	0.57	0.63	0.48	0.53	0.53	0.46	0.46	0.47
8	HCO3 (mg/L)	93	88	93	93	93	112	73	142	117	112	117	112
9	K (mg/L)	8.6	5.1	5.1	3.1	3.3	1.0	2.7	4.3	3.9	3.5	5.9	5.9
10	Mg (mg/L)	15.4	11.3	12.4	13.4	13.4	16.5	13.4	18.6	17.5	15.4	17.4	25.1
11	Na (mg/L)	12.2	4.4	4.6	4.7	4.8	6.0	4.8	6.0	5.8	5.3	10.6	11.7
12	NH3-N (mg N/L)	0.76	0.70	0.79	0.88	0.97	1.00	0.69	0.88	0.87	0.28	0.81	0.84
13	NO2+NO3 (mg N/L)	11.09	8.91	9.06	9.35	9.27	10.47	9.56	10.64	10.48	10.01	9.91	9.99
14	NO2-N (mgN/L)	0.44	0.36	0.37	0.39	0.44	0.66	0.59	0.69	0.68	0.62	0.66	0.69
15	NO3-N (mgN/L)	10.65	8.55	8.69	8.97	8.83	9.81	8.97	9.95	9.81	9.39	9.25	9.30
16	o-PO4-P (mg P/L)	0.289	0.227	0.227	0.238	0.238	0.238	0.217	0.227	0.227	0.589	0.217	
17	P-Tot (mgP/L)												0.650
18	SO4 (mg/L)	18.7	18.2	14.9	18.7	13.9	52.8	28.8	47.0	43.2	40.8	41.3	49.9
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	21.6	7.0	2.0	3.1	20.0	14.9	14.1	16.4	10.9	9.4	9.4	11.7

Water Quality Datasheet for the period : 2015-2016

Station Name : ANKINGHAT (GG000I7)

Local River : GANGA

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

River Water Analysis

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
2	COD (mg/L)	26.0	8.0	6.0	7.0	22.0	20.0	16.0	20.0	15.0	18.0	28.0	18.0
3	DO (mg/L)	2.6	5.5	5.9	5.5	4.1	5.1	5.5	5.1	3.9	3.7	3.1	1.6
4	DO_SAT% (%)	31	66	71	69	53	61	63	53	41	41	37	20
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	95	73	69	73	73	108	82	125	121	103	86	58
2	HAR_Total (mgCaCO3/L)	159	120	121	129	129	176	137	202	193	167	158	163
3	Na% (%)	14	7	7	7	7	7	7	6	6	6	12	13
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4
	PESTICIDES												

Water Quality Datasheet for the period : 2015-2016

Station Name : ANKINGHAT (GG000I7)

Local River : GANGA

Well Water Analysis

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	02-11-2015	02-05-2016
		B	B
	PHYSICAL		
1	Colour_Cod (-)	Clear	Clear
2	EC_GEN (µmho/cm)	750	700
3	Odour_Code (-)	odour free	odour free
4	pH_FLD (pH units)	8.5	8.0
5	pH_GEN (pH units)	8.6	8.5
6	TDS (mg/L)	450	430
7	Temp (deg C)	23.0	22.0
	CHEMICAL		
1	Alk-Phen (mgCaCO3/L)	27.9	28.6
2	ALK-TOT (mgCaCO3/L)	276	266
3	B (mg/L)	0.65	0.59
4	Ca (mg/L)	58	52
5	Cl (mg/L)	78.1	95.9
6	CO3 (mg/L)	33.6	34.5
7	F (mg/L)	0.55	0.51
8	HCO3 (mg/L)	268	254
9	K (mg/L)	26.2	25.4
10	Mg (mg/L)	20.7	19.6
11	Na (mg/L)	55.4	50.4
12	NH3-N (mg N/L)	0.27	0.22
13	NO2+NO3 (mg N/L)	8.78	1.18
14	NO2-N (mgN/L)	0.65	0.63
15	NO3-N (mgN/L)	8.13	0.55
16	o-PO4-P (mg P/L)	0.165	0.186
17	SO4 (mg/L)	22.1	21.1
	BIOLOGICAL/BACTERIOLOGICAL		
	TRACE & TOXIC		
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)	145	129

Water Quality Datasheet for the period : 2015-2016

Station Name : ANKINGHAT (GG000I7)

Local River : GANGA

Well Water Analysis

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	02-11-2015	02-05-2016
		B	B
2	HAR_Total (mgCaCO3/L)	231	211
3	Na% (%)	31	31
4	RSC (-)	0.9	1.1
5	SAR (-)	1.6	1.5
	PESTICIDES		

Water Quality Summary for the period : 2015-2016

Station Name : ANKINGHAT (GG00017)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Sub-Division : M Ganga SD, Kanpur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	190	4500	27.00	965.7
2	EC_GEN (µmho/cm)	12	360	230	298
3	pH_FLD (pH units)	12	8.0	7.0	7.4
4	pH_GEN (pH units)	12	8.8	8.0	8.3
5	TDS (mg/L)	12	216	130	177
6	Temp (deg C)	12	28.0	17.0	23.6
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	11	12.0	0.0	2.5
2	ALK-TOT (mgCaCO3/L)	11	116	72	89
3	B (mg/L)	3	0.25	0.00	0.16
4	Ca (mg/L)	12	50	23	35
5	Cl (mg/L)	12	19.9	7.8	11.2
6	CO3 (mg/L)	12	14.4	0.0	2.8
7	F (mg/L)	12	0.63	0.36	0.49
8	HCO3 (mg/L)	12	142	73	104
9	K (mg/L)	12	8.6	1.0	4.4
10	Mg (mg/L)	12	25.1	11.3	15.8
11	Na (mg/L)	12	12.2	4.4	6.7
12	NH3-N (mg N/L)	12	1.00	0.28	0.79
13	NO2+NO3 (mg N/L)	12	11.09	8.91	9.9
14	NO2-N (mgN/L)	12	0.69	0.36	0.55
15	NO3-N (mgN/L)	12	10.65	8.55	9.35
16	o-PO4-P (mg P/L)	11	0.589	0.217	0.267
17	P-Tot (mgP/L)	1	0.650	0.650	0.65
18	SO4 (mg/L)	12	52.8	13.9	32.4
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	21.6	2.0	11.7
2	COD (mg/L)	12	28.0	6.0	17
3	DO (mg/L)	12	5.9	1.6	4.3
4	DO_SAT% (%)	12	71	20	51
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	125	58	89
2	HAR_Total (mgCaCO3/L)	12	202	120	154
3	Na% (%)	12	14	6	8
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.4	0.2	0.2
	PESTICIDES				

Water Quality Summary for the period : 2015-2016

Station Name : ANKINGHAT (GG00017)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Sub-Division : M Ganga SD, Kanpur

Well Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	EC_GEN (µmho/cm)	2	750	700	725
2	pH_FLD (pH units)	2	8.5	8.0	8.3
3	pH_GEN (pH units)	2	8.6	8.5	8.6
4	TDS (mg/L)	2	450	430	440
5	Temp (deg C)	2	23.0	22.0	22.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	2	28.6	27.9	28.3
2	ALK-TOT (mgCaCO3/L)	2	276	266	271
3	B (mg/L)	2	0.65	0.59	0.62
4	Ca (mg/L)	2	58	52	55
5	Cl (mg/L)	2	95.9	78.1	87.0
6	CO3 (mg/L)	2	34.5	33.6	34.0
7	F (mg/L)	2	0.55	0.51	0.53
8	HCO3 (mg/L)	2	268	254	261
9	K (mg/L)	2	26.2	25.4	25.8
10	Mg (mg/L)	2	20.7	19.6	20.1
11	Na (mg/L)	2	55.4	50.4	52.9
12	NH3-N (mg N/L)	2	0.27	0.22	0.25
13	NO2+NO3 (mg N/L)	2	8.78	1.18	4.98
14	NO2-N (mgN/L)	2	0.65	0.63	0.64
15	NO3-N (mgN/L)	2	8.13	0.55	4.34
16	o-PO4-P (mg P/L)	2	0.186	0.165	0.176
17	SO4 (mg/L)	2	22.1	21.1	21.6
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	2	145	129	137
2	HAR_Total (mgCaCO3/L)	2	231	211	221
3	Na% (%)	2	31	31	31
4	RSC (-)	2	1.1	0.9	1.0
5	SAR (-)	2	1.6	1.5	1.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ANKINGHAT (GGOOI7)

Local River : GANGA

River Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov - Dec				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	Q (cumec)	956.4	1315	1653	260.4	3745	2405	2045	3346	755.3	1259	148.0	228.4	310.9	258.4	556.6
2	EC_GEN (µmho/cm)	374	296	300	354	362	258	308	332	310	266	380	418	373	313	350
3	pH_FLD (pH units)	7.5	7.8	7.5	7.3	7.5	7.7	7.7	8.0	9.2	7.4	7.5	7.5	7.5	7.5	7.4
4	pH_GEN (pH units)	8.0	7.9	7.8	8.1	8.1	8.2	8.5	7.9	8.5	8.3	8.0	7.7	8.1	8.3	8.1
5	TDS (mg/L)			183	210	217	157	189	200	191	156			229	188	214
6	Temp (deg C)	29.5	27.8	27.3	27.6	27.6	28.5	29.7	26.6	27.9	26.3	18.1	17.1	17.3	16.3	17.4
7	Turb (NTU)				7.0	21.9	2.3	6.9	12.6	4.8					2.5	3.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	4.8		0.0		0.0	0.0	13.4	0.0	14.3	2.4	0.0		0.0		0.0
2	ALK-TOT (mgCaCO3/L)	271		105		120	105	136	164	142	80	223		138		136
3	B (mg/L)	0.00	0.02	0.03							0.00	0.00	0.08	0.09		0.00
4	Ca (mg/L)	34	38	31	36	29	21	30	48	41	31	36	41	33	34	28
5	Cl (mg/L)	16.4	15.5	20.0	19.5	22.4	16.0	15.6	17.6	18.5	10.4	17.0	22.5	23.5	14.5	25.6
6	CO3 (mg/L)	5.8	0.0	0.0	3.8	3.8	2.9	13.0	0.0	17.3	2.9	0.0	0.0	0.0	13.2	2.4
7	F (mg/L)	0.22	0.26	0.50	0.54	0.38	0.26	0.27	0.34	0.41	0.47	0.24	0.48	0.58	0.50	1.35
8	Fe (mg/L)	0.1	0.1	0.2	0.2	0.0						0.1	0.2	0.1	0.2	0.0
9	HCO3 (mg/L)	159	146	144	182	183	127	141	204	139	92	155	203	168	183	167
10	K (mg/L)	8.8	6.7	9.0	5.5	8.4	4.8	2.9	3.2	5.9	5.0	11.4	9.8	11.1	6.2	7.7
11	Mg (mg/L)	18.5	18.0	18.4	20.4	16.5	12.8	18.2	26.0	20.2	13.2	20.1	22.7	20.3	19.1	15.5
12	Na (mg/L)	22.6	11.6	14.7	11.9	14.5	10.3	11.0	11.2	12.3	6.1	25.9	20.4	17.4	9.7	15.7
13	NH3-N (mg N/L)				0.00	0.00	0.01	0.00	0.00	0.00	0.82				0.02	0.00
14	NO2+NO3 (mg N/L)	0.58	0.83	1.31	1.74	1.48	2.96	5.94	11.24	9.57	9.54	0.88	0.92	1.53	1.66	1.40
15	NO2-N (mgN/L)	0.05	0.04	0.03	0.08	0.10	0.07	0.14	0.31	0.38	0.40	0.04	0.07	0.08	0.07	0.09
16	NO3-N (mgN/L)	0.53	0.78	1.28	1.66	1.38	2.89	5.80	10.93	9.19	9.14	0.84	0.85	1.44	1.59	1.31
17	o-PO4-P (mg P/L)	0.072	0.050	0.021	0.095	0.074	0.143	0.074	0.095	0.093	0.244	0.057	0.057	0.065	0.067	0.129
18	P-Tot (mgP/L)															
19	SiO2 (mg/L)	7.0	5.6	6.6								6.3	6.8	7.0		

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ANKINGHAT (GGOOI7)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

River Water

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
20	SO4 (mg/L)	21.9	19.0	23.0	33.5	16.3	5.6	6.2	14.2	15.2	16.9	24.0	22.0	33.0	28.2	9.5
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)					2.4	2.4	1.6	3.7	4.2	10.7				5.5	1.9
2	COD (mg/L)					11.5	6.2	7.2	21.6	22.0	13.8					
3	DO (mg/L)	7.6	7.1	6.9	7.3	6.7	6.6	6.6	6.4	6.0	4.7	7.6	6.8	7.2	6.9	6.9
4	DO_SAT% (%)	100	90	87	92	85	85	86	79	77	58	80	70	75	70	71
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
1	Al (mg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	85	95	78	89	73	52	75	120	102	77	90	103	82	85	70
2	HAR_Total (mgCaCO3/L)	162	170	155	174	142	106	151	228	187	131	174	198	166	164	134
3	Na% (%)	21	12	16	12	17	17	13	9	12	8	23	18	17	11	19
4	RSC (-)	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
5	SAR (-)	0.8	0.4	0.5	0.4	0.5	0.4	0.4	0.3	0.4	0.2	0.9	0.6	0.6	0.3	0.6
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ANKINGHAT (GGOOI7)

Local River : GANGA

River Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	310.0	443.6	285.6	359.2	328.3	149.6	79.56	110.1	89.44	178.6	106.8	173.3	230.6	360.3	151.3
2	EC_GEN (µmho/cm)	350	333	318	420	325	423	530	530	590	420	477	410	463	323	313
3	pH_FLD (pH units)	7.5	8.4	8.8	8.1	7.4	7.5	7.5	7.5	7.3	7.9	7.5	8.5	9.3	7.8	7.5
4	pH_GEN (pH units)	8.0	8.3	8.5	8.5	8.3	8.1	8.0	8.2	8.2	8.1	8.3	8.4	8.4	8.7	8.1
5	TDS (mg/L)	214	206	191	225	193			322	358	253	288	248	283	188	193
6	Temp (deg C)	16.5	19.6	15.6	15.5	20.3	24.7	23.2	22.5	22.8	22.0	22.5	19.7	20.2	20.3	23.7
7	Turb (NTU)	3.2	5.5	4.7						5.7	1.5	4.9	4.3	3.6		
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	10.6	2.7	12.0	11.5	4.0	0.0		10.0		0.0	10.0	9.0	15.9	15.9	0.0
2	ALK-TOT (mgCaCO3/L)	136	160	165	145	99	267		184		142	186	166	244	124	94
3	B (mg/L)	0.12	0.08	0.08	0.11	0.25	0.00	0.09	0.13	0.20	0.10	0.10	0.12	0.12	0.30	0.24
4	Ca (mg/L)	27	42	48	45	43	41	42	41	36	30	36	48	69	36	33
5	Cl (mg/L)	17.4	16.0	18.0	34.2	9.5	18.0	26.6	29.3	26.7	28.8	21.4	16.0	28.0	24.0	14.7
6	CO3 (mg/L)	9.6	2.4	15.6	13.8	4.8	0.0	0.0	8.0	14.4	0.0	17.6	7.2	20.8	19.2	0.0
7	F (mg/L)	0.37	0.31	0.36	0.40	0.54	0.23	0.66	0.69	0.61	0.41	0.35	0.32	0.53	0.31	0.46
8	Fe (mg/L)						0.1	0.2	0.2	0.3	0.0					
9	HCO3 (mg/L)	150	188	176	149	111	163	207	211	200	179	197	195	241	112	114
10	K (mg/L)	4.5	2.9	3.1	6.5	3.0	9.9	11.5	11.3	10.2	7.4	4.6	3.3	6.9	7.3	5.1
11	Mg (mg/L)	18.0	24.8	24.0	21.9	16.5	22.7	24.7	24.0	21.7	16.2	22.7	26.4	32.0	15.8	19.3
12	Na (mg/L)	11.8	11.2	12.4	21.4	5.6	20.2	24.5	20.2	16.2	17.9	14.0	11.6	18.5	16.1	9.2
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.26	0.86			0.00	0.00	0.13	0.00	0.00	0.00	0.77	0.65
14	NO2+NO3 (mg N/L)	6.05	8.26	12.66	12.89	10.29	0.96	1.85	1.99	2.22	1.53	6.31	9.22	13.53	10.88	9.97
15	NO2-N (mgN/L)	0.17	0.34	0.29	0.42	0.65	0.04	0.09	0.12	0.13	0.07	0.15	0.40	0.50	0.41	0.66
16	NO3-N (mgN/L)	5.89	7.92	12.37	12.47	9.63	0.92	1.76	1.87	2.09	1.46	6.17	8.83	13.03	10.46	9.31
17	o-PO4-P (mg P/L)	0.111	0.132	0.101	0.233	0.227	0.059	0.072	0.107	0.103	0.162	0.103	0.107	0.138	0.269	0.403
18	P-Tot (mgP/L)															0.650
19	SiO2 (mg/L)						6.5	7.8	5.2							

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ANKINGHAT (GG000I7)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

River Water

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Winter					Summer									
		Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
20	SO4 (mg/L)	7.3	10.3	17.2	29.2	43.0	22.4	25.6	39.7	31.7	9.4	7.7	10.1	20.8	21.3	44.0
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	1.3	1.8	4.0	2.9	14.1				2.5	1.4	2.5	1.9	4.6	8.0	10.2
2	COD (mg/L)	8.0	8.5	17.5	9.0	17.8					10.5	8.7	13.0	26.0	17.3	21.3
3	DO (mg/L)	6.6	6.4	5.5	6.6	4.9	7.5	6.9	7.4	6.8	7.2	6.4	5.9	6.5	5.2	2.8
4	DO_SAT% (%)	68	70	60	68	54	90	80	85	79	82	74	63	71	56	33
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
1	Al (mg/L)													6.30		
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	67	105	119	112	109	103	105	102	91	75	89	119	172	90	82
2	HAR_Total (mgCaCO3/L)	142	209	219	203	177	198	208	202	181	142	183	229	305	156	163
3	Na% (%)	15	10	11	18	6	18	19	17	15	21	14	10	11	17	11
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.0	0.0	0.0	0.0
5	SAR (-)	0.4	0.3	0.4	0.7	0.2	0.6	0.7	0.6	0.5	0.7	0.5	0.3	0.5	0.6	0.3
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ANKINGHAT (GG00017)

Local River : GANGA

Well Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Flood										Wet				
		Jun - Oct										Nov - Mar				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	EC_GEN (µmho/cm)														1620	1770
2	pH_FLD (pH units)														8.0	8.0
3	pH_GEN (pH units)														8.4	7.5
4	TDS (mg/L)														980	1075
5	Temp (deg C)														23.5	25.0
6	Turb (NTU)														3.1	4.2
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)														39.8	0.0
2	ALK-TOT (mgCaCO3/L)														508	368
3	B (mg/L)														0.12	0.00
4	Ca (mg/L)														86	89
5	Cl (mg/L)														214.4	246.4
6	CO3 (mg/L)														48.0	0.0
7	F (mg/L)														0.49	0.63
8	HCO3 (mg/L)														522	449
9	K (mg/L)														34.8	39.1
10	Mg (mg/L)														62.9	63.9
11	Na (mg/L)														137.1	158.5
12	NH3-N (mg N/L)														0.25	0.17
13	NO2+NO3 (mg N/L)														5.21	6.05
14	NO2-N (mgN/L)														0.15	0.18
15	NO3-N (mgN/L)														5.06	5.87
16	o-PO4-P (mg P/L)														0.093	0.134
17	SO4 (mg/L)														80.6	119.0
	BIOLOGICAL/BACTERIOLOGICAL															
1	COD (mg/L)															43.0
	TRACE & TOXIC															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ANKINGHAT (GG000I7)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Well Water

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Flood Jun - Oct										Wier Nov -				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)														215	224
2	HAR_Total (mgCaCO3/L)														477	490
3	Na% (%)														37	39
4	RSC (-)														0.7	0.0
5	SAR (-)														2.7	3.1
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ANKINGHAT (GGOOI7)

Local River : GANGA

Well Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	EC_GEN (µmho/cm)	1400	1530	540	790	750				1750	1900	1080	920	790	840	700
2	pH_FLD (pH units)	8.5	8.5	8.0		8.5				8.0	7.5	8.0	8.0	8.0		8.0
3	pH_GEN (pH units)	7.0	8.3	8.2	8.4	8.6				8.4	8.9	8.5	8.4	8.2	9.2	8.5
4	TDS (mg/L)	850	920	324	440	450				1060	1150	650	555	480	504	430
5	Temp (deg C)	24.0	25.0	22.5		23.0				23.5	26.0	25.0	25.0	23.0		22.0
6	Turb (NTU)	5.1	4.8	7.4						3.5	4.3	3.0	8.2	8.0		
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0			71.7	27.9				31.9	23.9		0.0	0.0	31.9	28.6
2	ALK-TOT (mgCaCO3/L)	340			300	276				496	576		372	472	328	266
3	B (mg/L)	0.08	0.12	0.06	0.09	0.65				0.20	0.10	0.10	0.08	0.10	0.69	0.59
4	Ca (mg/L)	60	126	84	81	58				88	98	81	101	100	65	52
5	Cl (mg/L)	276.5	336.5	130.3	124.3	78.1				230.0	320.6	214.4	236.4	202.4	81.3	95.8
6	CO3 (mg/L)	0.0	0.0	0.0	86.4	33.6				38.4	28.8	24.0	0.0	0.0	38.4	34.5
7	F (mg/L)	0.59	0.65	0.28	0.91	0.55				0.59	0.70	0.42	0.44	0.40	0.63	0.51
8	HCO3 (mg/L)	415	763	390	190	268				527	644	498	454	576	322	254
9	K (mg/L)	35.6	33.6	15.6	19.2	26.2				36.4	41.8	28.5	23.1	20.3	27.4	25.4
10	Mg (mg/L)	46.4	78.4	33.0	62.0	20.7				63.9	67.1	59.8	38.2	65.0	24.8	19.6
11	Na (mg/L)	178.0	225.2	83.7	32.9	55.4				140.5	207.0	138.7	156.4	129.5	61.6	50.4
12	NH3-N (mg N/L)	0.20	0.25	0.10	0.35	0.27				0.21	0.25	0.10	0.10	0.25	0.35	0.22
13	NO2+NO3 (mg N/L)	4.20	4.77	5.56	5.78	8.78				5.84	6.33	3.14	7.06	7.44	9.99	1.18
14	NO2-N (mgN/L)	0.29	0.29	0.10	0.46	0.65				0.17	0.21	0.19	0.19	0.29	0.75	0.63
15	NO3-N (mgN/L)	3.91	4.48	5.46	5.32	8.13				5.67	6.12	2.94	6.87	7.15	9.25	0.55
16	o-PO4-P (mg P/L)	0.062	0.093	0.093	0.155	0.165				0.114	0.165	0.021	0.062	0.165	0.238	0.186
17	SO4 (mg/L)	80.6	13.9	8.2	9.1	22.1				99.8	159.4	40.3	10.1	13.9	29.8	21.1
	BIOLOGICAL/BACTERIOLOGICAL															
1	COD (mg/L)	21.0									43.0	25.0				
	TRACE & TOXIC															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ANKINGHAT (GG000I7)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Well Water

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Winter					Summer									
		Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	151	314	211	202	145				220	245	202	254	250	164	129
2	HAR_Total (mgCaCO3/L)	344	641	348	460	231				486	524	451	412	520	267	211
3	Na% (%)	50	42	33	13	31				37	44	38	44	34	31	31
4	RSC (-)	0.0	0.0	0.0	0.0	0.9				0.3	1.1	0.0	0.0	0.0	1.3	1.1
5	SAR (-)	4.2	3.9	2.0	0.7	1.6				2.8	3.9	2.9	3.4	2.5	1.6	1.5
	PESTICIDES															

HISTORY SHEET

		Water Year	: 2015-2016
Site	: KANPUR	Code	: GGOOOG7
State	: Uttar Pradesh	District	Unnao
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	: -	Sub Tributary	: -
Sub-Sub Tributary	: -	Local River	: Ganga
Division	: M Ganga Div. II, Lucknow	Sub-Division	: M Ganga SD, Kanpur
Drainage Area	: 87650 Sq. Km.	Bank	: Left
Latitude	: 26°26'00"	Longitude	: 80°23'00"
	Opening Date	Closing Date	
Gauge	: 01-05-1959		
Discharge	: 01-05-1959		
Sediment	: 21-07-1961		
Water Quality	: 01-02-1970		

Water Quality Datasheet for the period : 2015-2016

Station Name : KANPUR (GGOOOG7)

Local River : Ganga

River Water Analysis

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	87.89	912.4	1622	1395	386.9	176.1	322.0	131.0	107.9	124.0	108.8	86.61
2	Colour_Cod (-)	Light Brown	Brown	Brown	Brown	Brown	Brown	Light Brown	Brown	Brown	Brown	Brown	Brown
3	EC_GEN (μmho/cm)	380	270	260	260	300	350	270	360	300	280	310	310
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
5	pH_FLD (pH units)	8.0	8.0	7.5	7.0	8.0	7.5	8.0	7.5	7.5	8.5	8.5	8.5
6	pH_GEN (pH units)	8.5	8.2	8.3	8.1	8.4	8.5	8.4	8.1	8.6	8.4	8.3	8.3
7	TDS (mg/L)	228	156	153	151	166	210	164	220	191	170	190	192
8	Temp (deg C)	27.0	26.0	27.0	26.5	25.0	20.0	19.0	11.0	14.0	19.0	22.0	24.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	12.0	0.0	0.0	0.0	12.0	12.0	8.0	0.0	8.0	8.0	8.0	0.4
2	ALK-TOT (mgCaCO3/L)	100	84	92	72	88	88	80	112	108	84	96	65
3	B (mg/L)						0.35						0.32
4	Ca (mg/L)	46	31	31	31	33	38	34	52	41	40	32	22
5	Cl (mg/L)	19.9	9.9	8.2	9.9	12.1	9.9	8.2	9.9	9.9	8.2	19.9	22.0
6	CO3 (mg/L)	14.4	0.0	0.0	0.0	14.4	14.4	9.6	0.0	9.6	9.6	9.6	0.5
7	F (mg/L)	0.38	0.42	0.36	0.55	0.57	0.63	0.49	0.51	0.46	0.42	0.46	0.46
8	HCO3 (mg/L)	93	102	112	88	78	78	78	137	112	83	98	78
9	K (mg/L)	9.4	4.7	5.5	3.9	4.2	5.1	4.3	5.1	4.7	4.7	6.3	6.0
10	Mg (mg/L)	16.5	12.4	11.3	11.3	12.4	16.5	13.4	17.5	14.5	13.4	13.2	10.3
11	Na (mg/L)	14.5	6.2	6.0	5.5	6.4	6.2	5.5	6.7	6.0	6.0	10.4	13.6
12	NH3-N (mg N/L)	0.86	0.79	0.83	0.83	0.84	0.88	0.74	0.86	0.74	0.22	0.74	0.74
13	NO2+NO3 (mg N/L)	11.32	10.28	9.83	9.54	10.22	10.89	9.74	10.75	9.60	9.43	9.18	9.14
14	NO2-N (mgN/L)	0.39	0.33	0.30	0.15	0.41	0.52	0.50	0.66	0.63	0.61	0.63	0.64
15	NO3-N (mgN/L)	10.93	9.95	9.53	9.39	9.81	10.37	9.25	10.09	8.97	8.83	8.55	8.50
16	o-PO4-P (mg P/L)	0.269	0.196	0.186	0.196	0.196	0.217	0.186	0.196	0.165	0.527	0.196	
17	P-Tot (mgP/L)												0.590
18	SO4 (mg/L)	21.1	17.3	9.6	16.8	22.1	45.6	33.6	48.0	29.8	28.8	29.3	27.8
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	25.4	7.1	2.4	3.5	12.6	11.0	12.6	14.1	12.9	9.4	9.4	14.1

Water Quality Datasheet for the period : 2015-2016

Station Name : KANPUR (GGOOOG7)

Local River : Ganga

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

River Water Analysis

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
2	COD (mg/L)	28.0	10.0	8.0	6.0	25.0	23.0	18.0	16.0	17.0	19.0	20.0	20.0
3	DO (mg/L)	3.1	4.3	5.9	6.1	5.1	5.9	6.1	5.9	5.3	5.1	4.7	2.4
4	DO_SAT% (%)	39	53	74	75	61	65	66	53	51	55	54	28
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	116	78	78	78	82	95	86	129	103	99	81	56
2	HAR_Total (mgCaCO3/L)	185	129	125	125	133	164	142	202	163	155	136	99
3	Na% (%)	14	9	9	8	9	7	8	7	7	8	14	22
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.6
	PESTICIDES												

Water Quality Datasheet for the period : 2015-2016

Station Name : KANPUR (GG000G7)

Local River : Ganga

Well Water Analysis

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	02-11-2015	02-05-2016
		B	B
	PHYSICAL		
1	Colour_Cod (-)	Clear	Clear
2	EC_GEN (µmho/cm)	1660	1180
3	Odour_Code (-)	odour free	odour free
4	pH_FLD (pH units)	9.0	9.0
5	pH_GEN (pH units)	8.4	8.7
6	TDS (mg/L)	1010	719
7	Temp (deg C)	21.0	22.0
	CHEMICAL		
1	Alk-Phen (mgCaCO3/L)	39.8	32.6
2	ALK-TOT (mgCaCO3/L)	360	302
3	B (mg/L)	0.75	0.62
4	Ca (mg/L)	65	55
5	Cl (mg/L)	252.0	287.6
6	CO3 (mg/L)	48.0	39.3
7	F (mg/L)	0.48	0.40
8	HCO3 (mg/L)	342	288
9	K (mg/L)	7.9	41.1
10	Mg (mg/L)	54.7	46.4
11	Na (mg/L)	180.7	160.5
12	NH3-N (mg N/L)	0.38	0.29
13	NO2+NO3 (mg N/L)	1.31	1.18
14	NO2-N (mgN/L)	0.85	0.77
15	NO3-N (mgN/L)	0.46	0.41
16	o-PO4-P (mg P/L)	0.500	0.134
17	SO4 (mg/L)	22.5	27.8
	BIOLOGICAL/BACTERIOLOGICAL		
	TRACE & TOXIC		
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)	163	138

Water Quality Datasheet for the period : 2015-2016

Station Name : KANPUR (GG00OG7)

Local River : Ganga

Well Water Analysis

S.No	Parameters	02-11-2015	02-05-2016
		B	B
2	HAR_Total (mgCaCO3/L)	391	331
3	Na% (%)	50	48
4	RSC (-)	0.0	0.0
5	SAR (-)	4.0	3.9
	PESTICIDES		

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

Water Quality Summary for the period : 2015-2016

Station Name : KANPUR (GG00OG7)

Division : M Ganga Div. II, Lucknow

Local River : Ganga

Sub-Division : M Ganga SD, Kanpur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	219	3310	77.80	744.4
2	EC_GEN (µmho/cm)	12	380	260	304
3	pH_FLD (pH units)	12	8.5	7.0	7.9
4	pH_GEN (pH units)	12	8.6	8.1	8.3
5	TDS (mg/L)	12	228	151	183
6	Temp (deg C)	12	27.0	11.0	21.7
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	12.0	0.0	5.7
2	ALK-TOT (mgCaCO3/L)	12	112	65	89
3	B (mg/L)	2	0.35	0.32	0.33
4	Ca (mg/L)	12	52	22	36
5	Cl (mg/L)	12	22.0	8.2	12.3
6	CO3 (mg/L)	12	14.4	0.0	6.8
7	F (mg/L)	12	0.63	0.36	0.48
8	HCO3 (mg/L)	12	137	78	95
9	K (mg/L)	12	9.4	3.9	5.3
10	Mg (mg/L)	12	17.5	10.3	13.6
11	Na (mg/L)	12	14.5	5.5	7.7
12	NH3-N (mg N/L)	12	0.88	0.22	0.76
13	NO2+NO3 (mg N/L)	12	11.32	9.14	9.99
14	NO2-N (mgN/L)	12	0.66	0.15	0.48
15	NO3-N (mgN/L)	12	10.93	8.50	9.51
16	o-PO4-P (mg P/L)	11	0.527	0.165	0.23
17	P-Tot (mgP/L)	1	0.590	0.590	0.59
18	SO4 (mg/L)	12	48.0	9.6	27.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	25.4	2.4	11.2
2	COD (mg/L)	12	28.0	6.0	17.5
3	DO (mg/L)	12	6.1	2.4	5
4	DO_SAT% (%)	12	75	28	56
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	129	56	90
2	HAR_Total (mgCaCO3/L)	12	202	99	146
3	Na% (%)	12	22	7	10
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	0.6	0.2	0.3
	PESTICIDES				

Water Quality Summary for the period : 2015-2016

Station Name : KANPUR (GG00OG7)

Division : M Ganga Div. II, Lucknow

Local River : Ganga

Sub-Division : M Ganga SD, Kanpur

Well Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	EC_GEN (µmho/cm)	2	1660	1180	1420
2	pH_FLD (pH units)	2	9.0	9.0	9.0
3	pH_GEN (pH units)	2	8.7	8.4	8.5
4	TDS (mg/L)	2	1010	719	865
5	Temp (deg C)	2	22.0	21.0	21.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	2	39.8	32.6	36.2
2	ALK-TOT (mgCaCO3/L)	2	360	302	331
3	B (mg/L)	2	0.75	0.62	0.69
4	Ca (mg/L)	2	65	55	60
5	Cl (mg/L)	2	287.6	252.0	269.8
6	CO3 (mg/L)	2	48.0	39.3	43.6
7	F (mg/L)	2	0.48	0.40	0.44
8	HCO3 (mg/L)	2	342	288	315
9	K (mg/L)	2	41.1	7.9	24.5
10	Mg (mg/L)	2	54.7	46.4	50.6
11	Na (mg/L)	2	180.7	160.5	170.6
12	NH3-N (mg N/L)	2	0.38	0.29	0.34
13	NO2+NO3 (mg N/L)	2	1.31	1.18	1.24
14	NO2-N (mgN/L)	2	0.85	0.77	0.81
15	NO3-N (mgN/L)	2	0.46	0.41	0.43
16	o-PO4-P (mg P/L)	2	0.500	0.134	0.317
17	SO4 (mg/L)	2	27.8	22.5	25.2
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	2	163	138	150
2	HAR_Total (mgCaCO3/L)	2	391	331	361
3	Na% (%)	2	50	48	49
4	RSC (-)	2	0.0	0.0	0.0
5	SAR (-)	2	4.0	3.9	3.9
	PESTICIDES				

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KANPUR (GGOOOG7)

Local River : Ganga

River Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	Q (cumec)	805.0	1032	2269	410.3	5743	3119	2237	3696	705.2	880.7	190.1	248.9	363.6	305.7	663.2
2	EC_GEN (µmho/cm)	386	326	318	338	388	276	320	310	326	294	393	413	380	325	368
3	pH_FLD (pH units)	8.8	8.5	8.5	8.8	8.6	8.5	9.0	8.5	8.6	7.7	8.5	8.6	8.5	8.8	8.4
4	pH_GEN (pH units)	8.1	7.9	7.8	8.2	8.1	8.1	8.5	7.9	8.5	8.3	8.3	7.9	8.1	8.1	8.1
5	TDS (mg/L)			198	209	234	171	196	187	198	171			228	196	224
6	Temp (deg C)	32.6	32.0	31.6	32.1	30.9	30.2	30.7	30.8	27.6	26.3	21.5	20.8	21.0	20.0	21.9
7	Turb (NTU)				14.5	11.0	3.4	7.3	11.4	4.6					2.2	3.4
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	3.2	0.0	0.0		0.0	0.0	11.3	0.0	12.0	4.8	3.0	0.0	4.0		0.0
2	ALK-TOT (mgCaCO3/L)	261	275	122		148	165	156	135	142	87	266	330	119		192
3	B (mg/L)	0.12	0.12	0.06								0.10	0.10	0.10		
4	Ca (mg/L)	40	36	33	37	35	34	32	45	48	34	39	43	33	36	36
5	Cl (mg/L)	21.9	16.8	18.7	19.6	21.2	13.1	14.8	16.5	17.2	12.0	23.5	25.6	19.0	19.0	22.0
6	CO3 (mg/L)	3.8	0.0	0.0	2.9	3.8	3.8	13.8	0.0	14.4	5.8	3.6	0.0	4.8	4.8	3.6
7	F (mg/L)	0.24	0.32	0.48	0.59	0.47	0.23	0.23	0.36	0.37	0.46	0.27	0.44	0.55	0.58	0.32
8	Fe (mg/L)	0.2	0.2	0.1	0.1	0.0						0.1	0.2	0.1	0.2	0.0
9	HCO3 (mg/L)	155	168	149	157	208	208	156	179	144	95	159	201	135	182	229
10	K (mg/L)	8.1	7.4	5.6	6.3	8.2	4.5	3.0	3.0	5.7	5.5	15.2	10.3	5.7	6.8	7.1
11	Mg (mg/L)	22.5	19.8	17.9	20.8	20.0	20.8	20.0	23.1	20.4	12.8	20.9	23.7	19.5	21.7	22.9
12	Na (mg/L)	27.5	16.4	11.7	10.7	13.6	8.2	10.3	10.8	11.6	7.7	24.0	22.1	11.2	11.5	13.9
13	NH3-N (mg N/L)				0.14	0.15	0.01	0.00	0.00	0.00	0.83				0.14	0.00
14	NO2+NO3 (mg N/L)	0.77	1.10	0.89	1.28	1.40	3.15	5.90	9.97	11.00	10.24	1.06	0.93	1.10	1.27	1.25
15	NO2-N (mgN/L)	0.05	0.06	0.04	0.11	0.09	0.06	0.94	0.30	0.35	0.32	0.04	0.08	0.08	0.10	0.10
16	NO3-N (mgN/L)	0.71	1.04	0.86	1.16	1.31	3.08	4.95	9.67	10.65	9.92	1.02	0.84	1.02	1.17	1.15
17	o-PO4-P (mg P/L)	0.079	0.058	0.029	0.079	0.124	0.120	0.074	0.087	0.093	0.209	0.067	0.057	0.049	0.080	0.160
18	P-Tot (mgP/L)															
19	SiO2 (mg/L)	7.9	5.9	4.3								7.1	7.1	5.1		

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KANPUR (GGOOOG7)

Division : M Ganga Div. II, Lucknow

Local River : Ganga

River Water

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
20	SO4 (mg/L)	23.8	22.6	16.6	17.6	12.8	4.1	5.4	15.0	16.2	17.4	25.7	24.6	19.9	17.3	7.7
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	5.1	5.2	4.7	4.7	5.3	5.7	4.0	4.7	4.4	10.2	4.9	5.2	4.3	5.1	3.0
2	COD (mg/L)					4.0	16.6	22.2	30.0	24.8	15.4					
3	DO (mg/L)	7.2	6.2	7.2	6.9	5.3	6.0	5.6	6.0	5.3	4.9	7.4	7.2	7.3	6.7	7.1
4	DO_SAT% (%)	99	84	98	94	71	79	75	80	67	61	84	80	82	73	81
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	100	91	82	92	88	85	79	114	121	86	97	108	83	89	89
2	HAR_Total (mgCaCO3/L)	193	174	156	179	171	172	163	210	206	139	184	206	164	179	185
3	Na% (%)	22	16	13	11	14	9	12	10	10	10	21	18	12	12	14
4	RSC (-)	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
5	SAR (-)	0.8	0.5	0.4	0.3	0.5	0.3	0.3	0.3	0.3	0.3	0.8	0.7	0.4	0.4	0.4
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KANPUR (GGOOOG7)

Local River : Ganga

River Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	406.1	453.6	353.4	260.7	184.2	196.9	111.7	109.3	110.0	258.3	171.9	215.7	240.7	225.2	106.5
2	EC_GEN (µmho/cm)	405	335	330	418	320	447	513	480	580	420	463	397	453	320	300
3	pH_FLD (pH units)	8.3	8.8	8.9	8.3	7.6	8.5	9.0	8.7	9.0	9.0	8.7	8.3	9.0	8.2	8.5
4	pH_GEN (pH units)	8.0	8.1	8.4	8.4	8.4	8.0	7.8	8.3	8.6	8.5	8.3	8.4	8.6	8.6	8.3
5	TDS (mg/L)	248	202	198	232	196			285	352	257	282	239	275	188	184
6	Temp (deg C)	18.8	18.6	19.0	14.8	16.0	27.7	26.7	26.7	27.7	24.5	24.0	25.3	22.3	21.2	21.7
7	Turb (NTU)	2.5	4.2	4.4						3.1	2.2	4.1	4.0	4.6		
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	13.3	2.5	8.0	16.9	7.0	0.0	0.0	8.0		17.9	13.3	5.3	15.9	10.6	5.5
2	ALK-TOT (mgCaCO3/L)	168	156	180	147	97	291	341	130		246	197	156	222	115	82
3	B (mg/L)	0.14	0.12	0.10	0.13	0.35	0.11	0.11	0.11	0.20	0.12	0.10	0.16	0.12	0.33	0.32
4	Ca (mg/L)	35	44	48	43	41	42	46	38	41	42	37	46	64	33	31
5	Cl (mg/L)	13.0	18.5	21.4	30.4	9.5	24.0	27.9	24.0	25.2	25.3	20.0	16.0	27.5	27.3	16.7
6	CO3 (mg/L)	12.0	3.0	9.6	20.4	8.4	0.0	0.0	6.4	12.8	20.8	16.0	6.4	19.2	12.8	6.6
7	F (mg/L)	0.24	0.31	0.33	0.40	0.52	0.35	0.65	0.63	0.75	0.40	0.27	0.35	0.48	0.37	0.44
8	Fe (mg/L)						0.1	0.2	0.1	0.3	0.0					
9	HCO3 (mg/L)	192	184	200	138	101	177	208	150	224	259	208	177	221	114	86
10	K (mg/L)	3.4	3.4	3.9	5.9	4.8	12.6	10.8	6.5	10.0	8.6	3.4	3.1	6.6	6.5	5.6
11	Mg (mg/L)	22.2	25.0	24.0	23.5	15.5	21.3	25.5	21.0	23.4	24.1	23.4	24.4	29.9	18.9	12.3
12	Na (mg/L)	9.1	13.0	14.7	18.9	6.1	25.3	22.8	12.9	16.6	15.0	13.2	11.5	18.6	18.4	10.0
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.27	0.81			0.17	0.25	0.07	0.00	0.00	0.00	0.86	0.57
14	NO2+NO3 (mg N/L)	5.67	9.07	11.75	12.45	10.25	1.51	0.99	1.32	1.87	1.57	6.67	9.78	14.30	10.24	9.25
15	NO2-N (mgN/L)	0.10	0.34	0.29	0.30	0.58	0.05	0.08	0.10	0.16	0.12	2.87	0.29	0.43	0.15	0.63
16	NO3-N (mgN/L)	5.57	8.72	11.45	12.16	9.67	1.46	0.91	1.21	1.71	1.44	3.80	9.48	13.87	10.09	8.62
17	o-PO4-P (mg P/L)	0.106	0.132	0.310	0.225	0.191	0.086	0.069	0.072	0.172	0.193	0.103	0.072	0.138	0.251	0.362
18	P-Tot (mgP/L)															0.590
19	SiO2 (mg/L)						8.3	7.4	5.1							

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KANPUR (GGOOOG7)

Local River : Ganga

River Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Winter					Summer									
		Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
20	SO4 (mg/L)	5.5	10.3	15.0	28.0	39.2	28.3	24.8	22.7	22.1	7.0	6.4	11.0	20.8	27.0	28.6
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	3.6	3.6	4.2	3.3	12.6	4.7	5.6	6.1	7.6	6.3	4.2	3.3	4.4	10.3	10.9
2	COD (mg/L)	11.9	17.5	17.5	8.5	18.5					36.5	32.7	16.3	25.3	19.0	19.7
3	DO (mg/L)	5.5	5.4	6.3	6.5	5.8	7.4	7.0	6.7	5.4	6.7	5.7	3.5	5.9	5.7	4.0
4	DO_SAT% (%)	59	61	68	64	59	94	87	83	67	79	68	43	68	63	46
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	87	110	120	108	103	106	115	96	102	106	92	115	161	83	78
2	HAR_Total (mgCaCO3/L)	180	214	220	205	168	195	221	183	200	207	189	216	285	162	130
3	Na% (%)	10	12	12	16	7	21	18	13	15	13	13	10	12	19	14
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.8	0.2	0.0	0.0	0.0	0.0
5	SAR (-)	0.3	0.4	0.4	0.6	0.2	0.8	0.7	0.4	0.5	0.5	0.4	0.3	0.5	0.6	0.4
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KANPUR (GGOOOG7)

Local River : Ganga

Well Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Flood										Wet				
		Jun - Oct										Nov - Mar				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	EC_GEN (µmho/cm)	2090	1928	2284								1570	1720	1950	1452	1900
2	pH_FLD (pH units)	7.5	7.5	7.4								7.5	7.5	7.0	8.5	8.5
3	pH_GEN (pH units)	7.8	7.8	7.7								7.9	7.6	7.9	7.8	7.9
4	TDS (mg/L)			1370										1060	870	1150
5	Temp (deg C)	23.3	25.7	25.6								24.0	23.5	24.1	26.0	27.5
6	Turb (NTU)														9.7	2.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	2.4	0.0	0.0								0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	560	871	368								464	798	362	280	188
3	B (mg/L)	0.09	0.09	0.15								0.08	0.13	0.17	0.20	0.00
4	Ca (mg/L)	75	51	43								58	40	45	46	55
5	Cl (mg/L)	91.3	79.3	189.9								69.0	59.1	181.8	76.0	138.1
6	CO3 (mg/L)	2.9	0.0	0.0								0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.64	0.36	0.63								0.28	0.38	0.60	0.65	0.80
8	Fe (mg/L)	2.6	0.2	0.2								0.2	0.2	0.2		
9	HCO3 (mg/L)	677	531	444								566	486	442	342	229
10	K (mg/L)	30.2	28.9	27.3								23.4	24.1	26.7	25.0	31.7
11	Mg (mg/L)	66.0	39.4	39.3								42.3	34.3	42.8	45.3	49.5
12	Na (mg/L)	202.5	177.5	136.3								158.5	139.6	124.0	47.2	88.8
13	NH3-N (mg N/L)														0.17	0.34
14	NO2+NO3 (mg N/L)	6.33	4.61	4.51								4.35	3.67	4.14	4.73	4.75
15	NO2-N (mgN/L)	0.16	0.07	0.08								0.08	0.05	0.12	0.10	0.14
16	NO3-N (mgN/L)	6.17	4.53	4.44								4.27	3.62	4.02	4.64	4.61
17	o-PO4-P (mg P/L)	0.242	0.132	0.132								0.207	0.062	0.059	0.072	0.114
18	SiO2 (mg/L)	19.9	14.1	14.9								14.0	11.6	15.6		
19	SO4 (mg/L)	79.6	62.9	71.7								57.0	57.0	65.8	48.0	159.4
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KANPUR (GG000G7)

Local River : Ganga

Well Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov -				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
1	COD (mg/L)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	188	127	108								144	100	113	116	138
2	HAR_Total (mgCaCO3/L)	463	291	272								320	243	291	305	344
3	Na% (%)	47	54	49								50	53	46	23	34
4	RSC (-)	2.2	2.9	1.9								2.9	3.1	1.5	0.0	0.0
5	SAR (-)	4.1	4.5	3.6								3.9	3.9	3.2	1.2	2.1
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KANPUR (GG000G7)

Local River : Ganga

Well Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	EC_GEN (µmho/cm)	2600	1790	1770	1800	1660	1970	2333	2043	1450	2000	2300	2000	1990	2000	1180
2	pH_FLD (pH units)	8.5	8.5	7.5		9.0	7.5	7.5	7.7	8.5	8.5	8.0	8.5	8.5		9.0
3	pH_GEN (pH units)	7.1	7.4	8.3	8.5	8.4	7.9	7.9	7.8	8.1	8.0	8.0	8.1	8.2	8.9	8.7
4	TDS (mg/L)	1570	1080	1060	1000	1010			1220	870	1215	1390	1210	1200	1100	719
5	Temp (deg C)	26.5	25.0	22.5		21.0	24.0	24.5	25.0	26.0	26.0	26.0	25.0	23.0		22.0
6	Turb (NTU)	3.2	7.6	6.5						1.1	2.1	3.5	7.9	7.2		
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0			79.7	39.8	0.0	2.7	21.9	0.0	0.0	0.0	0.0	0.0	47.8	32.6
2	ALK-TOT (mgCaCO3/L)	504			500	360	500	840	444	288	350	480	408	544	444	302
3	B (mg/L)	0.16	0.10	0.10	0.12	0.75	0.13	0.13	0.17	0.24	0.10	0.10	0.14	0.14	1.00	0.62
4	Ca (mg/L)	65	50	107	74	65	57	46	49	52	58	60	119	126	77	55
5	Cl (mg/L)	250.3	112.2	136.3	262.3	252.0	82.1	69.3	197.6	90.2	168.3	162.2	148.0	192.4	263.4	287.5
6	CO3 (mg/L)	0.0	0.0	0.0	96.0	48.0	0.0	3.2	17.6	0.0	0.0	0.0	0.0	0.0	57.6	39.3
7	F (mg/L)	0.95	0.61	0.53	0.70	0.48	0.54	0.80	0.72	0.72	0.86	0.70	0.72	0.70	0.67	0.40
8	Fe (mg/L)						0.2	0.3	0.3							
9	HCO3 (mg/L)	615	439	449	415	342	610	509	521	351	427	586	498	664	425	288
10	K (mg/L)	39.9	17.6	14.9	48.1	7.9	28.7	28.5	30.9	27.8	32.5	27.0	20.7	18.4	55.1	41.1
11	Mg (mg/L)	83.5	65.0	42.3	39.2	54.7	44.3	38.2	52.2	47.4	51.5	79.3	49.5	70.1	72.2	46.4
12	Na (mg/L)	163.5	80.7	88.3	259.9	180.7	190.4	145.8	138.6	55.2	96.1	102.3	98.7	125.8	206.3	160.5
13	NH3-N (mg N/L)	0.34	0.10	0.20	0.51	0.38				0.29	0.41	1.97	0.25	0.39	0.44	0.29
14	NO2+NO3 (mg N/L)	7.93	4.12	6.78	6.83	1.31	5.05	18.77	4.04	4.16	5.91	5.61	7.81	9.32	10.02	1.18
15	NO2-N (mgN/L)	0.29	0.19	0.19	0.39	0.85	0.10	0.08	0.15	0.14	0.15	0.29	0.39	0.50	0.91	0.77
16	NO3-N (mgN/L)	7.64	3.92	6.59	6.45	0.46	4.96	18.69	3.89	4.02	5.76	5.32	7.43	8.83	9.11	0.41
17	o-PO4-P (mg P/L)	0.165	0.062	0.062	0.124	0.500	0.165	0.093	0.127	0.083	0.134	0.930	0.134	0.134	0.186	0.134
18	SiO2 (mg/L)						13.9	16.1	17.7							
19	SO4 (mg/L)	159.4	45.1	48.0	21.1	22.5	61.1	76.6	64.0	140.2	119.0	121.0	61.9	30.2	28.8	27.8
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : KANPUR (GGOOOG7)

Local River : Ganga

Well Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Winter					Summer									
		Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	COD (mg/L)	33.0									49.0	58.0				
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	164	125	267	185	163	142	116	122	129	146	151	297	314	194	138
2	HAR_Total (mgCaCO3/L)	511	395	443	349	391	327	275	340	326	361	481	503	606	494	331
3	Na% (%)	39	30	30	58	50	53	51	45	25	34	30	29	30	44	48
4	RSC (-)	0.0	0.0	0.0	3.1	0.0	3.5	3.0	2.4	0.0	0.0	0.1	0.0	0.0	0.0	0.0
5	SAR (-)	3.2	1.8	1.8	6.1	4.0	4.6	3.8	3.3	1.3	2.2	2.0	1.9	2.2	4.1	3.9
	PESTICIDES															

HISTORY SHEET

		Water Year	: 2015-2016
Site	: BHITAURA	Code	: GG000E7
State	: Uttar Pradesh	District	Fatehpur
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	:	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: GANGA
Division	: M Ganga Div. II, Lucknow	Sub-Division	: M Ganga SD, Kanpur
Drainage Area	: 90400 Sq. Km.	Bank	: Right
Latitude	: 26°02'30"	Longitude	: 80°50'00"
	Opening Date	Closing Date	
Gauge	: 21-02-1971		
Discharge	: 21-02-1971		
Sediment	: 28-02-1977		
Water Quality	: 01-06-1976		

Water Quality Datasheet for the period : 2015-2016

Station Name : BHITAURA (GG000E7)

Local River : GANGA

River Water Analysis

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	91.53	150.9	2107	2212	628.7	239.6	316.7	131.7	179.2	100.9	81.14	60.54
2	Colour_Cod (-)	Light Green	Light Green	Brown	Brown	Light Brown	Light Green	Light Green	Light Brown	Light Green	Light Green	Light Green	Light Brown
3	EC_GEN (µmho/cm)	460	450	280	250	340	390	310	450	370	360	440	690
4	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
5	pH_FLD (pH units)	8.0	8.0	7.0	7.0	7.0	7.5	8.0	8.0	7.0	7.0	7.5	7.5
6	pH_GEN (pH units)	8.3	8.2	8.3	8.1	8.0	8.2	8.4	8.0	8.1	7.9	7.8	8.4
7	TDS (mg/L)	275	270	166	149	205	234	188	275	230	220	270	410
8	Temp (deg C)	31.0	28.0	30.0	30.0	31.0	28.0	20.0	17.0	17.0	21.0	24.0	29.0
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	76	96	72	68	84	96	80	128	96	92	108	0
3	B (mg/L)						0.18						0.38
4	Ca (mg/L)	46	31	29	25	31	38	33	52	40	38	37	29
5	Cl (mg/L)	25.9	35.9	24.1	9.9	9.9	13.8	12.1	13.8	12.1	9.9	38.0	34.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	0.0	14.4	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.25	0.21	0.25	0.27	0.27	0.32	0.29	0.36	0.30	0.29	0.49	0.53
8	HCO3 (mg/L)	93	117	88	83	102	117	68	156	117	112	132	117
9	K (mg/L)	7.8	7.4	4.3	3.5	3.9	4.3	3.9	5.5	4.3	3.9	10.2	12.3
10	Mg (mg/L)	14.5	17.5	15.4	13.4	15.4	20.7	16.5	22.7	19.6	18.6	16.8	33.3
11	Na (mg/L)	16.3	27.6	17.3	5.5	6.7	7.4	6.4	7.8	6.7	6.2	20.2	22.8
12	NH3-N (mg N/L)	0.86	0.86	0.72	0.72	0.84	0.88	0.65	0.95	0.86	0.84	0.86	0.96
13	NO2+NO3 (mg N/L)	15.57	15.26	13.22	12.13	12.92	13.29	12.10	13.17	10.96	10.82	10.65	11.45
14	NO2-N (mgN/L)	0.72	0.69	0.47	0.22	0.59	0.68	0.61	0.70	0.59	0.59	0.70	0.85
15	NO3-N (mgN/L)	14.85	14.57	12.75	11.91	12.33	12.61	11.49	12.47	10.37	10.23	9.95	10.60
16	o-PO4-P (mg P/L)	0.258	0.238	0.186	0.165	0.196	0.227	0.196	0.217	0.196	0.186	0.289	0.165
17	SO4 (mg/L)	25.0	22.1	16.8	11.5	19.2	33.6	34.1	45.6	39.4	40.8	44.2	46.1
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	15.7	15.7	3.9	3.2	24.7	18.8	20.0	8.2	12.5	14.1	19.6	7.8
2	COD (mg/L)	24.0	18.0	10.0	8.0	28.0	27.0	24.0	12.0	19.0	21.0	29.0	18.0

Water Quality Datasheet for the period : 2015-2016

Station Name : BHITAURA (GG000E7)

Local River : GANGA

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

River Water Analysis

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
3	DO (mg/L)	4.3	3.3	5.1	5.7	5.1	4.9	5.1	7.1	3.3	3.1	1.0	2.2
4	DO_SAT% (%)	58	43	67	75	69	63	56	73	34	35	12	28
	TRACE & TOXIC												
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	116	78	73	62	78	95	82	129	99	95	93	72
2	HAR_Total (mgCaCO3/L)	176	150	137	118	142	181	150	224	181	172	163	211
3	Na% (%)	16	27	21	9	9	8	8	7	7	7	20	18
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.5	1.0	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.7	0.7
	PESTICIDES												

Water Quality Datasheet for the period : 2015-2016

Station Name : BHITAURA (GG000E7)

Local River : GANGA

Well Water Analysis

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	02-11-2015	02-05-2016
		B	B
	PHYSICAL		
1	Colour_Cod (-)	Clear	Clear
2	EC_GEN (µmho/cm)	770	960
3	Odour_Code (-)	odour free	odour free
4	pH_FLD (pH units)	8.0	7.5
5	pH_GEN (pH units)	8.6	7.9
6	TDS (mg/L)	468	586
7	Temp (deg C)	27.0	27.0
	CHEMICAL		
1	Alk-Phen (mgCaCO3/L)	31.9	38.3
2	ALK-TOT (mgCaCO3/L)	160	233
3	B (mg/L)	0.25	0.36
4	Ca (mg/L)	15	24
5	Cl (mg/L)	80.2	145.6
6	CO3 (mg/L)	38.4	46.2
7	F (mg/L)	1.05	1.06
8	HCO3 (mg/L)	117	190
9	K (mg/L)	5.1	15.6
10	Mg (mg/L)	31.0	50.5
11	Na (mg/L)	54.3	77.3
12	NH3-N (mg N/L)	0.51	0.53
13	NO2+NO3 (mg N/L)	7.53	1.46
14	NO2-N (mgN/L)	0.80	0.86
15	NO3-N (mgN/L)	6.73	0.60
16	o-PO4-P (mg P/L)	0.176	0.186
17	SO4 (mg/L)	21.6	31.7
	BIOLOGICAL/BACTERIOLOGICAL		
	TRACE & TOXIC		
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)	38	60

Water Quality Datasheet for the period : 2015-2016

Station Name : BHITAURA (GG000E7)

Local River : GANGA

Well Water Analysis

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	02-11-2015	02-05-2016
		B	B
2	HAR_Total (mgCaCO3/L)	167	271
3	Na% (%)	41	37
4	RSC (-)	0.0	0.0
5	SAR (-)	1.8	2.1
	PESTICIDES		

Water Quality Summary for the period : 2015-2016

Station Name : BHITAURA (GG000E7)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Sub-Division : M Ganga SD, Kanpur

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	212	4618	60.54	1027
2	EC_GEN (µmho/cm)	12	690	250	399
3	pH_FLD (pH units)	12	8.0	7.0	7.5
4	pH_GEN (pH units)	12	8.4	7.8	8.1
5	TDS (mg/L)	12	410	149	241
6	Temp (deg C)	12	31.0	17.0	25.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	11	12.0	0.0	1.1
2	ALK-TOT (mgCaCO3/L)	11	128	68	91
3	B (mg/L)	2	0.38	0.18	0.28
4	Ca (mg/L)	12	52	25	36
5	Cl (mg/L)	12	38.0	9.9	20
6	CO3 (mg/L)	12	14.4	0.0	1.2
7	F (mg/L)	12	0.53	0.21	0.32
8	HCO3 (mg/L)	12	156	68	109
9	K (mg/L)	12	12.3	3.5	5.9
10	Mg (mg/L)	12	33.3	13.4	18.7
11	Na (mg/L)	12	27.6	5.5	12.6
12	NH3-N (mg N/L)	12	0.96	0.65	0.83
13	NO2+NO3 (mg N/L)	12	15.57	10.65	12.63
14	NO2-N (mgN/L)	12	0.85	0.22	0.62
15	NO3-N (mgN/L)	12	14.85	9.95	12.01
16	o-PO4-P (mg P/L)	12	0.289	0.165	0.21
17	SO4 (mg/L)	12	46.1	11.5	31.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	24.7	3.2	13.7
2	COD (mg/L)	12	29.0	8.0	19.8
3	DO (mg/L)	12	7.1	1.0	4.2
4	DO_SAT% (%)	12	75	12	51
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	129	62	89
2	HAR_Total (mgCaCO3/L)	12	224	118	167
3	Na% (%)	12	27	7	13
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	1.0	0.2	0.4
	PESTICIDES				

Water Quality Summary for the period : 2015-2016

Station Name : BHITAURA (GG000E7)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Sub-Division : M Ganga SD, Kanpur

Well Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	EC_GEN (µmho/cm)	2	960	770	865
2	pH_FLD (pH units)	2	8.0	7.5	7.8
3	pH_GEN (pH units)	2	8.6	7.9	8.3
4	TDS (mg/L)	2	586	468	527
5	Temp (deg C)	2	27.0	27.0	27.0
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	2	38.3	31.9	35.1
2	ALK-TOT (mgCaCO3/L)	2	233	160	196
3	B (mg/L)	2	0.36	0.25	0.31
4	Ca (mg/L)	2	24	15	20
5	Cl (mg/L)	2	145.6	80.2	112.9
6	CO3 (mg/L)	2	46.2	38.4	42.3
7	F (mg/L)	2	1.06	1.05	1.06
8	HCO3 (mg/L)	2	190	117	154
9	K (mg/L)	2	15.6	5.1	10.4
10	Mg (mg/L)	2	50.5	31.0	40.8
11	Na (mg/L)	2	77.3	54.3	65.8
12	NH3-N (mg N/L)	2	0.53	0.51	0.52
13	NO2+NO3 (mg N/L)	2	7.53	1.46	4.49
14	NO2-N (mgN/L)	2	0.86	0.80	0.83
15	NO3-N (mgN/L)	2	6.73	0.60	3.67
16	o-PO4-P (mg P/L)	2	0.186	0.176	0.181
17	SO4 (mg/L)	2	31.7	21.6	26.6
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	2	60	38	49
2	HAR_Total (mgCaCO3/L)	2	271	167	219
3	Na% (%)	2	41	37	39
4	RSC (-)	2	0.0	0.0	0.0
5	SAR (-)	2	2.1	1.8	1.9
	PESTICIDES				

Water Quality Seasonal Average for the period: 2006-2016

Station Name : BHITAURA (GG000E7)

Local River : GANGA

River Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov - Dec				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	Q (cumec)	959.7	1055	2416	486.8	7010	3759	2261	3980	864.8	1038	289.6	353.8	452.7	441.4	695.8
2	EC_FLD (µmho/cm)															
3	EC_GEN (µmho/cm)	398	360	418	406	478	256	368	310	360	356	428	440	423	328	370
4	pH_FLD (pH units)		7.5	7.3	7.6	7.1	7.5	7.4	7.8	8.4	7.4	7.8	7.8	7.4	7.5	7.3
5	pH_GEN (pH units)	7.8	7.9	8.0	8.0	8.2	8.1	8.6	7.9	8.4	8.2	8.0	8.0	8.1	8.2	8.0
6	TDS (mg/L)			255	244	288	154	224	186	219	213			255	198	224
7	Temp (deg C)	30.6	29.8	29.6	27.0	29.4	28.0	30.1	30.6	31.7	30.0	19.8	19.0	21.0	15.9	18.0
8	Turb (NTU)				22.9	12.4	4.6	5.8	11.5	4.1					2.1	2.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0		6.4	5.0	10.4	0.0	5.6	0.0	3.0	2.7	0.0		0.0
2	ALK-TOT (mgCaCO3/L)	263	245	162		182	134	146	141	126	79	302	352	174		168
3	B (mg/L)	0.05	0.05	0.05								0.07	0.07	0.09		
4	Ca (mg/L)	34	40	43	46	35	28	30	42	40	32	43	41	43	46	31
5	Cl (mg/L)	17.6	18.7	20.7	29.3	30.0	18.0	20.7	16.8	23.6	21.2	21.6	24.1	24.8	29.0	32.6
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	7.7	4.8	12.5	0.0	6.7	0.0	3.6	2.4	0.0	8.4	0.0
7	F (mg/L)	0.25	0.30	0.43	0.56	0.49	0.27	0.37	0.28	0.37	0.25	0.29	0.50	0.40	0.50	0.38
8	Fe (mg/L)	0.2	0.2	0.2	0.3							0.3	0.3	0.3	0.3	
9	HCO3 (mg/L)	160	150	197	244	207	161	152	172	140	97	181	211	212	257	181
10	K (mg/L)	8.5	8.5	9.3	10.2	9.8	4.1	3.7	7.4	6.0	5.4	14.4	11.7	9.0	9.8	8.6
11	Mg (mg/L)	18.8	21.7	23.0	28.7	19.6	15.9	20.2	20.8	19.8	15.2	24.0	23.2	26.6	26.1	16.3
12	Na (mg/L)	22.2	19.4	15.0	17.2	20.6	11.6	14.1	11.0	15.7	14.7	27.4	22.7	17.7	16.6	20.5
13	NH3-N (mg N/L)				0.13	0.21	0.09	0.17	0.26	0.45	0.80				0.11	0.12
14	NO2+NO3 (mg N/L)	2.18	1.81	1.06	1.20	1.77	3.20	7.81	9.75	11.86	13.82	1.34	2.08	0.83	1.22	1.49
15	NO2-N (mgN/L)	0.06	0.05	0.05	0.13	0.12	0.06	0.27	0.33	0.46	0.54	0.04	0.09	0.09	0.09	0.12
16	NO3-N (mgN/L)	2.12	1.76	1.01	1.07	1.65	3.14	7.54	9.42	11.41	13.28	1.30	2.00	0.74	1.13	1.36
17	o-PO4-P (mg P/L)	0.095	0.068	0.081	0.093	0.124	0.114	0.095	0.095	0.116	0.209	0.098	0.075	0.096	0.075	0.116
18	P-Tot (mgP/L)															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : BHITAURA (GG000E7)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

River Water

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
19	SiO ₂ (mg/L)	8.0	7.2	6.0								7.6	7.8	7.4		
20	SO ₄ (mg/L)	23.8	27.0	19.7	24.4	18.9	4.3	8.4	11.7	14.4	18.9	31.7	26.8	23.8	21.4	9.4
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD ₃₋₂₇ (mg/L)					4.0	2.6	3.6	4.1	4.8	12.6					2.6
2	COD (mg/L)					11.5	7.6	11.0	28.8	22.4	17.6					
3	DO (mg/L)	6.7	7.1	6.8	7.2	5.7	5.8	6.5	5.5	5.4	4.7	7.2	7.4	6.7	7.1	7.4
4	DO_SAT% (%)	90	93	89	90	75	74	86	74	73	62	78	79	75	71	78
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO ₃ /L)	84	100	107	116	87	70	74	104	100	81	107	102	109	114	76
2	HAR_Total (mgCaCO ₃ /L)	162	190	202	236	169	136	158	191	182	145	206	198	219	223	144
3	Na% (%)	21	17	13	13	21	15	16	11	15	16	21	19	14	13	22
4	RSC (-)	0.0	0.0	0.0	0.1	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.1
5	SAR (-)	0.8	0.6	0.5	0.5	0.7	0.4	0.5	0.3	0.5	0.5	0.8	0.7	0.5	0.5	0.7
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : BHITAURA (GG000E7)

Local River : GANGA

River Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	411.4	486.3	463.2	273.4	216.8	256.7	138.2	180.6	107.0	308.4	178.0	169.0	262.0	210.0	80.86
2	EC_FLD (µmho/cm)				490											
3	EC_GEN (µmho/cm)	393	348	340	415	380	410	617	567	573	417	520	420	497	390	497
4	pH_FLD (pH units)	7.4	7.8	8.1	8.0	7.6	8.0	7.8	8.0	7.3	7.0	7.2	8.0	7.8	8.2	7.3
5	pH_GEN (pH units)	8.3	8.2	8.4	8.3	8.2	8.0	8.0	8.1	8.4	8.2	8.2	8.5	8.2	8.6	8.0
6	TDS (mg/L)	239	210	204	225	232			348	350	252	317	252	300	212	300
7	Temp (deg C)	19.3	19.6	18.8	20.1	20.5	25.0	23.5	22.2	22.5	22.5	22.2	25.7	24.2	22.7	24.7
8	Turb (NTU)	2.6	5.4	4.3						3.3	1.6	3.0	4.8	3.2		
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	8.0	2.5	12.0	12.9	3.0	0.0	0.0	8.0		0.0	5.3	4.6	6.0	15.9	0.0
2	ALK-TOT (mgCaCO3/L)	163	157	173	167	100	284	376	222		176	203	159	252	140	100
3	B (mg/L)	0.14	0.12	0.10	0.85	0.18	0.06	0.04	0.19	0.20	0.12	0.16	0.16	0.14	0.21	0.38
4	Ca (mg/L)	31	44	48	52	40	43	54	52	49	34	40	46	71	37	35
5	Cl (mg/L)	19.4	19.0	20.4	32.0	12.9	16.7	27.9	30.1	32.1	33.4	26.7	17.3	35.4	31.8	27.3
6	CO3 (mg/L)	7.2	3.0	14.4	15.6	3.6	0.0	0.0	6.4	14.4	0.0	6.4	5.6	4.8	16.0	0.0
7	F (mg/L)	0.38	0.35	0.31	0.52	0.32	0.27	0.72	0.56	0.68	0.43	0.49	0.34	0.47	0.30	0.44
8	Fe (mg/L)						0.2	0.3	0.4	0.4						
9	HCO3 (mg/L)	185	185	182	172	115	168	229	265	283	197	234	182	278	111	120
10	K (mg/L)	3.4	3.5	4.3	7.1	4.5	11.7	13.4	11.6	12.0	8.6	6.0	3.1	6.8	6.9	8.8
11	Mg (mg/L)	20.8	25.8	25.0	22.9	19.9	21.3	27.2	31.6	28.6	18.2	27.5	24.8	33.7	18.9	22.9
12	Na (mg/L)	13.4	13.3	14.3	20.5	7.1	24.8	24.8	21.8	20.4	20.9	17.0	12.3	22.5	22.0	16.4
13	NH3-N (mg N/L)	0.20	0.15	0.29	0.29	0.83			0.21	0.13	0.17	0.28	0.25	0.43	0.74	0.89
14	NO2+NO3 (mg N/L)	9.72	8.44	12.81	14.16	12.38	1.70	2.10	1.25	1.65	1.82	11.54	9.80	16.55	15.54	10.97
15	NO2-N (mgN/L)	0.22	0.38	0.27	0.43	0.65	0.05	0.10	0.13	0.12	0.41	0.33	0.46	0.53	0.50	0.72
16	NO3-N (mgN/L)	9.49	8.06	12.54	13.73	11.73	1.65	2.00	1.12	1.53	1.40	11.21	9.34	16.02	15.04	10.26
17	o-PO4-P (mg P/L)	0.150	0.150	0.132	0.279	0.209	0.100	0.096	0.103	0.072	0.124	0.162	0.131	0.172	0.427	0.214
18	P-Tot (mgP/L)															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : BHITAURA (GG000E7)

Local River : GANGA

River Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Winter					Summer									
		Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
19	SiO ₂ (mg/L)						6.7	8.3	8.7							
20	SO ₄ (mg/L)	7.0	12.0	16.4	30.2	38.2	31.2	27.4	29.1	26.1	10.1	9.8	10.7	22.1	37.9	43.7
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD ₃₋₂₇ (mg/L)	3.7	2.5	3.5	3.6	14.9				4.1	5.9	3.8	2.1	4.8	8.5	13.8
2	COD (mg/L)	9.4	8.0	14.5	11.0	20.5					29.0	10.7	14.7	26.3	18.7	22.7
3	DO (mg/L)	6.5	6.8	4.6	6.1	5.1	8.4	8.3	7.4	6.7	7.0	6.5	6.1	6.2	5.0	2.1
4	DO_SAT% (%)	71	76	50	68	57	102	98	85	77	80	74	74	74	57	25
5	FCol-MPN (MPN/100mL)															
6	Tcol-MPN (MPN/100mL)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO ₃ /L)	78	111	119	130	101	107	135	130	123	85	100	115	176	92	86
2	HAR_Total (mgCaCO ₃ /L)	165	218	224	226	184	246	248	262	242	160	215	218	317	170	182
3	Na% (%)	15	12	12	17	8	20	17	15	15	21	14	11	13	21	15
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.5	0.4	0.4	0.6	0.2	0.8	0.7	0.6	0.6	0.7	0.5	0.4	0.5	0.7	0.5
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : BHITAURA (GG000E7)

Local River : GANGA

Well Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov - Dec				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	EC_GEN (µmho/cm)	982	822	844								828	798	663	620	920
2	pH_FLD (pH units)		8.3	8.2									8.3	7.5	8.5	8.5
3	pH_GEN (pH units)	8.0	7.9	8.0								8.0	8.0	8.1	8.5	8.2
4	TDS (mg/L)			509										399	380	550
5	Temp (deg C)	26.3	26.0	26.0								24.3	23.8	24.9	25.0	24.0
6	Turb (NTU)														3.0	5.6
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	2.4	0.0	4.8								0.0	0.0	0.0	47.8	0.0
2	ALK-TOT (mgCaCO3/L)	784	621	304								690	630	293	392	184
3	B (mg/L)	0.08	0.08	0.04								0.04	0.04	0.07	0.16	0.16
4	Ca (mg/L)	62	49	42								50	40	44	48	55
5	Cl (mg/L)	38.8	56.4	40.8								42.5	39.1	42.1	56.1	236.4
6	CO3 (mg/L)	2.9	0.0	5.8								0.0	0.0	0.0	57.6	0.0
7	F (mg/L)	0.67	0.45	0.35								0.27	0.32	0.31	0.46	0.61
8	Fe (mg/L)	0.2	0.2	0.1								0.1	0.1	0.1		
9	HCO3 (mg/L)	475	379	359								421	384	357	361	224
10	K (mg/L)	24.8	22.7	19.9								22.5	21.0	14.9	21.1	34.4
11	Mg (mg/L)	52.1	35.5	34.3								36.4	31.5	34.5	37.2	49.5
12	Na (mg/L)	69.0	73.6	29.2								55.5	68.3	31.6	38.2	152.3
13	NH3-N (mg N/L)														0.17	0.34
14	NO2+NO3 (mg N/L)	1.02	1.46	1.32								0.96	1.21	1.26	3.68	7.10
15	NO2-N (mgN/L)	0.07	0.06	0.03								0.04	0.05	0.10	0.14	0.14
16	NO3-N (mgN/L)	0.95	1.41	1.29								0.91	1.17	1.17	3.55	6.96
17	o-PO4-P (mg P/L)	0.149	0.081	0.062								0.233	0.028	0.052	0.083	0.114
18	SiO2 (mg/L)	16.2	12.3	13.7								11.3	9.4	10.4		
19	SO4 (mg/L)	31.0	31.5	27.2								25.2	29.6	10.4	9.6	159.4
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : BHITAURA (GG000E7)

Local River : GANGA

Well Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov -				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
1	COD (mg/L)															
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	154	122	106								126	100	111	121	138
2	HAR_Total (mgCaCO3/L)	371	270	249								277	231	254	275	344
3	Na% (%)	28	35	19								29	37	20	22	46
4	RSC (-)	1.2	0.9	1.1								1.4	1.7	0.8	2.4	0.0
5	SAR (-)	1.6	2.0	0.8								1.5	2.0	0.9	1.0	3.6
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : BHITAURA (GG000E7)

Local River : GANGA

Well Water

Division : M Ganga Div. II, Lucknow

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	EC_GEN (µmho/cm)	1030	800	750	830	770	837	1040	863		920	870	930	920	880	960
2	pH_FLD (pH units)	8.5	8.0	8.0		8.0		8.5	8.7		8.5	9.5	8.5	8.0		7.5
3	pH_GEN (pH units)	7.4	8.1	8.5	8.4	8.6	8.2	8.1	8.0		8.2	8.2	8.0	8.5	8.9	7.9
4	TDS (mg/L)	620	490	450	460	468			512		550	540	560	550	520	586
5	Temp (deg C)	24.0	25.0	28.0		27.0	24.0	24.7	24.3		24.0	26.0	27.0	26.0		27.0
6	Turb (NTU)	1.2	3.8	5.0							5.6	2.9	5.5	7.0		
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0			64.2	31.9	10.6	4.0	15.9		0.0	0.0	0.0	23.9	35.9	38.3
2	ALK-TOT (mgCaCO3/L)	392			189	160	691	632	324			312	332	351	224	233
3	B (mg/L)	0.18	0.12	0.10	0.13	0.25	0.10	0.10	0.17		0.20	0.16	0.14	0.14	0.29	0.36
4	Ca (mg/L)	65	57	76	52	15	57	42	50		62	60	81	100	19	24
5	Cl (mg/L)	288.3	202.4	160.1	110.1	80.2	64.1	43.3	56.8		270.5	238.2	236.1	250.3	81.3	145.6
6	CO3 (mg/L)	0.0	0.0	19.2	77.4	38.4	12.8	4.8	12.8		0.0	0.0	0.0	28.8	43.2	46.2
7	F (mg/L)	0.68	0.49	7.60	1.10	1.05	0.58	0.52	0.46		0.65	0.59	0.63	0.80	1.39	1.06
8	Fe (mg/L)						0.1	0.2	0.2							
9	HCO3 (mg/L)	478	366	346	73	117	408	381	369		459	381	405	370	185	190
10	K (mg/L)	42.6	32.1	19.9	12.9	5.1	23.5	24.8	17.9		39.5	38.3	39.5	24.2	6.3	15.6
11	Mg (mg/L)	55.6	44.3	42.3	14.5	31.0	41.6	33.7	38.2		52.6	51.5	45.3	37.2	35.1	50.5
12	Na (mg/L)	185.6	134.3	105.3	86.9	54.3	71.8	66.9	41.0		171.8	155.0	161.5	160.1	61.2	77.3
13	NH3-N (mg N/L)	0.34	0.25	0.25	0.53	0.51					0.41	0.29	0.41	0.51	0.48	0.53
14	NO2+NO3 (mg N/L)	10.00	7.20	8.70	7.32	7.53	1.36	1.44	3.36		8.52	8.00	9.96	10.52	8.69	1.46
15	NO2-N (mgN/L)	0.40	0.19	0.29	0.46	0.80	0.06	0.06	0.15		0.18	0.29	0.29	0.29	0.84	0.86
16	NO3-N (mgN/L)	9.60	7.01	8.41	6.87	6.73	1.31	1.38	3.21		8.34	7.71	9.67	10.23	7.85	0.60
17	o-PO4-P (mg P/L)	0.196	0.134		0.165	0.176	0.124	0.038	0.152		0.165	0.165	0.165	0.165	0.196	0.186
18	SiO2 (mg/L)						14.4	12.0	16.3							
19	SO4 (mg/L)	80.6	13.9	15.8	14.4	21.6	31.0	35.4	12.2		159.4	59.5	20.2	20.2	23.0	31.7
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : BHITAURA (GG000E7)

Division : M Ganga Div. II, Lucknow

Local River : GANGA

Well Water

Sub-Division : M Ganga SD, Kanpur

S.No	Parameters	Winter					Summer									
		Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	COD (mg/L)	35.0									43.0	36.0				
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	164	142	189	129	38	142	106	125		155	151	202	250	48	60
2	HAR_Total (mgCaCO3/L)	395	327	365	189	167	315	247	284		374	365	391	404	194	271
3	Na% (%)	47	44	37	48	41	31	34	23		47	45	44	45	40	37
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.9	1.5	0.9		0.1	0.0	0.0	0.0	0.6	0.0
5	SAR (-)	4.1	3.2	2.4	2.8	1.8	1.8	1.9	1.1		3.9	3.5	3.6	3.5	1.9	2.1
	PESTICIDES															

HISTORY SHEET

		Water Year	: 2015-2016
Site	: Shahzadpur	Code	: GG000B7
State	: Uttar Pradesh	District	Kaushambi *
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	: -	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Ganga
Division	: M Ganga Div. III, Varanasi	Sub-Division	: M Ganga Yamuna SD, Allahabad
Drainage Area	: 93604 Sq. Km.	Bank	: Left
Latitude	: 25°40'00"	Longitude	: 81°25'30"
	Opening Date	Closing Date	
Gauge	: 19-06-1959		
Discharge	: 19-06-1959		
Sediment	: 01-01-1963		
Water Quality	: 01-12-1980		

Water Quality Datasheet for the period : 2015-2016

Station Name : Shahzadpur (GG000B7)

Local River : Ganga

River Water Analysis

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	61.07	73.48	1726	1987	291.0	200.0	309.0	100.0	110.0	80.30	67.20	44.20
2	Colour_Cod (-)	Clear	Brown	Clear	Brown	Light Brown	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Clear
3	EC_FLD (μmho/cm)	420	400	220	260	290	440	340	400	390	440	510	510
4	EC_GEN (μmho/cm)	427	375	211	239	287	402	325	399	388	438	507	505
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	8.1	8.0	8.0	7.8	7.5	8.6	7.4	8.1	8.1	7.7	7.8	7.8
7	pH_GEN (pH units)	8.2	8.2	8.1	8.0	8.0	8.8	7.5	8.2	8.2	7.8	8.0	7.9
8	TDS (mg/L)	255	225	144	156	174	242	195	240	235	263	310	305
9	Temp (deg C)	33.5	32.0	30.0	30.0	29.5	28.5	22.0	18.0	20.0	24.0	27.0	28.5
10	Turb (NTU)	0.4	3.0	3.4	4.2	0.5	0.5	0.4	0.8	1.4	0.7	0.9	1.1
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	23.9	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	152	136	112	116	128	152	136	156	152	180	196	192
3	B (mg/L)	0.05	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03
4	Ca (mg/L)	45	37	26	29	32	38	34	38	37	42	45	43
5	Cl (mg/L)	48.0	40.0	14.0	15.0	20.0	30.0	22.0	32.0	30.0	40.0	48.0	47.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	28.8	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.48	0.42	0.25	0.27	0.29	0.34	0.28	0.32	0.30	0.36	0.42	0.40
8	Fe (mg/L)	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.3
9	HCO3 (mg/L)	185	166	137	142	156	127	166	190	185	220	239	234
10	K (mg/L)	10.0	9.0	4.0	5.0	7.0	8.0	7.0	8.0	7.0	9.0	11.0	10.0
11	Mg (mg/L)	16.6	14.6	9.8	11.7	13.7	17.6	15.6	16.6	15.6	18.5	20.5	20.5
12	Na (mg/L)	30.0	27.0	9.0	11.0	14.0	20.0	16.0	18.0	17.0	25.0	30.0	30.0
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.28	0.27	0.20	0.21	0.24	0.25	0.24	0.25	0.25	0.26	0.27	0.27
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.28	0.27	0.20	0.21	0.24	0.25	0.24	0.25	0.25	0.26	0.27	0.27
17	P-Tot (mgP/L)	0.026	0.024	0.020	0.018	0.020	0.024	0.018	0.022	0.020	0.026	0.030	0.028
18	SiO2 (mg/L)	10.2	9.4	7.2	7.6	7.8	7.8	7.0	7.5	7.2	7.8	8.1	8.0

Water Quality Datasheet for the period : 2015-2016

Station Name : Shahzadpur (GG000B7)

Local River : Ganga

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

River Water Analysis

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
19	SO4 (mg/L)	46.0	38.0	16.0	18.0	20.0	24.0	22.0	26.0	24.0	32.0	36.0	35.0
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	3.3	3.1	2.7	2.6	2.7	4.7	2.6	2.7	3.1	3.3	3.5	3.3
2	COD (mg/L)	21.4	15.7	12.2	14.1	12.8	20.2	19.6	20.4	19.5	16.2	18.1	17.8
3	DO (mg/L)	6.9	7.1	7.3	7.5	7.3	8.8	8.6	8.2	7.8	7.3	7.1	6.9
4	DO_SAT% (%)	96	97	96	99	94	113	99	87	86	86	89	88
5	FCol-MPN (MPN/100mL)	2400	2200	1800	1600	1700	1700	2000	2100	1900	2000	2300	2500
6	Tcol-MPN (MPN/100mL)	5500	5000	4400	4200	4500	4500	5000	5200	4800	5000	5400	6000
	TRACE & TOXIC												
1	As (µg/L)												1.5
2	Cd (µg/L)												2.0
3	Cr (µg/L)												3.5
4	Ni (µg/L)												5.5
5	Pb (µg/L)												2.0
6	Zn (µg/L)												4.5
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	112	92	64	72	80	96	84	96	92	104	112	108
2	HAR_Total (mgCaCO3/L)	181	153	105	121	137	169	149	165	157	181	198	194
3	Na% (%)	25	26	15	16	17	20	18	18	18	22	24	24
4	RSC (-)	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.0	1.0	0.4	0.4	0.5	0.7	0.6	0.6	0.6	0.8	0.9	0.9
	PESTICIDES												

Water Quality Datasheet for the period : 2015-2016

Station Name : Shahzadpur (GG000B7)

Local River : Ganga

Well Water Analysis

Division : M Ganga Div. III, Varanasi
Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	02-11-2015	02-05-2016
		B	B
	PHYSICAL		
1	Colour_Cod (-)	Clear	Clear
2	EC_FLD (μmho/cm)	2500	2200
3	EC_GEN (μmho/cm)	2430	2150
4	Odour_Code (-)	odour free	odour free
5	pH_FLD (pH units)	7.4	7.5
6	pH_GEN (pH units)	7.5	7.6
7	TDS (mg/L)	1460	1290
8	Temp (deg C)	27.0	25.5
	CHEMICAL		
1	Alk-Phen (mgCaCO3/L)	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	380	344
3	B (mg/L)	0.01	0.01
4	Ca (mg/L)	40	37
5	Cl (mg/L)	246.0	208.0
6	CO3 (mg/L)	0.0	0.0
7	F (mg/L)	0.39	0.32
8	Fe (mg/L)	0.2	0.2
9	HCO3 (mg/L)	464	420
10	K (mg/L)	16.0	12.0
11	Mg (mg/L)	61.5	57.6
12	Na (mg/L)	159.0	148.0
13	NH3-N (mg N/L)	0.05	0.05
14	NO2+NO3 (mg N/L)	1.35	1.32
15	NO2-N (mgN/L)	0.00	0.00
16	NO3-N (mgN/L)	1.35	1.32
17	P-Tot (mgP/L)	0.012	0.010
18	SiO2 (mg/L)	8.4	7.0
19	SO4 (mg/L)	48.0	42.0
	BIOLOGICAL/BACTERIOLOGICAL		

Water Quality Datasheet for the period : 2015-2016

Station Name : Shahzadpur (GG000B7)

Local River : Ganga

Well Water Analysis

S.No	Parameters	02-11-2015	02-05-2016
		B	B
	TRACE & TOXIC		
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)	100	92
2	HAR_Total (mgCaCO3/L)	356	332
3	Na% (%)	48	48
4	RSC (-)	0.5	0.3
5	SAR (-)	3.7	3.5
	PESTICIDES		

Division : M Ganga Div. III, Varanasi
Sub-Division : M Ganga Yamuna SD, Allahabad

Water Quality Summary for the period : 2015-2016

Station Name : Shahzadpur (GG000B7)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Sub-Division : M Ganga Yamuna SD, Allahabad

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	4712	28.60	520.7
2	EC_FLD (µmho/cm)	12	510	220	385
3	EC_GEN (µmho/cm)	12	507	211	375
4	pH_FLD (pH units)	12	8.6	7.4	7.9
5	pH_GEN (pH units)	12	8.8	7.5	8.1
6	TDS (mg/L)	12	310	144	229
7	Temp (deg C)	12	33.5	18.0	26.9
8	Turb (NTU)	12	4.2	0.4	1.4
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	23.9	0.0	2
2	ALK-TOT (mgCaCO3/L)	12	196	112	151
3	B (mg/L)	12	0.05	0.02	0.03
4	Ca (mg/L)	12	45	26	37
5	Cl (mg/L)	12	48.0	14.0	32.2
6	CO3 (mg/L)	12	28.8	0.0	2.4
7	F (mg/L)	12	0.48	0.25	0.34
8	Fe (mg/L)	12	0.3	0.2	0.2
9	HCO3 (mg/L)	12	239	127	179
10	K (mg/L)	12	11.0	4.0	7.9
11	Mg (mg/L)	12	20.5	9.8	15.9
12	Na (mg/L)	12	30.0	9.0	20.6
13	NH3-N (mg N/L)	12	0.05	0.00	0.01
14	NO2+NO3 (mg N/L)	12	0.28	0.20	0.25
15	NO2-N (mgN/L)	12	0.00	0.00	0
16	NO3-N (mgN/L)	12	0.28	0.20	0.25
17	o-PO4-P (mg P/L)	2	0.000	0.000	0
18	P-Tot (mgP/L)	12	0.030	0.018	0.023
19	SiO2 (mg/L)	12	10.2	7.0	8
20	SO4 (mg/L)	12	46.0	16.0	28.1
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	4.7	2.6	3.1
2	COD (mg/L)	12	21.4	12.2	17.3
3	DO (mg/L)	12	8.8	6.9	7.5
4	DO_SAT% (%)	12	113	86	94
5	FCol-MPN (MPN/100mL)	12	2500	1600	2017
6	Tcol-MPN (MPN/100mL)	12	6000	4200	4958
	TRACE & TOXIC				
1	As (µg/L)	1	1.5	1.5	1.5
2	Cd (µg/L)	1	2.0	2.0	2
3	Cr (µg/L)	1	3.5	3.5	3.5
4	Ni (µg/L)	1	5.5	5.5	5.5
5	Pb (µg/L)	1	2.0	2.0	2
6	Zn (µg/L)	1	4.5	4.5	4.5
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	112	64	93
2	HAR_Total (mgCaCO3/L)	12	198	105	159
3	Na% (%)	12	26	15	20
4	RSC (-)	12	0.2	0.0	0
5	SAR (-)	12	1.0	0.4	0.7
	PESTICIDES				

Water Quality Summary for the period : 2015-2016

Station Name : Shahzadpur (GG000B7)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Sub-Division : M Ganga Yamuna SD, Allahabad

Well Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	EC_FLD (μmho/cm)	2	2500	2200	2350
2	EC_GEN (μmho/cm)	2	2430	2150	2290
3	pH_FLD (pH units)	2	7.5	7.4	7.5
4	pH_GEN (pH units)	2	7.6	7.5	7.6
5	TDS (mg/L)	2	1460	1290	1375
6	Temp (deg C)	2	27.0	25.5	26.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	2	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	2	380	344	362
3	B (mg/L)	2	0.01	0.01	0.01
4	Ca (mg/L)	2	40	37	38
5	Cl (mg/L)	2	246.0	208.0	227.0
6	CO3 (mg/L)	2	0.0	0.0	0.0
7	F (mg/L)	2	0.39	0.32	0.35
8	Fe (mg/L)	2	0.2	0.2	0.2
9	HCO3 (mg/L)	2	464	420	442
10	K (mg/L)	2	16.0	12.0	14.0
11	Mg (mg/L)	2	61.5	57.6	59.5
12	Na (mg/L)	2	159.0	148.0	153.5
13	NH3-N (mg N/L)	2	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	2	1.35	1.32	1.34
15	NO2-N (mgN/L)	2	0.00	0.00	0.00
16	NO3-N (mgN/L)	2	1.35	1.32	1.34
17	P-Tot (mgP/L)	2	0.012	0.010	0.011
18	SiO2 (mg/L)	2	8.4	7.0	7.7
19	SO4 (mg/L)	2	48.0	42.0	45.0
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	2	100	92	96
2	HAR_Total (mgCaCO3/L)	2	356	332	344
3	Na% (%)	2	48	48	48
4	RSC (-)	2	0.5	0.3	0.4
5	SAR (-)	2	3.7	3.5	3.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Shahzadpur (GG000B7)

Local River : Ganga

River Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	Q (cumec)	760.5	869.8	1604	313.9	2189	1990	1299	3220	468.1	827.7	186.1	247.4	326.4	305.3	414.7
2	EC_FLD (µmho/cm)	339	285	270	454	423	354	361	386	354	318	478	284	333	424	302
3	EC_GEN (µmho/cm)	294	273	259	463	417	350	354	382	348	308	363	269	322	422	296
4	pH_FLD (pH units)	7.8	8.1	8.1	8.0	8.2	8.4	7.7	8.2	7.8	7.9	7.5	8.5	8.1	8.1	8.4
5	pH_GEN (pH units)	8.4	8.6	8.4	8.1	8.2	8.6	7.8	8.4	8.0	8.1	8.0	8.7	8.4	8.4	8.6
6	TDS (mg/L)				256	243	201	214	238	211	191				227	180
7	Temp (deg C)	30.5	30.5	30.3	29.9	30.8	30.0	29.2	29.5	28.1	31.0	23.5	20.0	21.4	18.3	20.6
8	Turb (NTU)				0.3	0.3	3.0	0.3	0.6	5.7	2.3				0.2	0.1
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	8.0	15.9	8.0	0.8	12.0	8.0	0.0	10.0	0.0	0.0	11.5	14.9	10.0	2.0	24.9
2	ALK-TOT (mgCaCO3/L)	251	127	104	134	101	128	128	151	136	129	391	121	146	146	141
3	B (mg/L)	0.00	0.06	0.02	0.02	0.03	0.03	0.03	0.02	0.04	0.03	0.03	0.04	0.04	0.01	0.02
4	Ca (mg/L)	22	32	21	32	32	34	39	36	40	34	35	36	34	28	37
5	Cl (mg/L)	53.4	35.5	21.2	45.0	48.4	40.8	40.8	41.6	39.8	27.4	51.0	30.5	36.0	47.0	38.3
6	CO3 (mg/L)	9.6	19.2	9.6	1.0	14.4	9.6	0.0	12.0	0.0	0.0	13.8	18.0	12.0	2.4	30.0
7	F (mg/L)	0.13	0.14	0.18	0.37	0.72	0.47	0.66	0.64	0.56	0.34	0.05	0.16	0.11	0.12	0.54
8	Fe (mg/L)	0.0	0.1	0.1	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.0	0.0	0.2	0.3	0.2
9	HCO3 (mg/L)	143	116	108	162	94	137	156	160	166	157	224	110	154	173	111
10	K (mg/L)	9.2	8.6	8.6	7.0	8.4	6.2	8.0	8.2	7.0	7.0	11.0	8.0	11.2	5.5	7.5
11	Mg (mg/L)	13.0	17.9	12.5	19.5	14.3	17.7	25.9	22.7	16.9	13.3	19.3	18.6	19.3	19.8	14.1
12	Na (mg/L)	25.8	30.6	34.4	32.0	29.2	24.8	27.2	25.6	26.0	18.2	37.3	32.5	72.4	35.8	20.5
13	NH3-N (mg N/L)	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.05	0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.90	0.10	0.17	0.16	0.07	0.19	0.23	0.23	0.22	0.24	0.55	0.19	0.31	0.05	0.13
15	NO2-N (mgN/L)	0.02	0.04	0.03	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.06	0.02	0.03	0.00	0.00
16	NO3-N (mgN/L)	0.88	0.06	0.14	0.16	0.06	0.16	0.23	0.23	0.22	0.24	0.49	0.17	0.29	0.05	0.13
17	Org-N (mgN/L)		1.1	0.0	0.0	0.0	0.0						0.2	0.0	0.0	0.0
18	P-Tot (mgP/L)	0.038	0.011	0.010	0.002	0.003	0.001	0.001	0.001	0.014	0.022	0.026	0.007	0.014	0.001	0.005

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Shahzadpur (GG000B7)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

River Water

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
19	SiO ₂ (mg/L)	8.0	6.9	5.2	9.0	9.4	8.8	9.7	9.9	10.7	8.4	9.0	7.7	7.8	12.2	9.8
20	SO ₄ (mg/L)	32.2	29.0	29.4	29.6	33.1	108.4	35.4	38.8	38.8	27.6	38.5	35.8	27.4	26.9	31.8
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD ₃₋₂₇ (mg/L)	2.7	2.8	3.0	3.0	2.5	3.0	2.8	3.1	3.0	2.9	3.4	3.6	3.0	3.3	2.5
2	COD (mg/L)		7.8	8.0	7.0	17.2	17.4	12.7	12.5	18.7	15.2		9.6	4.2	14.1	16.7
3	DO (mg/L)	6.6	6.7	6.7	6.8	7.0	7.9	6.3	6.9	6.8	7.2	6.8	7.0	6.7	7.8	8.1
4	DO_SAT% (%)	88	89	89	89	94	104	82	91	87	96	80	77	75	83	90
5	FCol-MPN (MPN/100mL)	180	0	360	360	1020	1500	1460	1580	1860	1940	0	0	300	225	1425
6	Tcol-MPN (MPN/100mL)	720	900	1220	740	2740	3300	3160	3880	4800	4720	650	950	1025	1050	3850
	TRACE & TOXIC															
1	As (µg/L)															
2	Cd (µg/L)															
3	Cr (µg/L)															
4	Ni (µg/L)															
5	Pb (µg/L)															
6	Zn (µg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO ₃ /L)	55	81	53	81	80	85	98	90	99	84	87	90	85	71	92
2	HAR_Total (mgCaCO ₃ /L)	110	155	105	162	140	158	206	185	170	139	167	168	165	154	151
3	Na% (%)	29	29	40	29	27	24	22	22	24	20	31	29	46	33	22
4	RSC (-)	0.7	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.1	0.0	0.0
5	SAR (-)	1.0	1.1	1.5	1.1	1.1	0.9	0.8	0.8	0.9	0.7	1.3	1.1	2.5	1.3	0.7
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Shahzadpur (GG000B7)

Local River : Ganga

River Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	446.3	265.6	530.0	210.7	179.8	167.0	93.15	124.3	90.57	211.3	145.2	215.2	260.1	199.1	63.90
2	EC_FLD (µmho/cm)	364	389	395	385	393	473	324	477	480	359	375	403	403	343	487
3	EC_GEN (µmho/cm)	356	406	386	379	379	416	311	469	474	355	369	396	397	331	483
4	pH_FLD (pH units)	8.5	7.8	8.3	8.0	8.0	7.6	8.7	7.9	8.2	8.5	8.3	8.1	8.3	8.1	7.8
5	pH_GEN (pH units)	8.6	8.1	8.3	8.1	8.2	8.4	9.4	8.4	8.4	8.6	8.7	8.5	8.7	8.2	7.9
6	TDS (mg/L)	213	240	241	232	228				258	224	215	235	248	201	293
7	Temp (deg C)	22.6	22.1	23.0	19.9	22.1	25.5	25.5	26.0	22.8	25.2	26.3	23.8	26.8	18.1	26.5
8	Turb (NTU)	1.0	0.1	1.0	4.5	0.8				0.1	0.1	1.0	0.1	1.0	1.5	0.9
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	5.0	2.5	10.0	0.0	6.0	10.6	13.3	23.2	15.9	19.9	0.0	3.3	8.9	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	130	134	151	130	149	247	120	166	172	124	127	133	152	121	189
3	B (mg/L)	0.02	0.03	0.03	0.03	0.02	0.03		0.05	0.02	2.02	0.04	0.04	0.04	0.04	0.03
4	Ca (mg/L)	34	35	35	40	37	27	32	38	30	40	37	37	35	41	43
5	Cl (mg/L)	43.3	39.8	39.0	41.8	28.5	32.7	25.3	83.7	48.3	40.0	44.0	44.0	44.7	42.7	45.0
6	CO3 (mg/L)	6.0	3.0	12.0	0.0	7.2	12.8	16.0	28.0	19.2	24.0	0.0	4.0	10.7	0.0	0.0
7	F (mg/L)	0.42	0.40	0.42	0.40	0.31	0.11		0.07	0.32	0.42	0.35	0.39	0.41	0.40	0.39
8	Fe (mg/L)	0.3	0.2	0.3	0.2	0.2	0.0		0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3
9	HCO3 (mg/L)	146	157	160	158	167	137	114	145	171	103	155	154	164	148	231
10	K (mg/L)	6.0	7.5	8.0	7.5	7.5	12.0	7.7	15.0	8.3	7.0	8.7	8.3	8.7	7.0	10.0
11	Mg (mg/L)	14.8	23.4	23.2	13.4	16.3	17.1	16.8	20.1	20.6	18.8	15.5	22.2	23.8	13.9	19.8
12	Na (mg/L)	24.8	24.3	26.0	26.8	17.8	32.7	31.7	54.7	41.9	26.7	27.3	26.7	28.0	26.7	28.3
13	NH3-N (mg N/L)	0.05	0.05	0.05	0.05	0.00	0.05		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.18	0.21	0.23	0.20	0.25	0.58		0.01	0.06	0.12	0.24	0.23	0.23	0.23	0.27
15	NO2-N (mgN/L)	0.12	0.00	0.00	0.00	0.00	0.03		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.06	0.21	0.23	0.20	0.25	0.55		0.01	0.06	0.12	0.24	0.23	0.23	0.23	0.27
17	Org-N (mgN/L)	0.0							0.0	0.0	0.0	0.0				
18	P-Tot (mgP/L)	0.001	0.001	0.001	0.019	0.021	0.008		0.014	0.001	0.001	0.001	0.001	0.001	0.015	0.028

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Shahzadpur (GG000B7)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

River Water

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Winter					Summer									
		Jan - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
19	SiO ₂ (mg/L)	9.1	8.4	8.9	9.0	7.4	7.0		8.4	11.4	9.7	9.5	9.4	9.5	9.1	8.0
20	SO ₄ (mg/L)	35.0	34.0	39.0	41.0	24.0	38.7	42.0	28.6	25.9	29.3	37.7	36.3	38.7	38.0	34.3
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD ₃₋₂₇ (mg/L)	2.2	2.4	2.9	2.9	3.3	3.1	3.4	3.1	4.4	2.7	2.3	2.7	2.8	3.2	3.4
2	COD (mg/L)	16.5	12.7	11.5	19.2	19.9		8.5	6.4	22.1	18.6	15.6	16.7	12.5	18.5	17.4
3	DO (mg/L)	8.2	7.8	7.7	6.9	8.4	7.4	7.4	7.2	7.4	7.7	7.4	7.8	7.9	6.4	7.1
4	DO_SAT% (%)	94	89	89	76	96	91	91	88	86	93	91	92	98	73	87
5	FCol-MPN (MPN/100mL)	1650	1688	1725	1600	1925	0	0	433	233	1833	2800	1733	2967	2100	2267
6	Tcol-MPN (MPN/100mL)	3050	3600	4325	3775	4875	700	700	1467	1133	4767	2167	4133	3833	4533	5467
	TRACE & TOXIC															
1	As (µg/L)										8.0	1.0	1.0	1.0	2.0	1.5
2	Cd (µg/L)										3.0	0.0	2.0	2.5	3.0	2.0
3	Cr (µg/L)										62.0	2.0	2.0	3.0	3.0	3.5
4	Ni (µg/L)										20.0	6.1	5.0	5.0	6.0	5.5
5	Pb (µg/L)										2.0	2.1	2.0	2.0	3.0	2.0
6	Zn (µg/L)										6.0	4.0	4.0	4.0	5.0	4.5
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO ₃ /L)	85	88	88	101	92	67	80	94	74	100	93	92	89	103	108
2	HAR_Total (mgCaCO ₃ /L)	147	185	185	157	160	138	150	178	160	179	157	184	188	160	191
3	Na% (%)	26	21	23	26	19	31	30	38	35	24	26	23	24	26	23
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	0.9	0.8	0.8	0.9	0.6	1.2	1.1	1.8	1.5	0.9	1.0	0.9	0.9	0.9	0.9
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Shahzadpur (GG000B7)

Local River : Ganga

Well Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	EC_FLD (µmho/cm)	2415	1973	3586	2984	2040						1913	1844	4277	2900	3522
2	EC_GEN (µmho/cm)	2397	1953	3570	2969	2032						1875	1831	4268	2812	3510
3	pH_FLD (pH units)	7.7	8.0	7.7	7.9	7.9						7.7	8.5	7.9	7.8	8.0
4	pH_GEN (pH units)	8.0	8.7	8.0	8.0	8.0						8.1	8.8	8.1	8.1	8.1
5	TDS (mg/L)				1609	1094									1552	1978
6	Temp (deg C)	27.5	27.4	25.9	27.1	26.2						22.3	21.6	22.1	21.8	23.1
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	16.7	15.9	5.1	0.0	8.0						16.9	14.9	0.0	3.0	5.0
2	ALK-TOT (mgCaCO3/L)	491	260	290	569	192						757	293	315	414	221
3	B (mg/L)	0.00	0.22	0.00	0.06	0.04						0.04	0.19	0.14	0.01	0.04
4	Ca (mg/L)	70	94	114	135	47						116	104	137	131	52
5	Cl (mg/L)	260.0	314.4	519.5	634.6	223.2						330.5	350.5	794.2	583.7	370.0
6	CO3 (mg/L)	20.2	19.2	6.2	0.0	9.6						20.4	18.0	0.0	3.6	6.0
7	F (mg/L)	0.16	0.12	0.18	0.71	0.77						0.17	0.05	0.14	0.18	0.45
8	Fe (mg/L)	0.0	0.1	0.0	0.2	0.3						0.0	0.1	0.1	0.4	0.2
9	HCO3 (mg/L)	279	279	342	694	215						441	260	384	497	257
10	K (mg/L)	12.0	14.2	15.8	44.6	17.3						15.8	15.8	47.6	61.5	27.3
11	Mg (mg/L)	81.3	117.5	118.6	111.4	55.5						110.3	91.1	134.6	97.1	63.5
12	Na (mg/L)	109.0	182.4	250.2	353.2	141.8						204.8	179.0	351.8	344.0	245.0
13	NH3-N (mg N/L)	0.05	0.05	0.11	0.07	0.05						0.08	0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.69	7.30	8.19	7.56	4.35						5.09	8.14	9.51	8.05	3.32
15	NO2-N (mgN/L)	0.03	0.06	0.12	0.17	0.17						0.16	0.10	0.09	0.03	0.15
16	NO3-N (mgN/L)	0.65	7.24	8.07	7.39	4.18						4.93	8.03	9.42	8.01	3.17
17	P-Tot (mgP/L)	0.047	0.006	0.053	0.031	0.023						0.022	0.001	0.006	0.037	0.025
18	SiO2 (mg/L)	9.8	8.6	6.3	9.3	9.5						10.6	8.7	8.5	9.6	9.6
19	SO4 (mg/L)	106.4	100.4	115.8	60.3	71.3						119.3	39.8	342.6	144.0	76.5
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Shahzadpur (GG000B7)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Well Water

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	174	236	284	339	117						291	260	343	328	129
2	HAR_Total (mgCaCO3/L)	513	725	778	803	349						750	640	904	733	394
3	Na% (%)	31	35	41	47	45						37	38	39	47	55
4	RSC (-)	0.0	0.0	0.0	0.4	0.0						0.0	0.0	0.0	0.0	0.0
5	SAR (-)	2.1	3.0	4.0	5.5	3.4						3.3	3.2	5.0	5.6	5.4
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Shahzadpur (GG000B7)

Local River : Ganga

Well Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	EC_FLD (µmho/cm)		2170	3600	3660	2500	2397	2682	3673	2232	3500	4000	3820	3820	2200	2200
2	EC_GEN (µmho/cm)		3642	3588	3644	2430	2377	2665	3663	2217	3490	3900	3814	3816	2150	2150
3	pH_FLD (pH units)		7.8	7.7	8.0	7.4	7.5	7.6	7.2	8.2	8.1	7.5	7.8	8.2	7.5	7.5
4	pH_GEN (pH units)		8.0	7.8	8.1	7.5	7.9	7.9	8.2	8.4	8.4	7.8	8.0	8.3	7.6	7.6
5	TDS (mg/L)		2166	2208	2140	1460				1178	1950	1950	1960	2326	1290	1290
6	Temp (deg C)		27.0	25.5	25.0	27.0	22.8	21.8	23.3	21.5	23.5	22.0	26.5	24.0	25.5	25.5
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)		0.0	0.0	0.0	0.0	37.2	0.0	0.0	14.6	19.9	0.0	0.0	6.6	0.0	0.0
2	ALK-TOT (mgCaCO3/L)		200	204	604	380	560	283	351	454	277	216	216	237	344	344
3	B (mg/L)		0.02	0.02	0.02	0.01	0.04		0.08	0.17	0.04	0.03	0.03	0.03	0.01	0.01
4	Ca (mg/L)		46	51	154	40	81	86	157	106	74	82	82	66	37	37
5	Cl (mg/L)		288.0	296.0	336.0	246.0	316.7	405.3	818.2	316.4	360.0	386.0	324.0	320.0	208.0	208.0
6	CO3 (mg/L)		0.0	0.0	0.0	0.0	44.8	0.0	0.0	17.6	24.0	0.0	0.0	8.0	0.0	0.0
7	F (mg/L)		0.50	0.49	0.49	0.39	0.10		0.11	0.79	0.46	0.45	0.46	0.47	0.32	0.32
8	Fe (mg/L)		0.2	0.2	0.0	0.2	0.1		0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.2
9	HCO3 (mg/L)		244	249	737	464	296	345	428	518	289	264	264	273	420	420
10	K (mg/L)		26.0	28.0	26.0	16.0	15.7	17.7	64.4	26.0	27.0	27.0	30.0	30.0	12.0	12.0
11	Mg (mg/L)		68.3	69.3	70.0	61.5	120.3	118.0	164.4	96.3	63.0	68.7	66.4	75.7	57.6	57.6
12	Na (mg/L)		372.0	368.0	248.0	159.0	185.7	269.0	446.3	207.0	260.0	378.0	28.0	390.0	148.0	148.0
13	NH3-N (mg N/L)		0.05	0.05	0.05	0.05	0.05		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)			3.07	2.03	1.35	7.15		11.06	6.77	3.17	3.13	3.08	3.15	1.32	1.32
15	NO2-N (mgN/L)			0.22	0.04	0.00	0.18		0.05	0.22	0.05	0.04	0.04	0.05	0.00	0.00
16	NO3-N (mgN/L)			2.84	1.98	1.35	6.97		11.01	6.55	3.12	3.10	3.05	3.10	1.32	1.32
17	P-Tot (mgP/L)		0.017	0.021	0.014	0.012	0.020		0.001	0.025	0.023	0.318	0.326	0.334	0.010	0.010
18	SiO2 (mg/L)		9.2	9.1	9.2	8.4	14.9		9.1	9.7	9.3	9.3	9.3	9.2	7.0	7.0
19	SO4 (mg/L)		68.0	70.0	70.0	48.0	150.7	43.3	446.4	144.6	102.0	72.0	116.0	160.0	42.0	42.0
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Shahzadpur (GG000B7)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Well Water

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Winter					Summer									
		Jan - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)		116	128	385	100	202	215	394	266	185	205	206	165	92	92
2	HAR_Total (mgCaCO3/L)		401	417	677	356	703	707	1078	667	448	491	483	481	332	332
3	Na% (%)		65	64	43	48	36	45	46	39	54	61	11	62	48	48
4	RSC (-)		0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
5	SAR (-)		8.1	7.9	4.2	3.7	3.1	4.4	6.0	3.5	5.4	7.4	0.6	7.8	3.5	3.5
	PESTICIDES															

HISTORY SHEET

		Water Year	: 2015-2016
Site	: ALLAHABAD	Code	: GG000Z9
State	: Uttar Pradesh	District	Allahabad
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	: -	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Ganga
Division	: M Ganga Div. III, Varanasi	Sub-Division	: M Ganga Yamuna SD, Allahabad
Drainage Area	: 463971 Sq. Km.	Bank	: Left
Latitude	: 25°24'00"	Longitude	: 81°55'00"
	Opening Date	Closing Date	
Gauge	: 03-07-1970		
Discharge	: 03-07-1970		
Sediment	: 07-07-1972		
Water Quality	: 01-01-1972		

Water Quality Datasheet for the period : 2015-2016

Station Name : ALLAHABAD (GG000Z9)

Local River : Ganga

River Water Analysis

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	182.0	195.0	13460	4331	678.0	424.0	472.0	275.0	288.0	197.0	213.0	142.3
2	Colour_Cod (-)	Clear	Light Brown	Light Brown	Light Brown	Light Brown	Clear	Clear	Brown	Light Brown	Light Brown	Light Brown	Clear
3	EC_FLD (µmho/cm)	490	470	240	250	310	400	360	420	530	570	680	530
4	EC_GEN (µmho/cm)	496	463	230	242	308	397	355	419	529	568	672	522
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.1	7.4	7.5	7.3	7.5	7.8	7.4	8.0	8.1	8.0	8.1	8.0
7	pH_GEN (pH units)	7.9	7.7	7.7	7.4	7.6	8.6	7.6	8.2	8.2	8.1	8.1	8.1
8	TDS (mg/L)	299	278	138	145	184	240	214	250	320	340	403	314
9	Temp (deg C)	32.0	30.0	27.0	27.5	30.0	25.0	22.2	18.5	19.5	24.5	26.0	26.0
10	Turb (NTU)	1.0	1.1	1.3	1.2	0.5	0.4	1.2	3.2	1.2	1.6	1.4	1.2
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	15.9	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	168	160	116	120	136	132	148	168	188	200	224	188
3	B (mg/L)	0.05	0.04	0.02	0.02	0.02	0.03	0.02	0.03	0.03	0.03	0.03	0.03
4	Ca (mg/L)	40	37	29	30	34	37	35	40	46	50	56	46
5	Cl (mg/L)	56.0	50.0	14.0	15.0	26.0	30.0	28.0	36.0	48.0	54.0	70.0	48.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	19.2	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.50	0.44	0.26	0.27	0.30	0.36	0.34	0.42	0.50	0.54	0.62	0.54
8	Fe (mg/L)	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
9	HCO3 (mg/L)	205	195	142	146	166	122	181	205	229	244	273	229
10	K (mg/L)	11.0	10.0	4.0	5.0	6.0	7.0	6.0	7.0	12.0	14.0	14.0	12.0
11	Mg (mg/L)	21.5	19.5	11.7	12.7	14.6	16.6	15.6	17.6	22.5	24.4	28.3	22.5
12	Na (mg/L)	38.0	34.0	9.0	11.0	18.0	20.0	19.0	24.0	33.0	36.0	40.0	32.0
13	NH3-N (mg N/L)	0.05	0.05	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.05
14	NO2+NO3 (mg N/L)	0.27	0.24	0.21	0.24	0.24	0.26	0.24	0.26	0.28	0.28	0.30	0.28
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.27	0.24	0.21	0.24	0.24	0.26	0.24	0.26	0.28	0.28	0.30	0.28
17	P-Tot (mgP/L)	0.028	0.026	0.016	0.018	0.020	0.024	0.022	0.026	0.032	0.036	0.040	0.032
18	SiO2 (mg/L)	10.2	9.6	7.4	7.5	7.8	8.2	8.0	8.8	9.4	9.6	10.2	9.4

Water Quality Datasheet for the period : 2015-2016

Station Name : ALLAHABAD (GG000Z9)

Local River : Ganga

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

River Water Analysis

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
19	SO ₄ (mg/L)	50.0	46.0	20.0	22.0	24.0	28.0	28.0	32.0	38.0	42.0	56.0	36.0
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD ₃₋₂₇ (mg/L)	3.8	3.3	3.1	3.5	3.3	2.5	2.6	3.1	3.3	3.5	3.7	3.5
2	COD (mg/L)	23.2	14.9	12.8	11.4	12.1	18.4	15.2	16.5	18.4	14.3	16.5	17.1
3	DO (mg/L)	7.0	7.4	7.1	7.3	7.4	7.3	8.0	8.8	7.8	7.5	7.3	7.1
4	DO_SAT% (%)	96	97	39	91	97	88	91	93	85	89	89	87
5	FCol-MPN (MPN/100mL)	4300	3800	3000	2800	2900	3000	2800	3100	2900	2900	3400	3700
6	Tcol-MPN (MPN/100mL)	8000	7000	6200	6000	6500	6800	6600	7000	6800	6800	7500	8100
	TRACE & TOXIC												
1	As (µg/L)												1.5
2	Cd (µg/L)												2.0
3	Cr (µg/L)												4.0
4	Ni (µg/L)												5.0
5	Pb (µg/L)												3.5
6	Zn (µg/L)												6.0
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO ₃ /L)	100	92	72	76	84	92	88	100	116	124	140	116
2	HAR_Total (mgCaCO ₃ /L)	190	174	121	129	145	161	153	173	210	226	258	210
3	Na% (%)	29	29	14	15	20	20	21	22	24	24	24	24
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.2	1.1	0.4	0.4	0.7	0.7	0.7	0.8	1.0	1.0	1.1	1.0
	PESTICIDES												

Water Quality Datasheet for the period : 2015-2016

Station Name : ALLAHABAD (GG000Z9)

Local River : Ganga

Well Water Analysis

Division : M Ganga Div. III, Varanasi
Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	02-11-2015	02-05-2016
		B	B
	PHYSICAL		
1	Colour_Cod (-)	Light Brown	Clear
2	EC_FLD (µmho/cm)	1200	1260
3	EC_GEN (µmho/cm)	1195	1252
4	Odour_Code (-)	odour free	odour free
5	pH_FLD (pH units)	7.1	7.1
6	pH_GEN (pH units)	7.2	7.2
7	TDS (mg/L)	720	751
8	Temp (deg C)	26.5	26.5
	CHEMICAL		
1	Alk-Phen (mgCaCO3/L)	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	414	444
3	B (mg/L)	0.00	0.02
4	Ca (mg/L)	67	72
5	Cl (mg/L)	120.0	136.0
6	CO3 (mg/L)	0.0	0.0
7	F (mg/L)	0.48	0.05
8	Fe (mg/L)	0.2	0.2
9	HCO3 (mg/L)	505	542
10	K (mg/L)	10.0	12.0
11	Mg (mg/L)	61.5	65.4
12	Na (mg/L)	75.0	82.0
13	NH3-N (mg N/L)	0.05	0.05
14	NO2+NO3 (mg N/L)	2.24	2.25
15	NO2-N (mgN/L)	0.00	0.00
16	NO3-N (mgN/L)	2.24	2.25
17	P-Tot (mgP/L)	0.004	0.016
18	SiO2 (mg/L)	7.2	7.6
19	SO4 (mg/L)	32.0	40.0
	BIOLOGICAL/BACTERIOLOGICAL		

Water Quality Datasheet for the period : 2015-2016**Station Name : ALLAHABAD (GG000Z9)****Local River : Ganga****Well Water Analysis****Division : M Ganga Div. III, Varanasi**
Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	02-11-2015	02-05-2016
		B	B
	TRACE & TOXIC		
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO ₃ /L)	168	180
2	HAR_Total (mgCaCO ₃ /L)	425	453
3	Na% (%)	27	28
4	RSC (-)	0.0	0.0
5	SAR (-)	1.6	1.7
	PESTICIDES		

Water Quality Summary for the period : 2015-2016

Station Name : ALLAHABAD (GG000Z9)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Sub-Division : M Ganga Yamuna SD, Allahabad

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	365	14335	130.0	1414
2	EC_FLD (µmho/cm)	12	680	240	438
3	EC_GEN (µmho/cm)	12	672	230	433
4	pH_FLD (pH units)	12	8.1	7.1	7.7
5	pH_GEN (pH units)	12	8.6	7.4	7.9
6	TDS (mg/L)	12	403	138	260
7	Temp (deg C)	12	32.0	18.5	25.7
8	Turb (NTU)	12	3.2	0.4	1.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	15.9	0.0	1.3
2	ALK-TOT (mgCaCO3/L)	12	224	116	162
3	B (mg/L)	12	0.05	0.02	0.03
4	Ca (mg/L)	12	56	29	40
5	Cl (mg/L)	12	70.0	14.0	39.6
6	CO3 (mg/L)	12	19.2	0.0	1.6
7	F (mg/L)	12	0.62	0.26	0.42
8	Fe (mg/L)	12	0.3	0.2	0.2
9	HCO3 (mg/L)	12	273	122	195
10	K (mg/L)	12	14.0	4.0	9
11	Mg (mg/L)	12	28.3	11.7	19
12	Na (mg/L)	12	40.0	9.0	26.2
13	NH3-N (mg N/L)	12	0.05	0.00	0.02
14	NO2+NO3 (mg N/L)	12	0.30	0.21	0.26
15	NO2-N (mgN/L)	12	0.00	0.00	0
16	NO3-N (mgN/L)	12	0.30	0.21	0.26
17	P-Tot (mgP/L)	12	0.040	0.016	0.027
18	SiO2 (mg/L)	12	10.2	7.4	8.8
19	SO4 (mg/L)	12	56.0	20.0	35.2
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	3.8	2.5	3.3
2	COD (mg/L)	12	23.2	11.4	15.9
3	DO (mg/L)	12	8.8	6.4	7.1
4	DO_SAT% (%)	12	97	39	87
5	FCol-MPN (MPN/100mL)	12	4300	2800	3217
6	Tcol-MPN (MPN/100mL)	12	8100	6000	6942
	TRACE & TOXIC				
1	As (µg/L)	1	1.5	1.5	1.5
2	Cd (µg/L)	1	2.0	2.0	2.0
3	Cr (µg/L)	1	4	4	4
4	Ni (µg/L)	1	5	5	5
5	Pb (µg/L)	1	3.5	3.5	3.5
6	Zn (µg/L)	1	6	6	6
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	140	72	100
2	HAR_Total (mgCaCO3/L)	12	258	121	179
3	Na% (%)	12	29	14	22
4	RSC (-)	12	0.0	0.0	0
5	SAR (-)	12	1.2	0.4	0.8
	PESTICIDES				

Water Quality Summary for the period : 2015-2016

Station Name : ALLAHABAD (GG000Z9)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Sub-Division : M Ganga Yamuna SD, Allahabad

Well Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	EC_FLD (μmho/cm)	2	1260	1200	1230
2	EC_GEN (μmho/cm)	2	1252	1195	1224
3	pH_FLD (pH units)	2	7.1	7.1	7.1
4	pH_GEN (pH units)	2	7.2	7.2	7.2
5	TDS (mg/L)	2	751	720	736
6	Temp (deg C)	2	26.5	26.5	26.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	2	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	2	444	414	429
3	B (mg/L)	2	0.02	0.00	0.01
4	Ca (mg/L)	2	72	67	70
5	Cl (mg/L)	2	136.0	120.0	128.0
6	CO3 (mg/L)	2	0.0	0.0	0.0
7	F (mg/L)	2	0.48	0.05	0.27
8	Fe (mg/L)	2	0.2	0.2	0.2
9	HCO3 (mg/L)	2	542	505	523
10	K (mg/L)	2	12.0	10.0	11.0
11	Mg (mg/L)	2	65.4	61.5	63.4
12	Na (mg/L)	2	82.0	75.0	78.5
13	NH3-N (mg N/L)	1	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	2	2.25	2.24	2.25
15	NO2-N (mgN/L)	2	0.00	0.00	0.00
16	NO3-N (mgN/L)	2	2.25	2.24	2.25
17	P-Tot (mgP/L)	2	0.016	0.004	0.010
18	SiO2 (mg/L)	2	7.6	7.2	7.4
19	SO4 (mg/L)	2	40.0	32.0	36.0
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	2	180	168	174
2	HAR_Total (mgCaCO3/L)	2	453	425	439
3	Na% (%)	2	28	27	28
4	RSC (-)	2	0.0	0.0	0.0
5	SAR (-)	2	1.7	1.6	1.6
	PESTICIDES				

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ALLAHABAD (GG000Z9)

Local River : Ganga

River Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	Q (cumec)	1217	1497	4738	1102	4774	7562	3063	13177	1434	3769	368.4	398.6	677.2	538.9	692.7
2	EC_FLD (µmho/cm)	380	347	268	459	442	348	324	409	372	352	410	337	328	446	313
3	EC_GEN (µmho/cm)	357	328	257	449	435	343	317	405	367	348	386	321	313	437	308
4	pH_FLD (pH units)	7.8	8.4	8.0	8.3	7.9	8.2	7.7	7.9	7.9	7.4	7.8	8.0	8.0	8.1	8.1
5	pH_GEN (pH units)	8.5	8.7	8.3	8.4	8.4	8.3	7.8	8.0	8.0	7.7	8.6	8.4	8.3	8.3	8.4
6	TDS (mg/L)				366	250	196	200	220	221	209				371	210
7	Temp (deg C)	28.2	29.5	27.7	28.8	30.1	30.6	29.0	27.4	26.5	29.3	20.3	18.9	18.6	17.5	20.0
8	Turb (NTU)			0.4	0.3	2.3	0.2	0.4	0.8	5.4	1.0			0.1	0.1	0.2
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	11.2	19.9	4.0	6.9	21.0	8.0	0.0	0.0	0.0	0.0	17.4	5.0	10.0	7.0	11.6
2	ALK-TOT (mgCaCO3/L)	234	128	93	145	190	176	160	160	150	140	264	124	131	163	175
3	B (mg/L)	0.00	0.05	0.00	0.00	0.03	0.05	0.04	0.04	0.04	0.03	0.01	0.00	0.00	0.00	0.02
4	Ca (mg/L)	17	34	28	35	38	34	41	42	36	34	26	35	31	23	42
5	Cl (mg/L)	43.7	45.8	24.0	40.4	62.4	51.4	58.4	59.2	53.2	32.2	51.3	39.0	46.3	54.1	58.8
6	CO3 (mg/L)	13.4	24.0	4.8	8.3	25.3	9.6	0.0	0.0	0.0	0.0	21.0	6.0	12.0	8.4	14.0
7	F (mg/L)	0.11	0.22	0.24	0.41	0.72	0.72	0.53	0.51	0.47	0.35	0.11	0.48	0.26	0.14	0.59
8	Fe (mg/L)	0.0	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.1	0.3	0.2
9	HCO3 (mg/L)	147	107	103	159	181	195	196	195	183	171	192	140	135	182	185
10	K (mg/L)	8.6	9.4	8.0	6.1	9.4	7.4	7.8	8.6	7.2	7.2	10.5	8.0	12.0	6.5	9.0
11	Mg (mg/L)	15.6	18.7	7.1	18.8	15.3	17.7	16.1	15.5	16.9	16.0	23.7	20.5	20.3	26.8	17.8
12	Na (mg/L)	29.8	26.2	33.8	29.6	40.4	26.5	28.0	28.0	28.6	22.0	38.5	33.0	53.9	43.7	35.3
13	NH3-N (mg N/L)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.97	0.43	0.21	0.24	0.21	0.23	0.30	0.29	0.25	0.24	0.67	2.92	1.31	0.13	0.39
15	NO2-N (mgN/L)	0.11	0.02	0.00	0.01	0.07	0.05	0.01	0.00	0.00	0.00	0.04	0.04	0.03	0.06	0.00
16	NO3-N (mgN/L)	0.86	0.41	0.21	0.23	0.14	0.19	0.29	0.29	0.25	0.24	0.64	2.88	1.28	0.07	0.39
17	P-Tot (mgP/L)	0.001	0.011	0.007	0.003	0.007	0.024	0.015	0.001	0.031	0.022	0.005	0.001	0.003	0.002	0.044
18	SiO2 (mg/L)	7.9	6.4	5.9	8.6	7.2	7.5	7.8	7.7	9.3	8.5	7.2	5.3	6.0	7.5	8.2

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ALLAHABAD (GGOOZ9)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

River Water

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Flood										W/ir				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
19	SO ₄ (mg/L)	32.0	28.0	25.8	29.3	20.8	27.4	41.0	38.0	39.0	32.4	40.3	33.3	33.3	37.2	32.5
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD ₃₋₂₇ (mg/L)	3.2	3.4	3.8	3.9	3.7	3.1	3.8	3.3	3.3	3.4	4.0	3.9	3.8	4.4	3.3
2	COD (mg/L)		15.0	6.0	11.9	15.5	15.8	11.0	12.2	16.9	14.9	14.1	8.2	5.2	10.0	14.9
3	DO (mg/L)	7.0	7.1	7.5	7.2	7.2	7.8	6.9	6.2	7.4	6.4	7.7	7.9	7.6	8.2	7.9
4	DO_SAT% (%)	89	93	95	94	96	104	90	79	91	84	85	85	81	86	87
5	FCol-MPN (MPN/100mL)	1300	1800	1300	1340	2740	3040	3660	3440	3640	3360	1075	1300	1225	1325	1900
6	Tcol-MPN (MPN/100mL)	2080	2780	2840	2260	4260	5180	5620	5680	7440	6740	1575	2900	2875	1875	4575
	TRACE & TOXIC															
1	As (µg/L)															
2	Cd (µg/L)															
3	Cr (µg/L)															
4	Ni (µg/L)															
5	Pb (µg/L)															
6	Zn (µg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO ₃ /L)	43	84	70	88	95	85	103	105	91	85	65	87	78	57	106
2	HAR_Total (mgCaCO ₃ /L)	108	162	100	167	159	159	170	169	161	152	164	173	163	169	180
3	Na% (%)	33	25	41	27	33	26	25	25	27	21	33	29	40	35	29
4	RSC (-)	0.7	0.0	0.1	0.0	0.7	0.4	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.1	0.3
5	SAR (-)	1.2	0.9	1.5	1.0	1.4	0.9	0.9	0.9	1.0	0.8	1.3	1.1	1.8	1.5	1.2
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ALLAHABAD (GG000Z9)

Local River : Ganga

River Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	916.3	737.9	1154	535.9	364.8	386.1	164.9	313.5	189.5	333.2	396.6	408.3	680.9	497.7	184.1
2	EC_FLD (µmho/cm)	363	326	373	368	428	413	359	523	535	317	380	465	417	367	593
3	EC_GEN (µmho/cm)	356	316	367	363	425	390	346	513	528	312	375	460	414	352	587
4	pH_FLD (pH units)	8.1	7.9	7.9	8.0	7.8	7.8	8.5	7.5	8.6	8.3	8.1	7.9	8.0	7.6	8.0
5	pH_GEN (pH units)	8.2	8.2	8.1	8.1	8.1	8.8	8.9	8.2	8.7	8.6	8.2	8.2	8.1	8.1	8.1
6	TDS (mg/L)	175	210	224	219	256				311	195	183	250	249	211	352
7	Temp (deg C)	20.1	20.3	19.0	18.8	21.3	24.2	23.5	23.0	27.5	25.2	26.7	19.7	23.2	26.7	25.5
8	Turb (NTU)	0.2	0.1	0.3	4.6	1.5			0.1	0.1	0.1	0.1	0.1	0.1	2.7	1.4
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	4.0	17.3	6.6	23.2	29.2	10.2	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	186	167	167	154	159	148	124	161	194	134	169	164	173	154	204
3	B (mg/L)	0.03	0.03	0.05	0.09	0.03	0.00		0.01	0.01	0.04	0.03	0.04	0.04	0.04	0.03
4	Ca (mg/L)	38	44	40	36	40	25	35	34	37	37	38	40	39	36	51
5	Cl (mg/L)	66.5	56.0	59.0	45.3	35.5	31.3	34.0	93.7	48.4	43.3	66.0	62.7	60.0	50.7	57.3
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	4.8	20.8	8.0	28.0	35.2	12.3	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.50	0.37	0.41	0.37	0.41	0.22		0.16	0.43	0.48	0.50	0.46	0.44	0.43	0.57
8	Fe (mg/L)	0.2	0.1	0.1	0.2	0.2	0.1		0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3
9	HCO3 (mg/L)	227	204	204	188	184	138	135	140	165	138	207	200	211	188	249
10	K (mg/L)	7.0	7.5	8.0	7.5	8.0	12.3	8.3	13.7	9.5	6.7	8.7	9.0	9.3	7.7	13.3
11	Mg (mg/L)	13.0	15.6	17.9	16.5	18.1	18.8	14.3	21.1	20.8	21.7	14.2	17.3	19.7	17.6	25.0
12	Na (mg/L)	25.0	28.8	29.8	27.0	24.0	31.7	31.3	63.4	41.9	29.7	27.3	27.0	30.3	32.3	36.0
13	NH3-N (mg N/L)	0.05	0.05	0.05	0.05	0.01	0.05		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.02
14	NO2+NO3 (mg N/L)	0.23	0.20	0.23	0.23	0.26	0.09		0.00	0.04	0.52	0.36	0.30	0.25	0.24	0.29
15	NO2-N (mgN/L)	0.16	0.00	0.00	0.00	0.00	0.02		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.07	0.20	0.23	0.23	0.26	0.07		0.00	0.04	0.52	0.36	0.30	0.25	0.24	0.29
17	P-Tot (mgP/L)	0.018	0.009	0.001	0.022	0.026	0.011		0.001	0.003	0.047	0.041	0.028	0.001	0.022	0.036
18	SiO2 (mg/L)	8.2	7.3	7.4	8.6	8.6	7.2		7.8	6.7	7.9	8.1	8.2	8.5	9.0	9.7

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ALLAHABAD (GGOOZ9)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

River Water

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Winter					Summer									
		Jan - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
19	SO ₄ (mg/L)	26.0	42.5	42.0	40.0	31.5	37.7	38.0	48.2	24.8	28.3	30.7	39.7	40.7	42.7	44.7
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD ₃₋₂₇ (mg/L)	2.8	3.3	3.0	3.1	2.9	3.6	4.1	4.1	4.2	3.2	2.8	3.2	2.9	3.2	3.6
2	COD (mg/L)	14.9	16.4	12.8	19.9	17.1	19.2	5.2	7.5	17.7	13.8	14.9	16.3	15.7	21.7	16.0
3	DO (mg/L)	8.2	8.0	7.8	7.7	8.0	7.3	7.0	6.9	7.5	8.3	7.3	7.8	8.1	7.6	7.3
4	DO_SAT% (%)	90	88	84	83	89	86	82	79	95	100	91	85	95	94	88
5	FCol-MPN (MPN/100mL)	2125	3825	3800	3175	2950	1167	1067	1500	1467	2233	2400	3800	3967	3567	3333
6	Tcol-MPN (MPN/100mL)	4650	6150	6825	6325	6800	2467	2267	2467	1800	5400	4933	6367	7667	7167	7467
	TRACE & TOXIC															
1	As (µg/L)										8.0	2.0	1.0	1.0	2.0	1.5
2	Cd (µg/L)										2.0	2.4	1.5	1.5	4.0	2.0
3	Cr (µg/L)										54.0	46.0	2.0	2.0	3.0	4.0
4	Ni (µg/L)										30.0	7.2	6.0	6.0	9.0	5.0
5	Pb (µg/L)										4.0	2.4	2.0	3.0	4.0	3.5
6	Zn (µg/L)										3.0	4.0	6.0	7.0	7.0	6.0
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO ₃ /L)	95	109	101	89	99	63	86	86	91	92	95	100	98	90	127
2	HAR_Total (mgCaCO ₃ /L)	149	174	176	158	174	141	146	174	178	182	154	172	180	164	231
3	Na% (%)	26	25	26	26	22	31	30	42	33	25	27	24	26	29	24
4	RSC (-)	0.8	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0
5	SAR (-)	0.9	0.9	1.0	0.9	0.8	1.2	1.1	2.1	1.4	1.0	1.0	0.9	1.0	1.1	1.0
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ALLAHABAD (GG000Z9)

Local River : Ganga

Well Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	EC_FLD (µmho/cm)	1226	1010	1462	1067	922						1255	979	1051	1098	1035
2	EC_GEN (µmho/cm)	1206	985	1237	1053	917						1227	951	1038	1087	1027
3	pH_FLD (pH units)	7.5	8.0	7.9	8.1	7.7						7.5	7.9	7.8	8.1	7.9
4	pH_GEN (pH units)	8.0	8.4	8.3	8.2	8.3						8.2	8.4	8.5	8.1	8.3
5	TDS (mg/L)				561	526									546	618
6	Temp (deg C)	25.2	26.8	25.4	24.6	27.1						16.5	24.6	23.6	22.0	26.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	47.8	74.9	44.6	29.5	47.8						46.0	80.2	69.2	0.0	24.9
2	ALK-TOT (mgCaCO3/L)	820	419	422	411	348						911	431	442	468	332
3	B (mg/L)	0.00	0.10	0.00	0.00	0.00						0.03	0.05	0.02	0.00	0.00
4	Ca (mg/L)	31	51	42	48	52						60	51	53	39	52
5	Cl (mg/L)	56.5	61.2	45.2	71.8	72.4						51.8	62.5	65.3	65.7	80.5
6	CO3 (mg/L)	57.6	90.3	53.8	35.5	57.6						55.4	96.6	83.4	0.0	30.0
7	F (mg/L)	0.05	0.80	0.80	0.75	0.96						0.39	0.47	0.46	0.55	0.46
8	Fe (mg/L)	0.0	0.0	0.0	0.2	0.3						0.0	0.0	0.0	0.2	0.2
9	HCO3 (mg/L)	507	328	405	429	307						499	329	370	571	344
10	K (mg/L)	4.6	8.4	9.2	6.1	8.0						8.8	8.5	9.2	4.3	8.5
11	Mg (mg/L)	61.1	77.3	65.4	75.6	49.1						68.8	76.2	64.9	92.9	55.0
12	Na (mg/L)	101.6	125.0	94.8	63.6	52.4						122.3	116.0	92.1	69.0	57.3
13	NH3-N (mg N/L)	0.06	0.05	0.05	0.05	0.05						0.06	0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.80	5.90	6.65	7.63	5.31						4.93	1.25	4.08	4.10	2.75
15	NO2-N (mgN/L)	0.03	0.03	0.03	0.12	0.00						0.08	0.02	0.00	0.02	0.00
16	NO3-N (mgN/L)	0.77	5.87	6.62	7.51	5.31						4.85	1.23	4.08	4.08	2.75
17	P-Tot (mgP/L)	0.020	0.006	0.005	0.019	0.007						0.015	0.001	0.001	0.033	0.001
18	SiO2 (mg/L)	9.7	10.4	7.4	7.6	6.8						7.0	7.5	7.0	8.0	7.4
19	SO4 (mg/L)	15.8	12.8	16.4	18.0	21.6						14.3	14.8	21.8	54.5	26.5
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ALLAHABAD (GG000Z9)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Well Water

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	78	128	104	120	129						149	126	134	97	131
2	HAR_Total (mgCaCO3/L)	333	450	377	435	334						436	444	404	484	360
3	Na% (%)	40	37	35	24	25						38	36	33	24	25
4	RSC (-)	3.6	0.1	1.0	0.0	0.4						1.7	0.1	0.8	0.3	0.1
5	SAR (-)	2.5	2.6	2.1	1.3	1.2						2.6	2.4	2.0	1.4	1.3
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ALLAHABAD (GG000Z9)

Local River : Ganga

Well Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	EC_FLD (µmho/cm)	1000	1010	1005	1000	1200	1197	1032	1000	1023	961		1020	1030	790	1260
2	EC_GEN (µmho/cm)	995	998	1000	996	1195	1173	1021	987	1015	959		1010	1020	783	1252
3	pH_FLD (pH units)	7.8	8.0	7.8	7.8	7.1	7.5	8.0	7.7	8.3	8.0		8.1	7.7	8.0	7.1
4	pH_GEN (pH units)	8.1	8.2	8.0	8.4	7.2	7.8	8.5	8.5	8.4	8.2		8.4	7.8	7.8	7.2
5	TDS (mg/L)		600	600	670	720				505	603		616	630	470	751
6	Temp (deg C)	26.5	27.0	26.5	26.5	26.5	24.5	24.2	24.0	24.5	26.0		26.0	26.0	26.5	26.5
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	39.8	39.8	0.0	39.8	0.0	68.4	58.4	77.0	40.0	19.9		39.8	39.8	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	360	364	288	368	414	717	448	480	375	274		368	376	292	444
3	B (mg/L)	0.00	0.00	0.00	0.00	0.00	0.02		0.00	0.01	0.02		0.03	0.03	0.00	0.02
4	Ca (mg/L)	52	53	54	53	67	46	48	49	43	56		62	63	48	72
5	Cl (mg/L)	58.0	60.0	62.0	110.0	120.0	58.7	61.3	109.1	87.7	106.0		64.0	60.0	76.0	136.0
6	CO3 (mg/L)	48.0	48.0	0.0	48.0	0.0	82.4	70.4	92.8	48.2	24.0		48.0	48.0	0.0	0.0
7	F (mg/L)	0.47	0.47	0.45	0.45	0.48	0.70		0.54	0.90	0.50		0.48	0.48	0.41	0.05
8	Fe (mg/L)	0.2	0.2	0.2	0.2	0.2	0.0		0.1	0.2	0.2		0.2	0.2	0.2	0.2
9	HCO3 (mg/L)	342	346	351	351	505	353	403	397	359	286		351	361	356	542
10	K (mg/L)	10.0	10.0	11.0	11.0	10.0	9.3	8.7	9.4	8.6	10.0		14.0	16.0	9.0	12.0
11	Mg (mg/L)	55.8	54.3	53.5	54.3	61.5	79.4	76.5	74.3	63.7	62.5		51.3	50.6	49.8	65.4
12	Na (mg/L)	76.0	78.0	76.0	77.0	75.0	138.7	97.3	80.1	86.6	79.0		80.0	82.0	52.0	82.0
13	NH3-N (mg N/L)	0.05	0.05	0.05	0.05	0.05	0.05		0.05	0.05	0.05		0.05	0.05	0.05	
14	NO2+NO3 (mg N/L)	2.15	2.15	2.18	2.17	2.24	7.42		2.19	7.23	2.63		2.46	2.47	1.81	2.25
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00	0.03		0.00	0.00	0.00		0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	2.15	2.15	2.18	2.17	2.24	7.38		2.18	7.23	2.63		2.46	2.47	1.81	2.25
17	P-Tot (mgP/L)	0.001	0.001	0.028	0.001	0.004	0.008		0.001	0.009	0.001		0.001	0.032	0.002	0.016
18	SiO2 (mg/L)	7.1	7.6	7.8	7.2	7.2	9.9		8.2	6.9	7.6		7.6	7.9	6.7	7.6
19	SO4 (mg/L)	26.0	26.0	34.0	28.0	32.0	16.0	18.3	15.7	75.2	57.0		28.0	32.0	24.0	40.0
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : ALLAHABAD (GG000Z9)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Well Water

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Winter					Summer									
		Nov - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO ₃ /L)	129	132	136	133	168	114	120	122	107	141		155	158	120	180
2	HAR_Total (mgCaCO ₃ /L)	362	358	358	359	425	445	439	432	372	401		369	369	328	453
3	Na% (%)	31	32	31	31	27	40	32	28	33	30		31	32	25	28
4	RSC (-)	0.0	0.2	0.0	0.2	0.0	0.3	0.3	1.0	0.3	0.0		0.0	0.2	0.0	0.0
5	SAR (-)	1.7	1.8	1.8	1.8	1.6	2.9	2.0	1.7	2.0	1.7		1.8	1.9	1.3	1.7
	PESTICIDES															

HISTORY SHEET

		Water Year	: 2015-2016
Site	: MIRZAPUR	Code	: GG000X9
State	: Uttar Pradesh	District	
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	:	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Ganga
Division	: M Ganga Div. III, Varanasi	Sub-Division	: M Ganga Yamuna SD, Allahabad
Drainage Area	: 485277 Sq. Km.	Bank	: Right
Latitude	: 25°09'30"	Longitude	: 82°32'39"
	Opening Date	Closing Date	
Gauge	: 31-05-1976		
Discharge	: 31-05-1976		
Sediment	: 04-09-1979		
Water Quality	: 31-05-1976		

Water Quality Datasheet for the period : 2015-2016

Station Name : MIRZAPUR (GG000X9)

Local River : Ganga

River Water Analysis

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	01-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	382.9	379.9	18912	5060	784.7	561.2	660.2	488.0	433.6	389.4	380.8	273.3
2	Colour_Cod (-)	Clear	Clear	Light Brown	Light Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (μmho/cm)	520	360	206	260	330	460	490	540	520	480	580	570
4	EC_GEN (μmho/cm)	512	362	200	257	321	460	484	537	510	471	576	569
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	8.0	7.5	7.5	7.4	8.0	8.1	7.9	8.0	8.0	7.7	7.9	8.0
7	pH_GEN (pH units)	8.0	7.9	8.0	7.6	8.1	8.4	8.0	8.1	8.1	7.9	8.0	8.1
8	TDS (mg/L)	310	218	120	154	192	280	290	322	306	283	345	340
9	Temp (deg C)	31.0	30.0	30.0	30.0	29.0	25.0	24.0	21.0	17.0	23.0	29.0	31.0
10	Turb (NTU)	0.2	0.4	1.1	1.4	0.2	0.4	0.2	0.4	0.8			
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	27.9	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	164	132	104	112	140	160	168	188	184	172	188	184
3	B (mg/L)	0.04	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
4	Ca (mg/L)	38	30	27	30	32	40	43	48	46	43	48	46
5	Cl (mg/L)	56.0	38.0	14.0	16.0	30.0	40.0	44.0	60.0	58.0	52.0	66.0	64.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	33.6	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.47	0.32	0.24	0.26	0.29	0.34	0.38	0.44	0.40	0.36	0.42	0.40
8	Fe (mg/L)	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
9	HCO3 (mg/L)	200	161	127	137	171	127	205	229	224	210	229	224
10	K (mg/L)	11.0	9.0	4.0	5.0	6.0	8.0	9.0	11.0	10.0	11.0	11.0	10.0
11	Mg (mg/L)	18.5	12.7	10.7	11.7	13.7	18.5	20.5	24.4	23.4	20.5	23.4	23.4
12	Na (mg/L)	35.0	27.0	9.0	11.0	20.0	27.0	29.0	39.0	37.0	42.0	42.0	41.0
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.32	0.21	0.17	0.20	0.18	0.20	0.20	0.23	0.21	0.20	0.22	0.22
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.32	0.21	0.17	0.20	0.18	0.20	0.20	0.23	0.21	0.20	0.22	0.22
17	o-PO4-P (mg P/L)	0.000	0.000										
18	P-Tot (mgP/L)	0.026	0.022	0.016	0.018	0.020	0.024	0.026	0.032	0.030	0.026	0.030	0.028

Water Quality Datasheet for the period : 2015-2016

Station Name : MIRZAPUR (GG00OX9)

Local River : Ganga

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

River Water Analysis

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	01-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
19	SiO ₂ (mg/L)	8.4	7.0	6.6	7.0	7.4	8.1	8.4	9.2	9.0	8.6	9.0	8.8
20	SO ₄ (mg/L)	38.0	28.0	16.0	18.0	20.0	26.0	42.0	46.0	42.0	38.0	44.0	42.0
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD ₃₋₂₇ (mg/L)	3.1	3.1	2.6	2.6	2.9	3.9	2.9	3.1	2.9	4.3	4.1	4.3
2	COD (mg/L)	24.5	11.9	12.1	12.4	13.7	18.2	17.3	18.1	19.2	18.1	19.0	18.8
3	DO (mg/L)	6.7	6.9	7.3	7.5	7.3	7.5	7.6	8.2	7.6	7.5	7.3	7.1
4	DO_SAT% (%)	90	91	96	99	94	90	91	92	79	87	94	95
5	FCol-MPN (MPN/100mL)	3600	3000	2200	2000	2500	2700	2300	2500	2400	2400	2700	3000
6	Tcol-MPN (MPN/100mL)	7100	6500	5000	4800	5000	5300	4800	5000	4700	5000	5500	6000
	TRACE & TOXIC												
1	As (µg/L)												2.0
2	Cd (µg/L)												2.5
3	Cr (µg/L)												7.5
4	Ni (µg/L)												6.0
5	Pb (µg/L)												8.0
6	Zn (µg/L)												8.5
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO ₃ /L)	96	76	68	76	80	100	108	120	116	108	120	116
2	HAR_Total (mgCaCO ₃ /L)	173	129	113	125	137	177	194	222	214	194	218	214
3	Na% (%)	29	30	14	15	23	24	24	27	26	31	28	28
4	RSC (-)	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.2	1.0	0.4	0.4	0.7	0.9	0.9	1.1	1.1	1.3	1.2	1.2
	PESTICIDES												

Water Quality Datasheet for the period : 2015-2016

Station Name : MIRZAPUR (GG000X9)

Local River : Ganga

Well Water Analysis

Division : M Ganga Div. III, Varanasi
Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	02-11-2015	01-05-2016
		B	B
	PHYSICAL		
1	Colour_Cod (-)	Clear	Clear
2	EC_FLD (μmho/cm)	1200	1070
3	EC_GEN (μmho/cm)	1152	1061
4	Odour_Code (-)	odour free	odour free
5	pH_FLD (pH units)	7.8	7.2
6	pH_GEN (pH units)	7.9	7.4
7	TDS (mg/L)	690	633
8	Temp (deg C)	25.0	28.0
	CHEMICAL		
1	Alk-Phen (mgCaCO3/L)	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	288	264
3	B (mg/L)	0.00	0.00
4	Ca (mg/L)	66	61
5	Cl (mg/L)	88.0	80.0
6	CO3 (mg/L)	0.0	0.0
7	F (mg/L)	0.40	0.34
8	Fe (mg/L)	0.2	0.2
9	HCO3 (mg/L)	351	322
10	K (mg/L)	9.0	8.0
11	Mg (mg/L)	42.9	40.0
12	Na (mg/L)	56.0	52.0
13	NH3-N (mg N/L)	0.05	0.05
14	NO2+NO3 (mg N/L)	2.14	1.96
15	NO2-N (mgN/L)	0.00	0.00
16	NO3-N (mgN/L)	2.14	1.96
17	P-Tot (mgP/L)	0.152	0.144
18	SiO2 (mg/L)	9.4	9.0
19	SO4 (mg/L)	72.0	64.0
	BIOLOGICAL/BACTERIOLOGICAL		

Water Quality Datasheet for the period : 2015-2016

Station Name : MIRZAPUR (GG00OX9)

Local River : Ganga

Well Water Analysis

S.No	Parameters	02-11-2015	01-05-2016
		B	B
	TRACE & TOXIC		
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)	164	152
2	HAR_Total (mgCaCO3/L)	343	319
3	Na% (%)	26	26
4	RSC (-)	0.0	0.0
5	SAR (-)	1.3	1.3
	PESTICIDES		

Division : M Ganga Div. III, Varanasi
Sub-Division : M Ganga Yamuna SD, Allahabad

Water Quality Summary for the period : 2015-2016

Station Name : MIRZAPUR (GG000X9)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Sub-Division : M Ganga Yamuna SD, Allahabad

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	19646	114.1	1799
2	EC_FLD (μmho/cm)	12	580	206	443
3	EC_GEN (μmho/cm)	12	576	200	438
4	pH_FLD (pH units)	12	8.1	7.4	7.8
5	pH_GEN (pH units)	12	8.4	7.6	8
6	TDS (mg/L)	12	345	120	263
7	Temp (deg C)	12	31.0	17.0	26.7
8	Turb (NTU)	9	1.4	0.2	0.6
	CHEMICAL				
1	Alk-Phen (mgCaCO ₃ /L)	12	27.9	0.0	2.3
2	ALK-TOT (mgCaCO ₃ /L)	12	188	104	158
3	B (mg/L)	12	0.04	0.02	0.03
4	Ca (mg/L)	12	48	27	40
5	Cl (mg/L)	12	66.0	14.0	44.8
6	CO ₃ (mg/L)	12	33.6	0.0	2.8
7	F (mg/L)	12	0.47	0.24	0.36
8	Fe (mg/L)	12	0.3	0.2	0.2
9	HCO ₃ (mg/L)	12	229	127	187
10	K (mg/L)	12	11.0	4.0	8.8
11	Mg (mg/L)	12	24.4	10.7	18.5
12	Na (mg/L)	12	42.0	9.0	29.9
13	NH ₃ -N (mg N/L)	12	0.05	0.00	0.01
14	NO ₂ +NO ₃ (mg N/L)	12	0.32	0.17	0.21
15	NO ₂ -N (mgN/L)	12	0.00	0.00	0
16	NO ₃ -N (mgN/L)	12	0.32	0.17	0.21
17	P-Tot (mgP/L)	12	0.032	0.016	0.025
18	SiO ₂ (mg/L)	12	9.2	6.6	8.1
19	SO ₄ (mg/L)	12	46.0	16.0	33.3
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD ₃₋₂₇ (mg/L)	12	4.3	2.6	3.3
2	COD (mg/L)	12	24.5	11.9	16.9
3	DO (mg/L)	12	8.2	6.7	7.3
4	DO_SAT% (%)	12	99	79	91
5	FCol-MPN (MPN/100mL)	12	3600	2000	2608
6	Tcol-MPN (MPN/100mL)	12	7100	4700	5392
	TRACE & TOXIC				
1	As (μg/L)	1	2.0	2.0	2
2	Cd (μg/L)	1	2.5	2.5	2.5
3	Cr (μg/L)	1	7.5	7.5	7.5
4	Ni (μg/L)	1	6.0	6.0	6
5	Pb (μg/L)	1	8.0	8.0	8
6	Zn (μg/L)	1	8.5	8.5	8.5
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO ₃ /L)	12	120	68	99
2	HAR_Total (mgCaCO ₃ /L)	12	222	113	176
3	Na% (%)	12	31	14	25
4	RSC (-)	12	0.1	0.0	0
5	SAR (-)	12	1.3	0.4	1
	PESTICIDES				

Water Quality Summary for the period : 2015-2016

Station Name : MIRZAPUR (GG000X9)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Sub-Division : M Ganga Yamuna SD, Allahabad

Well Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	EC_FLD (μmho/cm)	2	1200	1070	1135
2	EC_GEN (μmho/cm)	2	1152	1061	1107
3	pH_FLD (pH units)	2	7.8	7.2	7.5
4	pH_GEN (pH units)	2	7.9	7.4	7.7
5	TDS (mg/L)	2	690	633	662
6	Temp (deg C)	2	28.0	25.0	26.5
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	2	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	2	288	264	276
3	B (mg/L)	2	0.00	0.00	0.00
4	Ca (mg/L)	2	66	61	63
5	Cl (mg/L)	2	88.0	80.0	84.0
6	CO3 (mg/L)	2	0.0	0.0	0.0
7	F (mg/L)	2	0.40	0.34	0.37
8	Fe (mg/L)	2	0.2	0.2	0.2
9	HCO3 (mg/L)	2	351	322	337
10	K (mg/L)	2	9.0	8.0	8.5
11	Mg (mg/L)	2	42.9	40.0	41.5
12	Na (mg/L)	2	56.0	52.0	54.0
13	NH3-N (mg N/L)	2	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	2	2.14	1.96	2.05
15	NO2-N (mgN/L)	2	0.00	0.00	0.00
16	NO3-N (mgN/L)	2	2.14	1.96	2.05
17	P-Tot (mgP/L)	2	0.152	0.144	0.148
18	SiO2 (mg/L)	2	9.4	9.0	9.2
19	SO4 (mg/L)	2	72.0	64.0	68.0
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	2	164	152	158
2	HAR_Total (mgCaCO3/L)	2	343	319	331
3	Na% (%)	2	26	26	26
4	RSC (-)	2	0.0	0.0	0.0
5	SAR (-)	2	1.3	1.3	1.3
	PESTICIDES				

Water Quality Seasonal Average for the period: 2006-2016

Station Name : MIRZAPUR (GG000X9)

Local River : Ganga

River Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	Q (cumec)	3012	1634	4865	960.5	5847	8721	3801	11510	1477	5104	419.8	433.6	685.0	613.4	705.2
2	EC_FLD (µmho/cm)	370	439	314	351	430	371	311	343	382	335	420	433	370	441	339
3	EC_GEN (µmho/cm)	347	432	295	412	424	365	298	318	378	330	387	427	356	437	333
4	pH_FLD (pH units)	7.6	8.3	8.1	8.2	8.3	8.5	7.7	8.0	7.8	7.7	7.5	8.0	8.0	8.0	8.1
5	pH_GEN (pH units)	8.7	8.6	8.3	8.2	8.4	8.6	7.9	8.3	8.0	7.9	8.6	8.5	8.4	8.2	8.4
6	TDS (mg/L)				217	261	201	182	220	230	199				225	199
7	Temp (deg C)	29.0	27.5	29.2	30.1	30.0	29.3	28.7	29.6	31.6	30.0	20.0	19.4	21.9	21.8	21.3
8	Turb (NTU)				0.3	0.3	0.7	0.3	0.5	4.4	0.7				0.1	0.1
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	13.5	21.9	4.0	4.0	6.6	19.9	8.0	12.0	0.0	0.0	18.4	17.4	10.0	2.0	3.3
2	ALK-TOT (mgCaCO3/L)	223	135	85	131	134	165	159	157	137	130	226	127	121	150	128
3	B (mg/L)	0.00	0.05	0.00	0.03	0.00	0.00	0.01	0.02	0.02	0.03	0.00	0.00	0.00	0.00	0.00
4	Ca (mg/L)	12	36	23	28	33	34	40	39	36	32	24	34	33	27	34
5	Cl (mg/L)	56.1	41.6	26.8	45.2	56.0	57.6	53.2	52.4	48.6	30.8	47.8	39.5	47.7	64.2	50.0
6	CO3 (mg/L)	16.3	26.4	4.8	4.8	8.0	24.0	9.6	14.4	0.0	0.0	22.2	21.0	12.0	2.4	4.0
7	F (mg/L)	0.17	0.10	0.05	0.44	0.74	0.41	0.51	0.53	0.44	0.32	0.05	0.19	0.17	0.15	0.55
8	Fe (mg/L)	0.0	0.1	0.0	0.1	0.3	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.2	0.3
9	HCO3 (mg/L)	127	111	94	150	147	152	175	162	167	159	156	112	123	179	148
10	K (mg/L)	5.8	6.4	6.6	4.5	12.8	7.2	8.0	8.2	7.6	7.0	7.3	6.8	10.8	5.2	8.8
11	Mg (mg/L)	13.5	15.1	12.2	19.2	18.0	15.5	15.7	16.0	16.7	13.5	19.9	17.6	20.0	20.6	17.0
12	Na (mg/L)	32.8	28.4	32.8	29.7	33.4	32.4	37.0	32.4	30.8	20.4	36.0	29.3	43.0	52.7	30.3
13	NH3-N (mg N/L)	0.05	0.05	0.05	0.10	0.05	0.05	0.05	0.05	0.05	0.00	0.05	0.05	0.05	0.08	0.05
14	NO2+NO3 (mg N/L)	0.42	0.08	0.18	0.47	0.27	0.26	0.29	0.29	0.29	0.22	0.24	0.25	0.46	0.70	0.55
15	NO2-N (mgN/L)	0.01	0.01	0.00	0.03	0.02	0.06	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.18
16	NO3-N (mgN/L)	0.41	0.08	0.18	0.44	0.25	0.20	0.29	0.29	0.29	0.22	0.23	0.25	0.46	0.68	0.37
17	P-Tot (mgP/L)	0.001	0.009	0.005	0.002	0.003	0.083	0.001	0.001	0.017	0.020	0.005	0.001	0.005	0.001	0.064
18	SiO2 (mg/L)	9.1	6.6	6.9	8.3	8.8	7.9	7.9	7.7	8.5	7.3	7.4	6.1	6.9	8.1	8.2

Water Quality Seasonal Average for the period: 2006-2016

Station Name : MIRZAPUR (GG00OX9)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

River Water

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
19	SO ₄ (mg/L)	30.2	37.0	35.6	30.4	26.1	28.8	31.2	42.0	29.6	24.0	31.8	39.3	40.8	24.5	31.5
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD ₃₋₂₇ (mg/L)	2.4	3.4	2.5	2.6	2.8	3.2	3.5	3.2	3.0	2.9	3.1	3.1	2.1	2.8	2.5
2	COD (mg/L)		11.3	6.6	9.9	11.5	11.7	9.0	10.5	16.6	14.9	12.1	8.0	2.6	9.7	14.5
3	DO (mg/L)	6.0	6.7	8.2	7.4	7.4	8.1	7.1	7.2	7.2	7.1	6.6	6.9	9.1	7.6	8.2
4	DO_SAT% (%)	77	85	106	98	98	105	92	94	99	94	72	74	102	86	92
5	FCol-MPN (MPN/100mL)		220	1440	3040	2940	2540	2720	2760	3160	2660	750	225	2125	4275	2575
6	Tcol-MPN (MPN/100mL)		720	3000	6600	4420	4880	5420	5200	6340	5680	1900	850	5875	7250	4800
	TRACE & TOXIC															
1	As (µg/L)															
2	Cd (µg/L)															
3	Cr (µg/L)															
4	Ni (µg/L)															
5	Pb (µg/L)															
6	Zn (µg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO ₃ /L)	31	91	57	71	82	84	100	98	90	79	59	85	82	69	84
2	HAR_Total (mgCaCO ₃ /L)	88	154	107	151	157	149	165	165	160	135	142	158	165	155	154
3	Na% (%)	42	28	39	30	29	31	32	29	28	22	34	28	34	42	29
4	RSC (-)	1.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.1	0.0
5	SAR (-)	1.5	1.0	1.4	1.1	1.2	1.2	1.3	1.1	1.1	0.7	1.3	1.0	1.5	1.9	1.1
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : MIRZAPUR (GG000X9)

Local River : Ganga

River Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	774.6	737.8	1291	677.1	535.7	488.8	208.6	391.5	240.8	340.6	457.9	627.9	759.9	743.5	347.8
2	EC_FLD (µmho/cm)	395	345	360	405	503	503	428	473	557	348	402	408	401	477	543
3	EC_GEN (µmho/cm)	388	337	357	393	498	475	385	462	556	346	394	397	397	468	539
4	pH_FLD (pH units)	8.3	8.0	8.2	7.9	8.0	7.5	8.6	7.9	8.5	8.4	8.3	8.2	8.1	8.0	7.9
5	pH_GEN (pH units)	8.6	8.2	8.4	8.0	8.2	8.6	9.0	8.2	8.6	8.7	8.6	8.4	8.4	8.0	8.0
6	TDS (mg/L)	195	189	232	230	300				275	195	208	222	234	280	323
7	Temp (deg C)	22.9	23.0	24.3	20.8	21.8	25.7	25.2	23.5	26.5	25.3	24.7	25.3	25.0	25.0	27.7
8	Turb (NTU)	0.1	0.2	0.3	3.6	0.5				0.1	0.1	0.1	0.1	0.1	0.3	
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	17.4	12.9	0.0	7.0	19.9	19.9	6.6	26.6	10.2	13.3	10.0	19.9	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	159	166	169	137	175	160	176	139	212	118	165	163	175	153	181
3	B (mg/L)	0.01	0.02	0.03	0.03	0.03	0.00		0.01	0.01	0.00	0.02	0.02	0.03	0.04	0.03
4	Ca (mg/L)	34	41	40	39	44	18	33	29	41	31	36	39	41	37	46
5	Cl (mg/L)	48.5	54.0	54.0	44.5	50.5	37.7	34.7	64.5	61.0	53.3	50.0	53.3	54.0	53.0	60.7
6	CO3 (mg/L)	0.0	21.0	15.6	0.0	8.4	24.0	24.0	8.0	32.0	12.3	16.0	12.0	24.0	0.0	0.0
7	F (mg/L)	0.50	0.47	0.46	0.43	0.39	0.25		0.14	0.41	0.49	0.47	0.51	0.47	0.43	0.39
8	Fe (mg/L)	0.2	0.2	0.2	0.2	0.2	0.0		0.0	0.3	0.2	0.2	0.2	0.2	0.2	0.2
9	HCO3 (mg/L)	193	160	174	167	196	146	99	153	193	120	169	174	164	187	221
10	K (mg/L)	7.3	7.0	7.0	8.0	9.5	7.7	7.0	8.5	7.7	8.3	9.0	8.7	7.7	9.0	10.7
11	Mg (mg/L)	11.1	15.5	16.8	16.2	21.7	22.9	14.9	20.3	22.2	20.1	13.5	17.0	16.0	17.8	22.4
12	Na (mg/L)	25.8	29.0	29.0	29.3	33.0	36.3	32.0	45.3	51.7	31.7	28.3	29.0	29.3	33.3	41.7
13	NH3-N (mg N/L)	0.05	0.05	0.05	0.05	0.00	0.05		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.31	0.27	0.27	0.28	0.21	0.16		0.03	0.08	0.50	0.38	0.35	0.29	0.32	0.21
15	NO2-N (mgN/L)	0.22	0.00	0.00	0.00	0.00	0.02		0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.09	0.27	0.27	0.28	0.21	0.14		0.03	0.04	0.50	0.38	0.35	0.29	0.32	0.21
17	P-Tot (mgP/L)	0.025	0.013	0.001	0.013	0.028	0.005		0.001	0.001	0.009	0.020	0.018	0.001	0.021	0.028
18	SiO2 (mg/L)	8.1	7.8	7.9	7.7	8.7	8.5		7.0	8.8	8.2	8.1	8.0	8.2	8.1	8.8

Water Quality Seasonal Average for the period: 2006-2016

Station Name : MIRZAPUR (GG00OX9)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

River Water

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Winter					Summer									
		Jan - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
19	SO ₄ (mg/L)	31.0	35.0	35.0	30.5	39.0	36.0	39.0	38.9	34.4	32.5	28.0	34.0	35.3	34.7	41.3
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD ₃₋₂₇ (mg/L)	2.8	3.3	2.9	2.9	3.2	3.4	2.7	2.3	3.8	2.9	2.8	3.0	2.9	3.1	4.2
2	COD (mg/L)	11.1	14.3	12.3	17.9	18.2	15.5	5.2	4.6	27.2	14.5	12.6	14.8	13.1	22.6	18.6
3	DO (mg/L)	8.0	8.1	7.8	7.5	7.7	6.7	7.5	8.3	7.6	8.4	8.0	8.0	7.7	7.1	7.3
4	DO_SAT% (%)	93	94	93	83	88	81	91	97	94	103	96	97	94	86	92
5	FCol-MPN (MPN/100mL)	2675	2925	2950	2700	2475	867	267	2100	2067	3000	3067	3167	3167	3267	2700
6	Tcol-MPN (MPN/100mL)	4800	5650	5650	5475	4950	2467	733	6033	4800	5500	5500	5700	6233	6267	5500
	TRACE & TOXIC															
1	As (µg/L)										7.0	2.0	2.0	2.5	2.0	2.0
2	Cd (µg/L)										2.0	3.0	3.0	4.0	3.0	2.5
3	Cr (µg/L)										15.0	8.0	6.0	6.0	7.0	7.5
4	Ni (µg/L)										25.0	9.0	10.0	12.0	14.0	6.0
5	Pb (µg/L)										47.0	7.0	8.0	10.0	9.0	8.0
6	Zn (µg/L)										56.0	40.0	70.0	7.6	8.0	8.5
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO ₃ /L)	86	102	99	97	111	46	82	72	101	77	90	97	101	91	115
2	HAR_Total (mgCaCO ₃ /L)	132	166	169	164	202	141	145	157	194	161	147	168	168	166	208
3	Na% (%)	28	27	26	27	25	34	31	37	36	29	28	26	27	29	29
4	RSC (-)	0.5	0.0	0.0	0.0	0.0	0.4	0.0	0.1	0.5	0.0	0.4	0.0	0.2	0.0	0.0
5	SAR (-)	1.0	1.0	1.0	1.0	1.0	1.3	1.2	1.6	1.6	1.1	1.0	1.0	1.0	1.1	1.3
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : MIRZAPUR (GG000X9)

Local River : Ganga

Well Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	EC_FLD (µmho/cm)	1310	1266	981	920	799						1205	1181	985	1001	860
2	EC_GEN (µmho/cm)	1275	1258	973	1130	787						1175	1172	973	997	851
3	pH_FLD (pH units)	7.4	8.2	7.5	8.1	8.2						7.5	8.1	7.6	8.0	8.1
4	pH_GEN (pH units)	8.2	8.6	7.9	8.3	8.3						8.5	8.7	8.2	8.1	8.3
5	TDS (mg/L)				675	504									505	526
6	Temp (deg C)	27.4	25.2	26.4	29.7	30.2						22.4	22.1	22.3	22.0	25.8
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	38.2	59.8	0.0	8.0	6.6						70.7	52.8	39.8	5.0	10.0
2	ALK-TOT (mgCaCO3/L)	698	583	365	368	199						955	451	348	325	221
3	B (mg/L)	0.00	0.09	0.01	0.00	0.01						0.04	0.00	0.01	0.00	0.00
4	Ca (mg/L)	34	60	44	59	67						41	49	54	42	49
5	Cl (mg/L)	70.2	93.4	56.3	123.8	84.3						83.5	83.5	124.6	124.0	96.0
6	CO3 (mg/L)	46.1	72.0	0.0	9.6	8.0						85.2	63.6	48.0	6.0	12.0
7	F (mg/L)	0.12	0.55	0.43	0.56	1.03						0.50	0.28	0.25	0.18	0.39
8	Fe (mg/L)	0.0	0.3	0.0	21.7	0.4						0.0	0.3	0.0	0.1	0.2
9	HCO3 (mg/L)	379	471	446	429	226						495	421	327	384	245
10	K (mg/L)	4.2	13.6	13.5	6.2	6.7						14.5	15.3	12.2	3.7	10.5
11	Mg (mg/L)	40.7	47.0	31.6	39.7	29.2						37.5	54.7	32.3	57.3	36.6
12	Na (mg/L)	158.0	249.4	176.0	106.9	51.7						259.8	246.0	124.6	88.7	63.0
13	NH3-N (mg N/L)	0.05	0.08	0.05	0.05	0.05						0.06	0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.54	0.74	1.22	5.88	2.12						0.32	0.04	0.19	3.13	2.23
15	NO2-N (mgN/L)	0.04	0.06	0.18	0.12	0.00						0.07	0.00	0.01	0.02	0.00
16	NO3-N (mgN/L)	0.49	0.68	1.04	5.76	2.12						0.25	0.04	0.18	3.11	2.23
17	P-Tot (mgP/L)	0.001	0.134	0.001	0.283	0.088						0.019	0.013	0.019	0.016	0.142
18	SiO2 (mg/L)	10.4	8.9	6.3	8.5	11.7						8.7	7.6	7.2	14.0	9.1
19	SO4 (mg/L)	35.4	18.6	34.0	34.3	56.3						39.5	17.3	19.3	64.4	52.0
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : MIRZAPUR (GG00OX9)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Well Water

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	85	149	111	147	168						104	121	136	105	123
2	HAR_Total (mgCaCO3/L)	254	345	242	312	290						260	349	270	344	276
3	Na% (%)	55	60	53	42	27						67	59	47	36	32
4	RSC (-)	2.9	3.3	2.5	1.2	0.0						5.8	2.1	1.6	0.3	0.0
5	SAR (-)	4.4	5.9	5.0	2.7	1.3						7.1	5.8	3.3	2.1	1.7
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : MIRZAPUR (GG000X9)

Local River : Ganga

Well Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Winter					Summer									
		Jan - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	EC_FLD (μmho/cm)	970	980	980	990	1200	1220	1005	1270	877	802	975	980	980	1350	1070
2	EC_GEN (μmho/cm)	962	969	978	978	1152	1184	997	1257	871	798	970	972	972	1344	1061
3	pH_FLD (pH units)	8.2	7.8	8.0	8.0	7.8	7.5	8.3	7.6	8.0	7.5	8.0	8.0	8.1	8.0	7.2
4	pH_GEN (pH units)	8.4	8.0	8.2	8.3	7.9	8.2	9.2	8.5	8.2	7.8	8.2	8.4	8.4	8.0	7.4
5	TDS (mg/L)	430	464	460	592	690				422	462	542	478	470	810	633
6	Temp (deg C)	28.0	26.0	25.0	26.0	25.0	24.2	25.0	23.2	25.2	23.0	24.0	27.0	26.0	26.5	28.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	19.9	19.9	0.0	19.9	0.0	63.7	50.5	48.1	35.8	0.0	0.0	0.0	10.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	208	216	175	208	288	774	449	364	310	184	184	192	216	280	264
3	B (mg/L)	0.00	0.00	0.01	0.00	0.00	0.00		0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00
4	Ca (mg/L)	51	51	50	55	66	60	46	66	41	70	63	64	62	63	61
5	Cl (mg/L)	64.0	66.0	64.0	104.0	88.0	99.3	80.7	149.0	85.6	96.0	72.0	72.0	60.0	116.0	80.0
6	CO3 (mg/L)	24.0	24.0	0.0	24.0	0.0	76.8	60.8	58.0	43.1	0.0	0.0	0.0	12.0	0.0	0.0
7	F (mg/L)	0.40	0.37	0.34	0.37	0.40	0.64		0.35	0.75	0.31	0.34	0.34	0.36	0.48	0.34
8	Fe (mg/L)	0.2	0.2	0.3	0.2	0.2	0.0		0.0	0.2	0.4	0.1	0.1	0.1	0.2	0.2
9	HCO3 (mg/L)	205	215	214	205	351	479	424	327	291	224	224	234	239	342	322
10	K (mg/L)	6.0	67.0	8.0	8.0	9.0	15.7	13.7	9.1	4.9	7.0	8.0	72.0	9.0	11.0	8.0
11	Mg (mg/L)	35.9	37.3	36.5	33.4	42.9	28.3	52.2	33.3	46.0	19.2	30.6	30.6	30.3	40.0	40.0
12	Na (mg/L)	70.0	7.0	68.0	70.0	56.0	258.7	176.0	106.7	90.3	52.0	72.0	8.0	70.0	82.0	52.0
13	NH3-N (mg N/L)	0.05	0.05	0.05	0.05	0.05	0.06		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	1.93	1.94	1.98	1.96	2.14	0.33		0.36	2.44	2.00	1.96	1.97	1.94	2.33	1.96
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00	0.01		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	1.93	1.94	1.98	1.96	2.14	0.32		0.36	2.44	2.00	1.96	1.97	1.94	2.33	1.96
17	P-Tot (mgP/L)	0.096	0.096	0.088	0.097	0.152	0.275		0.042	0.044	0.184	0.174	0.174	0.140	0.166	0.144
18	SiO2 (mg/L)	9.1	8.9	8.8	8.3	9.4	10.4		8.1	12.7	8.4	8.6	8.6	8.6	9.8	9.0
19	SO4 (mg/L)	45.0	44.0	40.0	64.0	72.0	35.3	19.7	8.8	34.9	40.0	47.0	46.0	42.0	84.0	64.0
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : MIRZAPUR (GG00OX9)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Well Water

Sub-Division : M Ganga Yamuna SD, Allahabad

S.No	Parameters	Winter					Summer									
		Jan - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	127	127	125	137	164	150	115	164	102	175	158	160	156	158	152
2	HAR_Total (mgCaCO3/L)	277	282	277	276	343	268	332	303	294	254	286	287	282	324	319
3	Na% (%)	35	4	34	35	26	66	45	43	40	30	35	4	34	35	26
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	5.1	2.4	1.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.8	0.2	1.8	1.8	1.3	6.9	4.2	2.7	2.4	1.4	1.9	0.2	1.8	2.0	1.3
	PESTICIDES															

HISTORY SHEET

		Water Year	: 2015-2016
Site	: Varanasi	Code	: GGOOOW3
State	: Uttar Pradesh	District	Varanasi
Basin	: Ganga-Brahm-Meghna Basin	Independent River	: Ganga
Tributary	: -	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Ganga
Division	: M Ganga Div. III, Varanasi	Sub-Division	: M Ganga - C Sarju SD, Varanasi
Drainage Area	: 489087 Sq. Km.	Bank	: Left
Latitude	: 25°19'24"	Longitude	: 83°02'24"
	Opening Date	Closing Date	
Gauge	: 10-04-1959		
Discharge	: 10-04-1959		
Sediment	: 01-07-1961		
Water Quality	: 17-08-1963		

Water Quality Datasheet for the period : 2015-2016

Station Name : Varanasi (GGOOW3)

Local River : Ganga

River Water Analysis

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga - C Sarju SD, Varanasi

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
	PHYSICAL												
1	Q (cumec)	372.7	341.0	18277	4510	818.2	458.0	529.0	344.0	341.0	257.0	223.0	179.3
2	Colour_Cod (-)	Clear	Clear	Brown	Brown	Brown	Clear	Clear	Clear	Clear	Clear	Clear	Clear
3	EC_FLD (μmho/cm)	610	400	330	270	330	460	500	530	480	490	580	580
4	EC_GEN (μmho/cm)	601	394	321	256	330	458	497	520	475	482	578	577
5	Odour_Code (-)	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free	odour free
6	pH_FLD (pH units)	7.7	7.8	7.7	7.4	7.6	8.2	7.9	8.0	8.1	7.8	7.8	7.9
7	pH_GEN (pH units)	7.8	7.9	7.9	7.6	7.7	8.3	8.0	8.1	8.2	7.9	7.9	8.0
8	TDS (mg/L)	360	236	193	154	200	280	300	310	285	290	350	348
9	Temp (deg C)	32.0	28.5	30.5	30.0	30.5	27.0	23.0	17.5	19.0	22.5	27.5	27.5
10	Turb (NTU)	0.2	0.4	4.4	5.6	6.4	0.4	0.5	0.4	0.8	0.7	0.8	0.7
	CHEMICAL												
1	Alk-Phen (mgCaCO3/L)	0.0	0.0	0.0	0.0	0.0	19.6	0.0	0.0	0.0	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	176	140	96	84	136	159	192	196	184	192	228	220
3	B (mg/L)	0.07	0.03	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03
4	Ca (mg/L)	43	34	29	22	34	51	56	58	55	55	64	63
5	Cl (mg/L)	66.0	42.0	14.0	10.0	34.0	70.0	76.0	78.0	74.0	76.0	88.0	88.0
6	CO3 (mg/L)	0.0	0.0	0.0	0.0	0.0	23.6	0.0	0.0	0.0	0.0	0.0	0.0
7	F (mg/L)	0.66	0.05	0.34	0.25	0.30	0.42	0.46	0.48	0.44	0.46	0.52	0.50
8	Fe (mg/L)	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1
9	HCO3 (mg/L)	215	171	117	102	166	146	234	239	224	234	278	268
10	K (mg/L)	14.0	10.0	4.0	4.0	6.0	12.0	14.0	14.0	12.0	12.0	16.0	15.0
11	Mg (mg/L)	22.5	13.7	11.7	9.8	13.7	19.5	22.5	23.4	21.5	22.5	26.4	26.4
12	Na (mg/L)	42.0	28.0	9.0	7.0	23.0	44.0	48.0	50.0	46.0	47.0	56.0	55.0
13	NH3-N (mg N/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.32	0.24	0.22	0.21	0.21	0.30	0.30	0.31	0.30	0.30	0.32	0.32
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.32	0.24	0.22	0.21	0.21	0.30	0.30	0.31	0.30	0.30	0.32	0.32
17	P-Tot (mgP/L)	0.026	0.022	0.028	0.012	0.020	0.028	0.032	0.034	0.030	0.032	0.038	0.036
18	SiO2 (mg/L)	10.6	8.2	7.4	6.6	7.0	8.2	8.6	8.8	8.4	8.6	9.2	9.1

Water Quality Datasheet for the period : 2015-2016

Station Name : Varanasi (GGOOW3)

Local River : Ganga

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga - C Sarju SD, Varanasi

River Water Analysis

S.No	Parameters	01-06-2015	01-07-2015	01-08-2015	01-09-2015	01-10-2015	02-11-2015	01-12-2015	01-01-2016	01-02-2016	01-03-2016	01-04-2016	02-05-2016
		A	A	A	A	A	A	A	A	A	A	A	A
19	SO4 (mg/L)	48.0	32.0	20.0	14.0	18.0	30.0	34.0	36.0	32.0	34.0	40.0	40.0
	BIOLOGICAL/BACTERIOLOGICAL												
1	BOD3-27 (mg/L)	3.5	3.3	2.9	2.9	2.8	4.5	4.3	2.9	3.1	3.5	3.7	4.1
2	COD (mg/L)	22.8	10.1	10.2	10.2	11.5	19.1	19.5	20.1	19.2	17.7	18.4	19.8
3	DO (mg/L)	6.6	6.5	7.5	7.6	7.5	8.8	8.4	6.6	8.2	7.6	7.5	7.3
4	DO_SAT% (%)	91	83	99	101	99	111	98	69	89	87	94	91
5	FCol-MPN (MPN/100mL)	5100	4400	3500	3300	3500	3600	3300	3300	3000	3000	3500	3800
6	Tcol-MPN (MPN/100mL)	11000	9000	7200	6800	7000	7200	7200	7200	7000	7000	8000	8500
	TRACE & TOXIC												
1	As (µg/L)												2.5
2	Cd (µg/L)												3.0
3	Cr (µg/L)												6.0
4	Ni (µg/L)												8.0
5	Pb (µg/L)												5.0
6	Zn (µg/L)												9.0
	CHEMICAL INDICES												
1	HAR_Ca (mgCaCO3/L)	108	84	72	56	84	128	140	144	136	136	160	156
2	HAR_Total (mgCaCO3/L)	202	141	121	97	141	210	234	242	226	230	270	266
3	Na% (%)	30	28	14	13	25	30	29	30	29	30	30	30
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	SAR (-)	1.3	1.0	0.4	0.3	0.8	1.3	1.4	1.4	1.3	1.4	1.5	1.5
	PESTICIDES												

Water Quality Datasheet for the period : 2015-2016

Station Name : Varanasi (GGOOW3)

Local River : Ganga

Well Water Analysis

Division : M Ganga Div. III, Varanasi
Sub-Division : M Ganga - C Sarju SD, Varanasi

S.No	Parameters	02-11-2015	02-05-2016
		B	B
	PHYSICAL		
1	Colour_Cod (-)	Clear	Clear
2	EC_FLD (μmho/cm)	3700	3500
3	EC_GEN (μmho/cm)	3630	3480
4	Odour_Code (-)	odour free	odour free
5	pH_FLD (pH units)	7.3	7.4
6	pH_GEN (pH units)	7.4	7.6
7	TDS (mg/L)	2180	2090
8	Temp (deg C)	25.5	25.0
	CHEMICAL		
1	Alk-Phen (mgCaCO3/L)	0.0	
2	ALK-TOT (mgCaCO3/L)	432	
3	B (mg/L)	0.03	0.02
4	Ca (mg/L)	56	51
5	Cl (mg/L)	284.0	242.0
6	CO3 (mg/L)	0.0	0.0
7	F (mg/L)	0.74	0.69
8	Fe (mg/L)	0.1	0.1
9	HCO3 (mg/L)	527	454
10	K (mg/L)	18.0	14.0
11	Mg (mg/L)	118.1	99.6
12	Na (mg/L)	172.0	162.0
13	NH3-N (mg N/L)	0.00	0.00
14	NO2+NO3 (mg N/L)	3.23	2.96
15	NO2-N (mgN/L)	0.00	0.00
16	NO3-N (mgN/L)	3.23	2.96
17	P-Tot (mgP/L)	0.196	0.184
18	SiO2 (mg/L)	10.8	10.2
19	SO4 (mg/L)	134.0	122.0
	BIOLOGICAL/BACTERIOLOGICAL		

Water Quality Datasheet for the period : 2015-2016

Station Name : Varanasi (GG000W3)

Local River : Ganga

Well Water Analysis

Division : M Ganga Div. III, Varanasi
Sub-Division : M Ganga - C Sarju SD, Varanasi

S.No	Parameters	02-11-2015	02-05-2016
		B	B
	TRACE & TOXIC		
	CHEMICAL INDICES		
1	HAR_Ca (mgCaCO3/L)	140	128
2	HAR_Total (mgCaCO3/L)	632	543
3	Na% (%)	37	39
4	RSC (-)	0.0	0.0
5	SAR (-)	3.0	3.0
	PESTICIDES		

Water Quality Summary for the period : 2015-2016

Station Name : Varanasi (GG00OW3)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Sub-Division : M Ganga - C Sarju SD, Varanasi

River Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	Q (cumec)	366	18277	139.6	1360
2	EC_FLD (μmho/cm)	12	610	270	463
3	EC_GEN (μmho/cm)	12	601	256	457
4	pH_FLD (pH units)	12	8.2	7.4	7.8
5	pH_GEN (pH units)	12	8.3	7.6	8
6	TDS (mg/L)	12	360	154	276
7	Temp (deg C)	12	32.0	17.5	26.3
8	Turb (NTU)	12	6.4	0.2	1.8
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	12	19.6	0.0	1.6
2	ALK-TOT (mgCaCO3/L)	12	228	84	167
3	B (mg/L)	12	0.07	0.02	0.03
4	Ca (mg/L)	12	64	22	47
5	Cl (mg/L)	12	88.0	10.0	59.7
6	CO3 (mg/L)	12	23.6	0.0	2
7	F (mg/L)	12	0.66	0.05	0.41
8	Fe (mg/L)	12	0.1	0.0	0.1
9	HCO3 (mg/L)	12	278	102	200
10	K (mg/L)	12	16.0	4.0	11.1
11	Mg (mg/L)	12	26.4	9.8	19.4
12	Na (mg/L)	12	56.0	7.0	37.9
13	NH3-N (mg N/L)	12	0.00	0.00	0
14	NO2+NO3 (mg N/L)	12	0.32	0.21	0.28
15	NO2-N (mgN/L)	12	0.00	0.00	0
16	NO3-N (mgN/L)	12	0.32	0.21	0.28
17	P-Tot (mgP/L)	12	0.038	0.012	0.028
18	SiO2 (mg/L)	12	10.6	6.6	8.4
19	SO4 (mg/L)	12	48.0	14.0	31.5
	BIOLOGICAL/BACTERIOLOGICAL				
1	BOD3-27 (mg/L)	12	4.5	2.8	3.5
2	COD (mg/L)	12	22.8	10.1	16.6
3	DO (mg/L)	12	8.8	6.5	7.5
4	DO_SAT% (%)	12	111	69	93
5	FCol-MPN (MPN/100mL)	12	5100	3000	3608
6	Tcol-MPN (MPN/100mL)	12	11000	6800	7758
	TRACE & TOXIC				
1	As (μg/L)	1	2.5	2.5	2.5
2	Cd (μg/L)	1	3.0	3.0	3.0
3	Cr (μg/L)	1	6.0	6.0	6.0
4	Ni (μg/L)	1	8.0	8.0	8.0
5	Pb (μg/L)		5.0	5.0	5.0
6	Zn (μg/L)		9.0	9.0	9.0
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	12	160	56	117
2	HAR_Total (mgCaCO3/L)	12	270	97	198

Water Quality Summary for the period : 2015-2016

Station Name : Varanasi (GG00OW3)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Sub-Division : M Ganga - C Sarju SD, Varanasi

River Water Summary				
3	Na% (%)	12	30	13
4	RSC (-)	12	0.0	0.0
5	SAR (-)	12	1.5	0.3
	PESTICIDES			

Water Quality Summary for the period : 2015-2016

Station Name : Varanasi (GG00OW3)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Sub-Division : M Ganga - C Sarju SD, Varanasi

Well Water Summary

S.No	Parameters	Number of Observations	Maximum	Minimum	Mean
	PHYSICAL				
1	EC_FLD (μmho/cm)	2	3700	3500	3600
2	EC_GEN (μmho/cm)	2	3630	3480	3555
3	pH_FLD (pH units)	2	7.4	7.3	7.4
4	pH_GEN (pH units)	2	7.6	7.4	7.5
5	TDS (mg/L)	2	2180	2090	2135
6	Temp (deg C)	2	25.5	25.0	25.3
	CHEMICAL				
1	Alk-Phen (mgCaCO3/L)	1	0.0	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	1	432	432	432
3	B (mg/L)	2	0.03	0.02	0.03
4	Ca (mg/L)	2	56	51	54
5	Cl (mg/L)	2	284.0	242.0	263.0
6	CO3 (mg/L)	2	0.0	0.0	0.0
7	F (mg/L)	2	0.74	0.69	0.71
8	Fe (mg/L)	2	0.1	0.1	0.1
9	HCO3 (mg/L)	2	527	454	491
10	K (mg/L)	2	18.0	14.0	16.0
11	Mg (mg/L)	2	118.1	99.6	108.8
12	Na (mg/L)	2	172.0	162.0	167.0
13	NH3-N (mg N/L)	2	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	2	3.23	2.96	3.10
15	NO2-N (mgN/L)	2	0.00	0.00	0.00
16	NO3-N (mgN/L)	2	3.23	2.96	3.10
17	P-Tot (mgP/L)	2	0.196	0.184	0.190
18	SiO2 (mg/L)	2	10.8	10.2	10.5
19	SO4 (mg/L)	2	134.0	122.0	128.0
	BIOLOGICAL/BACTERIOLOGICAL				
	TRACE & TOXIC				
	CHEMICAL INDICES				
1	HAR_Ca (mgCaCO3/L)	2	140	128	134
2	HAR_Total (mgCaCO3/L)	2	632	543	588
3	Na% (%)	2	39	37	38
4	RSC (-)	2	0.0	0.0	0.0
5	SAR (-)	2	3.0	3.0	3.0
	PESTICIDES				

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Varanasi (GGOOOW3)

Local River : Ganga

River Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga - C Sarju SD, Varanasi

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	Q (cumec)	2598	1639	5315	1104	4787	7856	3334	12192	2345	4864	607.9	507.5	795.0	577.9	886.2
2	EC_FLD (µmho/cm)	404	474	268	505	420	394	380	424	460	388	370	486	339	441	335
3	EC_GEN (µmho/cm)	388	466	254	498	423	387	374	415	452	380	355	481	327	414	341
4	pH_FLD (pH units)	8.5	8.3	7.9	8.2	8.4	8.3	8.0	8.0	7.9	7.6	8.3	8.4	8.0	8.2	8.4
5	pH_GEN (pH units)	8.8	8.5	8.8	8.3	8.4	8.5	8.2	8.3	8.1	7.8	8.6	8.4	8.4	8.4	8.7
6	SS (mg/L)															
7	TDS (mg/L)				274	268	219	239	198	272	229				219	213
8	Temp (deg C)	30.6	30.2	30.2	31.1	31.3	30.4	30.5	30.8	30.7	30.3	20.3	20.5	21.9	20.3	22.4
9	Turb (NTU)				0.3	0.3		0.7		1.5	3.4				0.1	0.1
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	9.6	22.7	13.9	0.0	27.9	19.9	12.0	19.9	4.0	0.0	20.9	12.5	19.9	6.0	19.9
2	ALK-TOT (mgCaCO3/L)	106	200	89	165	165	161	165	148	140	126	204	213	123	176	165
3	B (mg/L)	0.00	0.02	0.05	0.05	0.04	0.03	0.03	0.03	0.02	0.03	0.00	0.00	0.10	0.00	0.01
4	Ca (mg/L)	14	40	26	32	32	30	34	32	32	32	21	36	33	31	35
5	Cl (mg/L)	43.4	38.2	24.8	72.8	55.0	53.2	64.8	64.4	53.2	33.2	49.0	39.5	58.3	62.3	50.5
6	CO3 (mg/L)	11.6	27.4	16.8	0.0	33.6	24.0	14.4	24.0	4.8	0.0	25.2	15.0	24.0	7.2	24.0
7	F (mg/L)	0.08	0.25	0.32	0.55	0.74	0.61	0.66	0.66	0.64	0.32	0.05	0.27	0.14	0.15	0.56
8	Fe (mg/L)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0
9	HCO3 (mg/L)	105	117	74	202	133	147	172	148	161	154	162	137	101	200	153
10	K (mg/L)	5.6	6.2	6.2	6.5	8.0	9.8	8.8	8.6	8.4	7.6	6.5	6.8	7.7	5.0	8.5
11	Mg (mg/L)	16.8	12.7	11.1	18.0	13.4	14.9	16.8	16.6	15.7	14.2	25.1	17.4	22.3	17.1	19.4
12	Na (mg/L)	29.4	41.8	25.4	58.3	38.4	31.4	28.6	34.4	32.6	21.8	37.0	43.0	38.8	59.1	27.5
13	NH3-N (mg N/L)	0.05	0.05	0.05	0.07	0.05	0.05	0.05	0.00	0.00	0.00	0.05	0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	0.08	0.14	0.40	0.25	0.16	0.26	0.27	0.26	0.24	0.24	0.17	0.08	0.43	0.45	0.32
15	NO2-N (mgN/L)	0.05	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.05	0.01	0.00	0.01	0.00
16	NO3-N (mgN/L)	0.03	0.13	0.40	0.24	0.16	0.25	0.27	0.26	0.24	0.24	0.12	0.07	0.43	0.44	0.32
17	P-Tot (mgP/L)	0.001	0.001	0.001	0.002	0.001	0.001	0.001		0.021	0.022	0.006	0.001	0.001	0.001	0.001

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Varanasi (GGOOW3)

Local River : Ganga

River Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga - C Sarju SD, Varanasi

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
18	SiO2 (mg/L)	11.6	5.6	6.2	8.5	9.4	8.2	8.8	8.7	8.6	8.0	8.2	6.8	7.4	9.2	8.1
19	SO4 (mg/L)	25.4	23.0	20.0	28.6	22.4	23.6	29.8	33.6	33.0	26.4	34.3	25.0	30.4	19.8	19.8
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD3-27 (mg/L)	2.8	2.8	2.8	2.6	3.2	3.7	3.4	3.1	3.3	3.1	2.1	2.7	3.0	3.0	2.7
2	COD (mg/L)	7.1	11.8	5.4	8.8	11.1	12.6	11.9	13.4	17.7	13.0	10.0	10.0	5.0	13.3	14.3
3	DO (mg/L)	7.8	7.9	8.0	7.7	7.8	7.8	7.4	7.3	7.4	7.1	8.1	8.0	8.6	8.4	8.1
4	DO_SAT% (%)	104	104	106	104	104	103	99	98	98	94	89	88	98	92	92
5	FCol-MPN (MPN/100mL)	880	3600	1850	5300	2780	3160	3600	3820	3260	3960	1200	3275	3000	9100	2775
6	Tcol-MPN (MPN/100mL)	1540	5300	2500	9460	5120	6120	6520	7240	7640	8200	1950	6500	4550	21950	4900
	TRACE & TOXIC															
1	As (µg/L)															
2	Cd (µg/L)															
3	Cr (µg/L)															
4	Ni (µg/L)															
5	Pb (µg/L)															
6	Zn (µg/L)															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	36	100	65	79	80	75	85	81	79	81	54	89	81	77	87
2	HAR_Total (mgCaCO3/L)	106	153	111	154	135	137	154	150	144	140	159	162	174	149	167
3	Na% (%)	35	36	31	44	35	31	27	32	31	22	33	36	31	46	25
4	RSC (-)	0.2	0.1	0.0	0.3	0.6	0.5	0.3	0.3	0.0	0.0	0.5	0.0	0.0	0.6	0.3
5	SAR (-)	1.3	1.5	1.0	2.0	1.4	1.2	1.0	1.2	1.2	0.8	1.3	1.5	1.3	2.1	0.9
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Varanasi (GGOOW3)

Local River : Ganga

River Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga - C Sarju SD, Varanasi

S.No	Parameters	Winter					Summer									
		Jan - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	Q (cumec)	838.1	670.3	1315	637.1	418.0	571.4	257.0	343.7	223.0	336.3	391.7	570.7	840.4	638.7	219.8
2	EC_FLD (µmho/cm)	399	369	449	413	493	443	386	437	338	381	407	427	442	460	550
3	EC_GEN (µmho/cm)	390	383	441	403	488	430	379	428	518	384	399	416	438	445	546
4	pH_FLD (pH units)	8.2	7.9	8.1	8.0	8.1	8.2	8.7	7.9	8.5	8.7	8.4	8.1	8.3	7.9	7.8
5	pH_GEN (pH units)	8.5	8.3	8.5	8.1	8.2	8.4	9.2	8.4	8.6	8.7	8.7	8.6	8.7	8.0	7.9
6	SS (mg/L)			12												
7	TDS (mg/L)	231	230	251	242	294				255	239	250	254	253	266	329
8	Temp (deg C)	20.6	19.6	20.5	20.1	21.6	25.0	26.3	25.0	27.7	26.7	26.0	26.0	25.5	25.3	25.8
9	Turb (NTU)		0.3		0.6	0.5				0.1	0.1		0.3		0.6	0.7
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	14.9	19.9	19.9	0.0	4.9	14.6	19.9	19.9	43.8	19.9	13.3	19.9	19.9	0.0	0.0
2	ALK-TOT (mgCaCO3/L)	156	169	171	113	183	285	132	155	163	156	163	169	167	151	213
3	B (mg/L)	0.01	0.02	0.01	0.03	0.03	0.00		0.08	0.07	0.03	0.03	0.03	0.02	0.03	0.03
4	Ca (mg/L)	32	34	35	34	55	25	32	40	29	49	36	36	35	37	60
5	Cl (mg/L)	59.0	62.5	63.5	43.0	74.5	42.3	39.3	116.2	48.6	52.7	68.0	68.0	63.3	57.7	84.0
6	CO3 (mg/L)	18.0	24.0	24.0	0.0	5.9	17.6	24.0	24.0	52.8	24.0	16.0	24.0	24.0	0.0	0.0
7	F (mg/L)	0.46	0.57	0.59	0.44	0.45	0.18		0.19	0.46	0.52	0.50	0.46	0.59	0.53	0.49
8	Fe (mg/L)	0.0	0.0	0.0	0.0	0.1	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
9	HCO3 (mg/L)	154	157	160	138	211	156	112	141	91	141	166	158	155	184	260
10	K (mg/L)	9.5	8.0	8.5	8.8	13.0	6.3	7.7	8.1	6.6	9.0	11.3	9.3	9.3	10.0	14.3
11	Mg (mg/L)	15.5	17.5	16.7	17.2	21.7	17.1	19.3	20.5	20.7	12.0	14.1	16.6	16.4	17.7	25.1
12	Na (mg/L)	33.8	32.3	34.0	27.0	47.0	40.7	43.7	82.6	43.5	35.7	40.7	41.3	37.3	36.0	52.7
13	NH3-N (mg N/L)	0.05	0.05	0.00	0.00	0.00	0.05		0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	0.29	0.29	0.26	0.26	0.30	0.19		0.05	0.04	0.32	0.32	0.31	0.25	0.25	0.32
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00	0.05		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	0.29	0.29	0.26	0.26	0.30	0.14		0.05	0.04	0.32	0.32	0.31	0.25	0.25	0.32
17	P-Tot (mgP/L)	0.001	0.001		0.014	0.031	0.007		0.001	0.001	0.001	0.001	0.001		0.019	0.035

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Varanasi (GG00OW3)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

River Water

Sub-Division : M Ganga - C Sarju SD, Varanasi

S.No	Parameters	Winter					Summer									
		Jan - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
18	SiO ₂ (mg/L)	8.3	8.6	8.4	8.3	8.5	7.2		8.5	10.2	8.1	8.3	8.3	8.4	8.9	9.0
19	SO ₄ (mg/L)	29.5	32.8	34.5	28.0	33.0	34.7	25.7	39.2	25.3	22.5	29.3	32.0	35.3	36.7	38.0
	BIOLOGICAL/BACTERIOLOGICAL															
1	BOD ₃₋₂₇ (mg/L)	2.9	3.2	3.1	3.2	3.7	2.4	3.2	3.4	3.6	2.5	3.0	3.2	3.0	3.4	3.8
2	COD (mg/L)	10.4	14.7	12.1	16.9	19.5	19.7	5.2	5.7	21.0	13.9	11.9	14.2	12.9	21.0	18.6
3	DO (mg/L)	8.2	8.2	7.8	7.7	8.0	7.9	7.5	8.1	8.2	8.8	7.8	7.9	8.0	7.8	7.4
4	DO_SAT% (%)	90	89	87	85	92	95	93	97	103	108	96	97	98	96	91
5	FCol-MPN (MPN/100mL)	2575	3750	4475	3500	3300	2900	3133	3000	9167	3733	3167	3967	4867	4467	3433
6	Tcol-MPN (MPN/100mL)	4950	6700	8800	6850	7150	4333	7667	4800	20200	6033	5367	7667	9833	8500	7833
	TRACE & TOXIC															
1	As (µg/L)										10.0	2.0	2.5	2.5	3.0	2.5
2	Cd (µg/L)										5.0	2.5	3.0	3.0	4.0	3.0
3	Cr (µg/L)										5.0	7.0	6.0	8.0	9.0	6.0
4	Ni (µg/L)										20.0	5.0	6.0	8.0	11.0	8.0
5	Pb (µg/L)										64.0	2.0	2.0	4.0	6.0	5.0
6	Zn (µg/L)										118.0	12.0	16.0	18.0	22.0	9.0
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO ₃ /L)	80	85	88	86	137	62	80	99	72	123	89	89	89	92	151
2	HAR_Total (mgCaCO ₃ /L)	144	158	157	158	228	133	160	184	158	173	148	158	157	166	255
3	Na% (%)	32	30	31	26	30	39	36	48	36	30	35	35	33	31	30
4	RSC (-)	0.3	0.2	0.3	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.3	0.2	0.2	0.0	0.0
5	SAR (-)	1.2	1.1	1.2	0.9	1.4	1.5	1.5	2.7	1.5	1.2	1.5	1.4	1.3	1.2	1.4
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Varanasi (GGOOW3)

Local River : Ganga

Well Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga - C Sarju SD, Varanasi

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	PHYSICAL															
1	EC_FLD (µmho/cm)	3114	2410	3252	3047	1420						2868	2202	3210	3020	2973
2	EC_GEN (µmho/cm)	3096	2392	3232	3032	1427						2852	2193	3199	3000	2987
3	pH_FLD (pH units)	7.7	8.0	7.8	7.8	8.3						7.8	8.2	7.7	8.2	8.1
4	pH_GEN (pH units)	7.9	8.2	8.2	8.0	8.3						8.0	8.2	8.3	8.3	8.3
5	TDS (mg/L)				1533	814									1500	1681
6	Temp (deg C)	25.5	26.4	27.1	27.2	26.2						24.4	23.6	24.1	22.8	23.4
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	23.9	37.8	15.9	23.9	47.0						20.9	34.9	54.5	31.9	17.8
2	ALK-TOT (mgCaCO3/L)	440	379	291	653	306						496	407	438	541	270
3	B (mg/L)	0.00	0.17	0.00	0.07	0.12						0.00	0.25	0.00	0.02	0.03
4	Ca (mg/L)	82	117	129	96	28						132	115	103	115	25
5	Cl (mg/L)	654.0	640.4	751.2	519.4	111.2						679.5	619.0	670.1	496.5	106.0
6	CO3 (mg/L)	28.8	45.6	19.2	28.8	56.6						25.2	42.0	65.6	38.4	21.5
7	F (mg/L)	0.14	0.16	0.28	0.68	0.78						0.09	0.25	0.32	0.23	0.55
8	Fe (mg/L)	0.0	0.4	0.1	0.0	0.1						0.0	0.3	0.1	0.0	0.2
9	HCO3 (mg/L)	269	223	316	738	259						277	241	400	582	285
10	K (mg/L)	382.0	177.0	263.4	216.5	194.0						213.8	171.0	330.1	154.7	192.3
11	Mg (mg/L)	85.9	102.2	103.4	91.6	44.1						97.9	96.5	110.8	88.0	34.4
12	Na (mg/L)	94.8	145.2	141.4	324.9	60.8						154.8	144.0	260.9	276.4	66.5
13	NH3-N (mg N/L)	0.05	0.05	0.05	0.05	0.05						0.05	0.05	0.05	0.05	0.05
14	NO2+NO3 (mg N/L)	1.50	8.79	8.63	8.17	4.89						4.90	8.63	9.32	5.54	3.44
15	NO2-N (mgN/L)	0.05	0.05	0.04	0.04	0.00						0.06	0.03	0.01	0.03	0.00
16	NO3-N (mgN/L)	1.45	8.74	8.59	8.13	4.89						4.83	8.60	9.31	5.51	3.44
17	P-Tot (mgP/L)	0.001	0.020	0.018	0.016	0.068						0.001	0.001	0.007	0.017	0.152
18	SiO2 (mg/L)	11.0	8.8	8.4	8.5	12.0						13.0	7.8	7.8	13.9	9.5
19	SO4 (mg/L)	62.4	41.0	44.8	61.1	50.0						65.5	39.5	154.1	78.8	65.0
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Varanasi (GGOOW3)

Local River : Ganga

Well Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga - C Sarju SD, Varanasi

S.No	Parameters	Flood										Wier				
		Jun - Oct										Nov				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	206	294	322	240	69						331	288	258	287	63
2	HAR_Total (mgCaCO3/L)	564	719	753	621	253						739	690	720	653	207
3	Na% (%)	17	25	22	44	21						25	26	33	42	24
4	RSC (-)	0.0	0.0	0.0	0.8	1.1						0.0	0.0	0.0	0.0	1.3
5	SAR (-)	1.9	2.4	2.3	5.7	1.6						2.5	2.4	4.3	4.7	2.0
	PESTICIDES															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Varanasi (GGOOW3)

Local River : Ganga

Well Water

Division : M Ganga Div. III, Varanasi

Sub-Division : M Ganga - C Sarju SD, Varanasi

S.No	Parameters	Winter					Summer									
		Mar - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	PHYSICAL															
1	EC_FLD (µmho/cm)	3210	3010	3145	3150	3700	2830	2567	2557	2343	2950	3110	3110	3145	3450	3500
2	EC_GEN (µmho/cm)	3200	3000	3060	3100	3630	2815	2560	2548	2338	2929	3100	3100	3140	3420	3480
3	pH_FLD (pH units)	8.1	8.1	8.1	8.0	7.3	7.4	8.3	7.6	7.7	8.3	8.2	8.1	8.0	7.7	7.4
4	pH_GEN (pH units)	8.2	8.6	8.4	8.3	7.4	7.7	8.4	8.5	7.8	8.3	8.3	8.4	8.2	7.7	7.6
5	TDS (mg/L)	1894	1600	1800	1860	2180				1243	1685	1885	1850	1800	2050	2090
6	Temp (deg C)	25.5	25.5	25.0	26.0	25.5	23.5	23.3	25.2	25.8	26.0	25.5	26.5	26.0	25.0	25.0
	CHEMICAL															
1	Alk-Phen (mgCaCO3/L)	0.0	19.9		19.9	0.0	31.9	26.6	69.1	0.0	26.6	19.9	19.9	19.9	0.0	
2	ALK-TOT (mgCaCO3/L)	240	284		288	432	363	323	484	473	298	411	316	324	400	
3	B (mg/L)	0.02	0.02	0.03	0.02	0.03	0.00		0.01	0.03	0.03	0.04	0.04	0.05	0.03	0.02
4	Ca (mg/L)	29	29	32	31	56	103	112	110	112	30	39	30	37	46	51
5	Cl (mg/L)	102.0	104.0	106.0	124.0	284.0	627.0	585.3	573.3	565.3	110.0	184.0	170.0	164.0	210.0	242.0
6	CO3 (mg/L)	0.0	24.0	24.0	24.0	0.0	38.4	32.0	83.3	0.0	32.0	24.0	24.0	24.0	0.0	0.0
7	F (mg/L)	0.50	0.49	0.49	0.46	0.74	0.07		0.31	0.81	0.38	0.42	0.44	0.42	0.62	0.69
8	Fe (mg/L)	0.1	0.1	0.0	0.1	0.1	0.1		0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1
9	HCO3 (mg/L)	293	298	303	303	527	182	255	421	577	299	453	337	346	488	454
10	K (mg/L)	158.0	146.0	144.0	10.0	18.0	175.3	257.3	231.9	174.3	188.2	214.0	208.0	198.0	14.0	14.0
11	Mg (mg/L)	47.8	62.3	61.1	68.5	118.1	101.6	92.6	101.7	104.2	42.9	68.7	68.1	66.9	109.3	99.6
12	Na (mg/L)	55.0	92.0	90.0	90.0	172.0	139.7	125.7	301.0	295.0	70.0	96.0	96.0	92.0	130.0	162.0
13	NH3-N (mg N/L)	0.05	0.05	0.00	0.00	0.00	0.05		0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.00
14	NO2+NO3 (mg N/L)	2.78	2.74	2.68	2.79	3.23	9.20		11.15	7.48	2.96	2.64	2.64	0.27	2.91	2.96
15	NO2-N (mgN/L)	0.00	0.00	0.00	0.00	0.00	0.06		0.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	NO3-N (mgN/L)	2.78	2.74	2.68	2.79	3.23	9.13		10.42	7.48	2.96	2.64	2.64	0.27	2.91	2.96
17	P-Tot (mgP/L)	0.120	0.110		0.107	0.196	0.005		0.001	0.039	0.080	0.074	0.074		0.182	0.184
18	SiO2 (mg/L)	9.4	9.5	9.5	9.6	10.8	15.4		8.3	13.7	8.6	8.4	8.3	8.5	10.4	10.2
19	SO4 (mg/L)	88.0	84.0	86.0	82.0	134.0	59.3	42.3	279.4	125.6	78.0	98.0	92.0	90.0	128.0	122.0
	BIOLOGICAL/BACTERIOLOGICAL															

Water Quality Seasonal Average for the period: 2006-2016

Station Name : Varanasi (GGOOW3)

Division : M Ganga Div. III, Varanasi

Local River : Ganga

Well Water

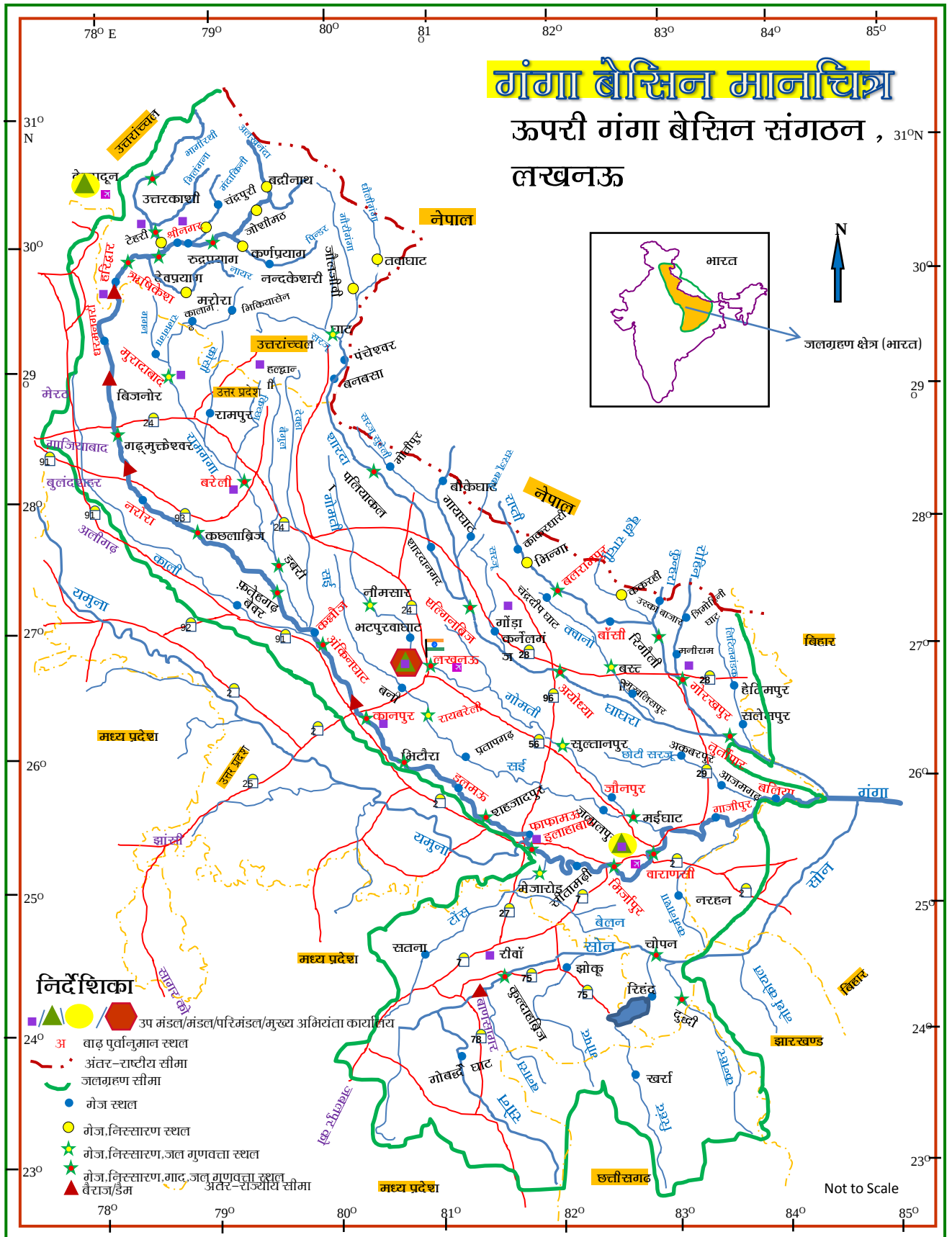
Sub-Division : M Ganga - C Sarju SD, Varanasi

S.No	Parameters	Winter					Summer									
		Jan - Feb					Mar - May									
		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	TRACE & TOXIC															
	CHEMICAL INDICES															
1	HAR_Ca (mgCaCO3/L)	71	72	79	79	140	257	281	276	280	76	97	74	93	116	128
2	HAR_Total (mgCaCO3/L)	271	332	334	364	632	680	667	699	714	254	383	358	372	572	543
3	Na% (%)	20	28	28	34	37	25	22	40	41	24	24	25	24	33	39
4	RSC (-)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.6	0.0	0.0	0.0	0.0
5	SAR (-)	1.5	2.2	2.2	2.1	3.0	2.3	2.1	5.0	4.8	1.9	2.1	2.2	2.1	2.4	3.0
	PESTICIDES															

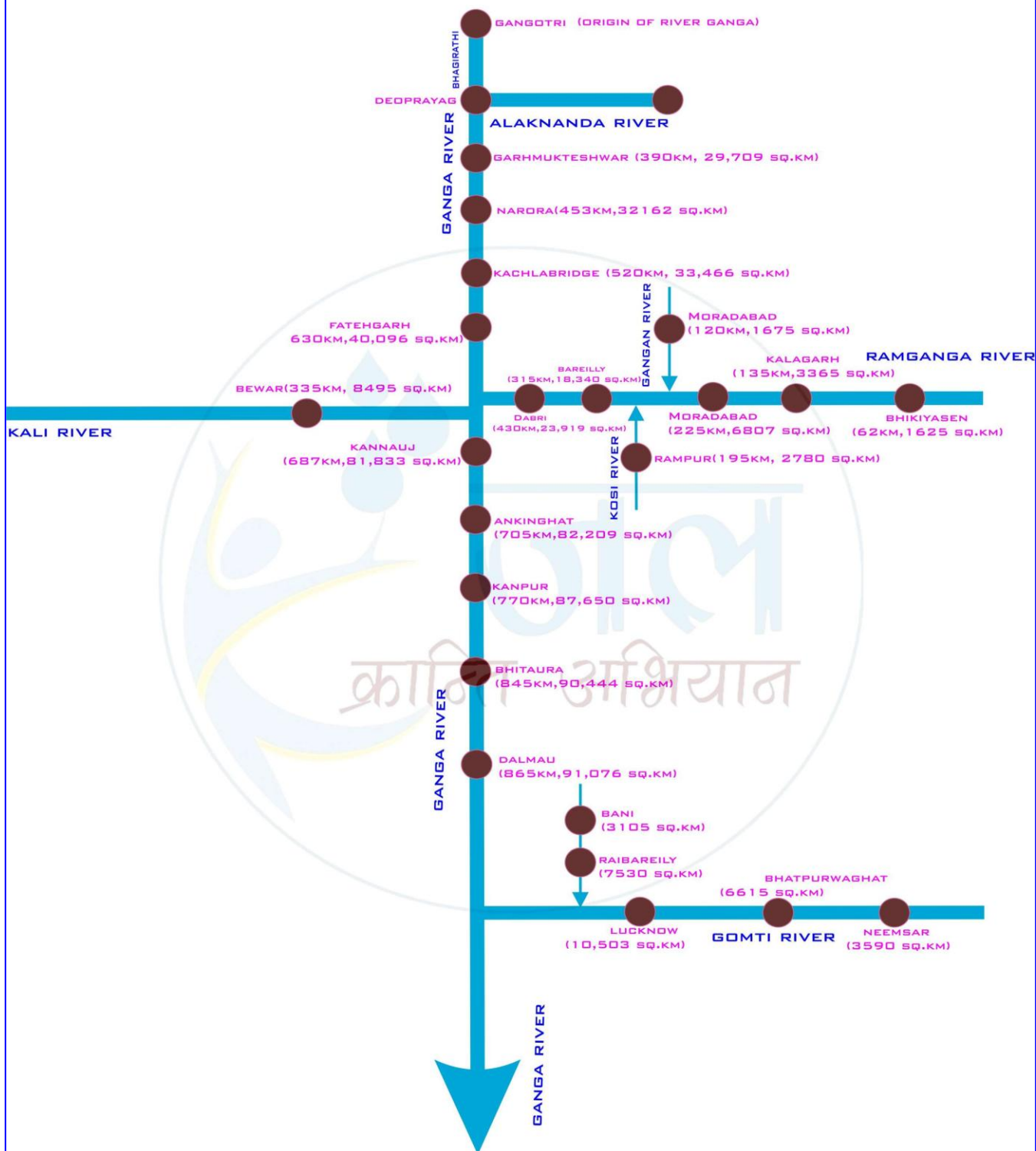
Index Map

गंगा बेसिन मानचित्र

ऊपरी गंगा बेसिन संगठन ,
लखनऊ



LINE DIAGRAM OF GANGA BASIN UNDER THE JURISDICTION OF MGD-2 CENTRAL WATER COMMISSION LUCKNOW



ABBREVIATIONS AND SYMBOLS

N	: North
E	: East
sq. km.	: Square Kilometre
m	: Metre
o	: Degree
'	: Minute
”	: Second
SP	:Sodium Percentage
RSC	: Residual Sodium Carbonate
SAR	: Sodium Adsorption Ratio
HAR	: Hardness
mg/l	: Milligram per Litre
ml.	: Millilitre
pH	: Negative Logarithm of Hydrogen Ion Concentration