

भारत सरकार
GOVERNMENT OF INDIA
केंद्रीय जल आयोग
CENTRAL WATER COMMISSION

60

58 वीं विभागीय परीक्षा – कें.ज.आ के इंजीनियरिंग अधिकारियों के लिए
58TH DEPARTMENTAL EXAMINATION FOR ENGINEERING OFFICERS OF CWC

प्रोफेशनल पेपर – I / PROFESSIONAL PAPER-I

समय /TIME: 3 HRS

अधिकतम अंक /MAX MARKS: 100

सामान्य अनुदेश:-

- यह व्यवसायिक पत्र-I जिसमें 12 पृष्ठ हैं, तीन भागों में विभाजित किया गया है - क, ख और ग।
- भाग-क सिविल और मैकेनिकल उम्मीदवारों के लिए जिसके कुल अंक 60 हैं, एक समान हैं। भाग-क के दो भाग हैं, जिसमें भाग-1 कुल 20 अंकों का तथा भाग-2 कुल 30 अंकों का है।
- भाग-ख सिविल इंजीनियर उम्मीदवारों (संबंधित पुस्तकों के साथ) के लिए है, जो कुल 40 अंकों का है। भाग-ख के दो भाग हैं, भाग-I कुल 10 अंकों का तथा भाग-II कुल 30 अंकों का है।
- भाग-ग में मैकेनिकल इंजीनियर उम्मीदवारों के लिए है, जिसमें जो कुल 40 अंकों का है। भाग-ग के दो भाग हैं, भाग-I कुल 10 अंकों का तथा भाग-II कुल 30 अंकों का है।

General Instructions:-

- This professional paper-I containing 12 pages, divided into three Sections - A, B & C.
- Section-A is Common for Civil & Mechanical candidates with total marks of 60. Section-A has two parts, part-I of 20 Marks & Part-II of 40 Marks
- Section-B is for Civil Engineer Candidates with total marks of 40. Section-B has two parts, Part-I of 10 Marks & Part-II of 30 Marks.
- Section-C is for Mechanical Engineer Candidates with total marks of 40. Section-C has two parts, Part-I of 10 Marks & Part-II of 30 Marks.

महत्वपूर्ण अनुदेश:-

- सिविल इंजीनियर भाग-क और ख हल करें।
- मैकेनिकल इंजीनियर भाग-क और ग हल करें।
- बहुविकल्पीय प्रश्नों का उत्तर केवल प्रश्न पत्र में ही दिया जाए। अलग उत्तर पुस्तिका में लिखे गए उत्तरों का मूल्यांकन नहीं किया जाएगा।
- कृपया प्रश्न पत्र के प्रत्येक भाग पर अपना रोल नंबर लिखें।
- प्रश्न पत्र को उत्तर पुस्तिकाओं के साथ वापस करना होगा।
- नकारात्मक अंकन नहीं किया जाएगा अर्थात् गलत उत्तरों के लिए कोई अंक नहीं काटे जाएंगे।

Important Instructions :-

- Civil Engineers shall attempt Section A & B
- Mechanical Engineers shall attempt Section A & C.
- The multiple choice questions are to be attempted/ answered in the question paper only. Answers in separate answer sheet will not be evaluated.
- Please write your Roll No. on each Section of the question paper.
- The question paper has to be returned back along with the answer sheets.
- There is no negative marking i.e. no deductions shall be made for incorrect answers.
- Section, Part and Question Numbers needs to be clearly mentioned in Answer Sheet by Candidate.

प्रोफेशनल पेपर – I / PROFESSIONAL PAPER-I

Max Marks-60

Section- A (PART-1 & PART-2)

(Common to both Civil and Mechanical Engineers)

Part-1: 20 Multiple Choice objective type questions having 1 mark each (Max Marks.-20)

Part-2: 5 Short answer type questions (to be attempted out of 7 questions) having 8 marks each (Max Marks- 40)

PART 1: Attempt all Multiple Choice Objective Type Questions (Max. Marks-20)

1. Indus Waters Treaty was signed:

- ①
- a. Between India and Pakistan in 1958.
 - ✓ b. Between India and Pakistan in 1960.
 - c. Between India and Pakistan in 1962.
 - d. Between India, Pakistan and China in 1962.

2. Section 14 was inserted in the Inter State Water Disputes (Amendment) Act, 1986 to constitute :

- ①
- a. Narmada Water Disputes Tribunal.
 - b. Godavari Water Disputes Tribunal.
 - c. Cauvery Water Disputes Tribunal.
 - ✓ d. Ravi-Beas Water Disputes Tribunal.

3. The Union Government is authorized to set up a Water Disputes Tribunal by?

- ①
- a. River Boards Act, 1956
 - b. Entry 56 of List-1 of the Constitution
 - c. Article 352 of the Constitution
 - ✓ d. Inter-State River Water Disputes Act, 1956

4. In Central Water Commission, for real time data acquisition of rainfall on telemetry stations, the type of rain gauge used is:

- ①
- a. Standard Rain Gauge(SRG),
 - ✓ b. Tipping Bucket Type Rain Gauge,
 - c. Weighing Bucket Type Rain Gauge,
 - d. Floating/Natural siphon Type Rain Gauge.

5. Which of the following cranes provide lifting height with good Working radius and take up limited space?

- ①
- ✓ a. Tower cranes
 - b. Heavy lift cranes
 - c. Boom truck cranes
 - d. Hydraulic truck cranes

6. In a Bidding process:

- (i) Request for proposal(RFP)
- (ii) Bid evaluation & selections
- (iii) Bid preparation
- (iv) Contract negotiation

Correct sequence is

- a. (i)-(ii)-(iii)-(iv)
- b. (i)-(ii)-(iv)-(iii)
- c. (iii)-(i)-(ii)-(iv)
- ✓ d. (i)-(iii)-(ii)-(iv)

प्रोफेशनल पेपर - I / PROFESSIONAL PAPER-I

7. A machine is purchased for Rs. 10,000,00.00 and has an estimated life of 10 years. The salvage value at the end of 10 years is Rs. 1,50,000.00. The book value of the machine at the end of 5 years using general straight line method of evaluation of depreciation is

a) Rs. 4,75,000/-
☒ b) Rs. 5,75,000/-
 c) Rs. 6,50,000/-
 d) Rs. 8,50,000/-

8. The water year in India starts from the 1st of:

a) February, ☒ b) May c) June, d) October

9. What is the ratio of cost sharing between Centre and states with respect to Survey Planning and Design component under CAD&WM Programme :

a) 60:40 ☒ b) 50:50 c) 75: 25 d) 25:75

10. Who is Mission Director of the PMKSY?

☒ a. Secretary, DoWR, RD&GR.
 b. Special Secretary DoWR, RD&GR
 c. Chairman, CWC
 d. Chairman, NITI Ayog

11. In remote sensing, what does the term "spectral resolution" refer to?

a. The size of individual pixels in a satellite image.
 b. The ability to distinguish objects with similar spectral signatures.
☒ c. The range of wavelengths that a sensor can detect.
 d. The accuracy of the GPS coordinates associated with an image.

12. Consider the following statements :

- i. As per CWC guideline for preparation of DPR of Irrigation and multipurpose project' 2010, success rate for different uses of project to be achieved is Irrigation-90%, Hydropower- 75%, Drinking water & Industry- 100%
 ii. B.C. ratio should be equal to or more than 1.5 for Irrigation and Multipurpose projects
 iii. In case of the project benefits drought prone area and /or tribal area, B.C. ratio ≥ 1 (one) is acceptable
 iv. For the preparation of cost estimate of a DPR (for River valley projects), the detailed calculations are as per reference Indian Standard IS 4877

Which of the above are correct?

a) Both I & II
☒ b) II, III & IV
 c) Only IV
☒ d) All of the above



प्रोफेशनल पेपर – I / PROFESSIONAL PAPER-I

13. As per the Guidelines for Pradhan Mantri Krishi Sinchayee Yojana-Accelerated Irrigation Benefit programme (PMKSY-AIBP) and National projects (2022), how many times all major and medium irrigation projects where funds have been released in the previous year are to monitored by the concerned field office of CWC:

- a. once in a year
- ☒ b. twice in a year
- c. thrice in a year
- d. None of the above

14. Which of the following is NOT a common data type used in Geographic Information Systems (GIS)?

- a. Vector data
- b. Raster data
- ☒ c. Topographic maps
- d. Attribute data

15. Provision of General purpose equipment and inspection vehicles are made under the following head of Cost estimate:

- ☒ a. 'C' Works
- b. 'J' Works
- c. 'Q' Special T&P
- d. 'A' Preliminary

16. How many Water Quality parameters are observed at Level 2 labs in CWC

- a) 6
- ☒ b) 25
- c) 41
- d) 10

17. Air line correction & wet line correction are made in

- a. Velocity measurement
- ☒ b. Depth measurement
- c. Discharge measurement
- d. Sediment measurement

18. Which is the Direct method of discharge observation

- a. Area-Slope method
- b. Stage Discharge Relation
- ☒ c. Area Velocity Method
- d. Hydraulic Structures

19. During non-monsoon season, water level in the river is measured at:

- a. 0800hrs, 1400hrs & 1800hrs
- b. 1000hrs, 1300hrs & 1700hrs
- ☒ c. 0800hrs, 1300hrs & 1800hrs
- d. 0900hrs, 1400hrs & 1700hrs

20. The Environment Protection Act came in to force in

- a. 1972
- ☒ b. 1986
- c. 2000
- d. 1980



प्रोफेशनल पेपर - I / PROFESSIONAL PAPER-I

Max. Marks-40

SECTION A: (PART 2)
(Common to both Civil & Mechanical Engineers)

PART 2: Attempt 5 short answer type questions (out of 7 questions) having 8 marks each. (5X8=40 Marks)

1. (i) What is composition of 'Mahadayi PRAWAH' and some of its powers and functions? (4 Marks)
- (ii) Give the state-wise water allocation as per award of any two Water Dispute Tribunals. (4 marks)
2. (i) State the procedure for estimating the annual benefit and annual cost of an Irrigation project. (4 marks)
- (ii) Estimated net annual benefit from gravity medium irrigation project with CCA of 5000 ha and 110% irrigation intensity and estimated life of 50 years is Rs. 600 cr. Estimated cost of the project is 2500 cr out of which cost of head-works is 20%. Assess the annual cost of the project and BC ratio. Also, state whether the project is economically viable or not. (Assume land development charges-20,000/ ha and O&M charges-1175/ ha). (4 marks)
3. What is the PMKSY Council, please mention about its constitution and role, responsibility regarding Implementation of the PMKSY scheme? (8 marks)
4. Mention the name of the chapters included in a detailed project report of an Irrigation/Multipurpose project and explain any two of them briefly. (8 Marks)
5. What do you understand by 'Apportionment of cost of various aspects in case of multipurpose project' and how it is useful for establishing B.C. ratio of the project? (8 Marks)
6. What are the criteria for inclusion of projects under PMKSY-AIBP in respect of new Major/Medium Irrigation and Multipurpose & ERM proposals? (8 Marks)
7. What are the environmental impacts due to construction of water Resources projects and explain the measures to be undertaken for mitigating them. (8 Marks)
8. i. Describe various methods of measuring discharge. (4 Marks)
ii. Explain suitability of each method of measuring discharge for different site conditions. (4 Marks)

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SECTION B: (PART-1 & PART-2)
(Only for Civil Engineers)

Max. Marks – 40

PART 1: 10 multiple choice objective type questions having 1 mark each. (Max. Marks-10)

PART 2: 3 short answer type questions (to be attempted out of 5 questions given in paper) of 10 marks each (Max. Marks-30)

PART 1: Attempt all Multiple Choice Objective Type Questions

(Max. Marks-10)

1. If $x = 0.5$, the outflow hydrograph in a Muskingum method of channel routing has
(C) a. Amplified peak
b. Reduced peak
c. Same peak as inflow hydrograph
d. Peak half of inflow hydrograph
2. The hydraulic head for an earthen dam is 35 m and gross storage of the reservoir is 25 MCM. As per BIS criteria, the spillway of the dam shall be designed for
(C) a. PMF
b. SPF
c. 100 year flood
d. 500 year flood
3. The capacity-inflow ratio of reservoir is used to estimate
(1) a. Trap efficiency of sediment
b. To design the spillway
c. To design sluices
d. None of the above
4. While estimating crop water requirement, percolation losses are considered for:
(1) a. Semi dry crops
b. Non ponded crops
c. Pondered Crops
d. No such losses are considered
5. When a canal is carried over a natural drainage, the structure provided, is known as
(1) a. Syphon
b. Aqueduct
c. Super passage
d. None of above
6. The CCA of a project is 50000 ha. The intensity of irrigation in Kharif season, Rabi season and Zaid season is 90%, 60% and 20% respectively. The total irrigated area of the project (assuming no rain-fed irrigation) is:
(1) a. 90000 ha
b. 85000 ha
c. 95000 ha
d. None of the above.



5 8 D E 0 1 K H

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7. Success rate for meeting drinking water demand from a Multipurpose project should be
- ☒ a. More than 75%
- ☐ b. More than 65%
- ☐ c. Between 65% and 75%
- ☐ d. 100%
8. The runoff from a drainage basin of area 8640 sq.km is estimated as 10000 cumec-day. The depth of runoff is
- ☒ a. 20 cm
- ☐ b. 40 cm
- ☐ c. 10 cm
- ☐ d. 84.4 cm
9. The most suitable type of equipment for compaction of cohesive soils is
- ☒ a. Smooth-wheeled rollers
- ☐ b. Vibratory rollers
- ☐ c. Sheep foot rollers
- ☐ d. Tampers
10. Book Value of equipment includes
- ☒ a. Purchase Price:
- ☐ b. Purchase Price, Freight & insurance
- ☐ c. Purchase Price, Freight & insurance, Taxes
- ☐ d. Purchase Price, Freight & insurance, Taxes, erection & commissioning charges and other incidental charges

प्रोफेशनल पेपर – I / PROFESSIONAL PAPER-I

SECTION - B (PART 2)

(Only for Civil Engineers)

Max. Marks – 30

PART 2: Attempt 3 nos questions for short answer (out of 5 questions) each Question having 10 marks each

1. (i) In a catchment, station X was inoperative during a heavy rainfall while stations 1, 2 and 3 surrounding X were operational recording a daily rainfall of 12.3 cm, 14.8 cm and 11.9 cm respectively. The mean annual precipitation at the above four stations namely X, 1, 2 and 3 are 129 cm, 151 cm, 168 cm and 137.5 cm respectively. Estimate the missing storm precipitation at station X using normal ratio method. (4 Marks)

(ii) The ordinates of 1 hr duration and 1 cm rainfall excess of a catchment having catchment area of 100 sq.km is given below. Compute the ordinates of flood hydrograph of a rainfall having 5 cm rainfall between 9AM to 10 AM and 4 cm rainfall between 10AM to 11 AM. The loss rate of rainfall may be adopted as 1cm/hr. The base flow may be adopted as 0.05 cumec/sq.km.

Time (hr)	Ordinates of 1hr-1cm rainfall UH (cumec)
0	0
1	11
2	32
3	83
4	62
5	38
6	25
7	17
8	12
9	9
10	6
11	3
12	0

(6 Marks)

2. (i) During the flood on 12 July 2023, the gauge site of river Yamuna at a CWC observation was submerged. From the flood marks collected, compute the flood discharge taking Manning's coefficient as 0.035.

1. River stages at two sites 1.73 km apart are 380.38 m and 400.2 m.
2. Mean cross section of the channel = 335 m²
3. Mean wetted perimeter of the area = 98 m

(4 Marks)

- 2 (ii) Briefly define the drainage density, stream density, shape factor and elongation ratio of a catchment. (6 Marks)



प्रोफेशनल पेपर – I / PROFESSIONAL PAPER-I

3. Draw a rough Construction Schedule (PERT chart) of following activities during construction of Hydro Electric Project. (10 Marks)

- A. Award of major works and equipment mobilization(4 months)
- B. Construction of Diversion Tunnel (3 months)
- C. Cofferdam (U/S & D/S) (4 months)
- D. Dam Centering (24 months)
- E. Construction of power house complex (18 month)
- F. Commissioning of Power House

4. Write short notes on (5 x 2=10 Marks)

- a. Reservoir routing
- b. Channel routing
- c. Attenuation and lag time of floods
- d. Dependable runoff
- e. Mass curve of rainfall

5. Write short note on any five excavation equipment: (5 x 2=10 Marks)

- a. Bulldozers
- b. Power Shovels
- c. Scrapers
- d. Dragline
- e. Clam Shell
- f. Backhoe

SECTION -C (PART -1 & PART -2)
(For Mechanical Engineering Only)

Max. Marks-40

PART 1: 10 multiple choice objective type questions having 1 mark each.

PART 2: 3 short answer type questions (to be attempted out of 5 questions given in paper) of 10 marks each **(Max. Marks-30)**

PART 1: Attempt all Multiple Choice Objective Type Questions

(Max. Marks-10)

1. Following operations are generally employed for tunneling in hard rock

- i. Drilling
- ii. Mucking
- iii. Blasting
- iv. Placing Concrete
- v. Placing Steel

Correct sequence is

- a. i-iv-v-iii-ii
 - b. i-iii-ii-v-iv
 - c. i-ii-iii-iv-v
 - d. i-iii-iv-ii-v
2. Specification of Batching and Mixing Plant is
- a. Capacity of creating materials in cubic meter (cum)
 - b. Production of Concrete in Cum/hour
 - c. Capacity of Engine in HP
 - d. None of the above
3. Which of the following excavators is most suitable for digging under water?
- a. Dragline
 - b. Hoe
 - c. Clam shell
 - d. Dipper shovel
4. Generally three shift operation is taken during the concreting of Dam in Multi-Purpose Project:
- a. Dam is the main structure of the project.
 - b. Construction schedule does not depend upon the Dam construction.
 - c. Completion of Dam generally decides the Commissioning of the Project.
 - d. None of these.
5. Which type of concrete is usually termed as "transit-mixed concrete"?
- a. Central mixed concrete
 - b. Shrink mixed concrete
 - c. Truck mixed concrete
 - d. All of the above

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6. Raise climber is used for
 - a. Open excavation
 - b. Excavation of horizontal tunnels
 - c. Excavation of vertical/ inclined shafts
 - d. For drilling holes for tunneling
7. A dummy activity
 - a. Is artificially introduced
 - b. Is represented by a dotted line
 - c. Does not consume time
 - d. All of the above
8. What is a Critical Path?
 - a. Path having maximum Float
 - b. Path having minimum Float
 - c. Shortest path
 - d. None of the above
9. Which one of the following factors is applicable while calculating the loose dry volume of the material excavated?
 - a. Shrinkage factor
 - b. Bucket fill factor
 - c. Swell factor
 - d. Operating factor
10. The excavation of Head race tunnel (7.0 m dia, horse shoe shaped) is planned to be done by drill and blast method by deploying two boom drill jumbo for drilling the charge holes. The excavation is possible in:
 - a. One part (full face excavation)
 - b. Two parts (heading and benching)
 - c. Three parts (heading, benching and invert benching)
 - d. Excavation is not possible

प्रोफेशनल पेपर – I / PROFESSIONAL PAPER-I

SECTION - C: (PART-2)
(For Mechanical Engineering Only)

Max. Marks – 30

PART 2: Attempt 3 nos short answer type questions (out of 5 questions) having 10 marks each (3 x 10 =30 marks)

1. (a) What is difference between CPM and PERT and explain with example where these methods are applied. **(5 marks)**
(b) What is difference between book value and scrap value of equipment? **(5 marks)**
2. (a) Write a note on hourly use rate. **(5 marks)**
(b) A machine was purchased on 1st January, 2018 at a cost of Rs. 50,00,000 and having its total working life as 1,00,000 hours. The scrap value may be considered as Rs. 50,000. During the year 2018, the machine worked for 2000 hours. Calculate the depreciation for the year 2018 and Book value of machine at the end of year 2018. **(5 marks)**
3. (a) Give various methods of tunneling through rock? **(5 marks)**
(b) What is mucking in respect of Tunnel Excavation? List some equipment used for the same activity? **(5 marks)**
4. (a) What are the factors affecting the selection of drilling equipment? **(5 marks)**
(b) What is rock bolting? Which equipment is generally used for the same? **(5 marks)**
5. Draw a rough Construction Schedule (PERT chart) of following activities during construction of Hydro Electric Project. **(10 marks)**
 - A. Award of major works and equipment mobilization (4 months)
 - B. Construction of Diversion Tunnel (3 months)
 - C. Cofferdam (U/S & D/S) (4 months)
 - D. Dam Centering (24 months)
 - E. Construction of power house complex (18 months)
 - F. Commissioning of Power House

केंद्रीय जल आयोग
CENTRAL WATER COMMISSION

58TH DEPARTMENTAL EXAMINATION FOR ENGINEERING OFFICERS OF CWC

प्रोफेशनल पेपर – II / PROFESSIONAL PAPER – II
(with three Sections A, B & C)

समय /TIME: 3 HRS

अधिकतम अंक /MAX MARKS: 100

सामान्य अनुदेश:-

- i. यह व्यवसायिक पत्र-II जिसमें 10 पृष्ठ हैं, तीन भागों में विभाजित किया गया है - क, ख और ग।
- ii. सिविल और मैकेनिकल उम्मीदवारों के लिए भाग-क जो कुल 50 अंक का है, एक समान है। भाग-क के दो भाग हैं, जिसमें भाग-1 कुल 20 अंकों का तथा भाग-2 कुल 30 अंकों का है।
- iii. भाग-ख सिविल इंजीनियर उम्मीदवारों (संबंधित पुस्तकों के साथ) के लिए है, जो कुल 50 अंक का है।
- iv. भाग-ग मैकेनिकल इंजीनियर उम्मीदवारों (संबंधित पुस्तकों के साथ) के लिए है, जो कुल 50 अंकों का है।

$$19 + 18 + 28 = 65$$

General Instructions: -

- i. This professional paper-II containing 10 pages, divided into three Sections - A, B & C.
- ii. Section-A is Common for Civil & Mechanical candidates with total marks of 50. Section-A has two parts, part-I of 20 Marks & Part-II of 30 Marks
- iii. Section-B is only for Civil Engineer Candidates (with related books) with total marks of 50.
- iv. Section-C is only for Mechanical Engineer Candidates (with related books) with total marks of 50.

महत्वपूर्ण अनुदेश:-

- i. सभी उम्मीदवारों को पहले व्यवसायिक पत्र-2 के भाग-क को हल करने का प्रयास करना होगा, और इसके पूरा हो जाने के बाद वे इसे पर्यवेक्षक को सौंप देंगे और उसके बाद भाग-ख या ग, जैसा चाहे, को हल करने का प्रयास करेंगे।
- ii. सिविल इंजीनियर भाग-क और ख हल करें।
- iii. मैकेनिकल इंजीनियर भाग-क और ग हल करें।
- iv. बहुविकल्पीय प्रश्नों का उत्तर प्रश्न पत्र में ही दिया जाना है। अलग उत्तर पुस्तिका में लिखे गए उत्तरों का मूल्यांकन नहीं किया जाएगा।
- v. कृपया प्रश्न पत्र के प्रत्येक भाग पर अपना रोल नंबर लिखें।
- vi. प्रश्न पत्र को उत्तर पुस्तिकाओं के साथ वापस करना होगा।

Important Instructions:-

- i. All Candidates shall first attempt Section -A of professional paper-II, and on completion of it they will submit it to the invigilator before they proceed to attempt Section - B or C as the case may be.
- ii. Civil Engineers shall attempt Section A & B
- iii. Mechanical Engineers shall attempt Section A & C.
- iv. The multiple choice questions are to be attempted/ answered in the question paper only. Answers in separate answer sheet will not be evaluated.
- v. Please write your Roll No. on each Section of the question paper.
- vi. The question paper has to be returned back along with the answer sheets.



5 8 D E 5 5 K U

प्रोफेशनल पेपर – II / Professional Paper-II

Max Marks-50

SECTION – A
(PART-1 & PART-2)
(COMMON TO BOTH CIVIL & MECHANICAL ENGINEERS)

Part-1: 20 Multiple Choice objective type questions having 1 mark each

(Max.-20)

Part-2: Attempt 3 short answer type questions (out of 5 questions) having 10 marks each. Where sub-parts are there, all parts carry equal marks.

(3X10=30 Max)

PART 1: Attempt all Multiple Choice Objective Type Questions

(Max. Marks-20)

1. When was the latest "National Water Policy" formulated?

- a) 2005
- b) 1987
- ☒ c) 2012
- d) 2001

2. According to latest National Water Policy, what should be considered as pre-emptive need of water?

- a) Irrigation
- b) Hydro-power
- ☒ c) Drinking and Sanitation
- d) None of them

3. As per CWC, the entire country has been divided intoMajor River Basins

- a) 18
- b) 19
- ☒ c) 20
- d) 22

4. What is the purpose of flood forecasting?

- a) To prevent floods from occurring
- b) To control the intensity of rainfall
- ☒ c) To predict the timing and magnitude of a flood event
- d) To redirect floodwaters to designated areas

5. Fill in the blank. Flood Risk is defined as

Hazard *Exposure* _____

- a) Population
- b) Death
- c) Severity
- ☒ d) Vulnerability

6. What does the term "100-year flood return period" refer to?

- a) A flood that occurs every 100 years
- b) A flood that lasts for 100 days
- ☒ c) A flood with a 1% chance of occurring in any given year
- d) A flood that affects 100 square miles

7. What does the term "return period" refer to in hydrological analysis?

- a) The time it takes for a river to complete a cycle
- b) The period during which a reservoir is filled
- ☒ c) The average time between occurrences of a specific hydrological event
- d) The period during which groundwater levels rise

8. Which type of assessment focuses on the potential effects of a project on the surrounding environment and ecosystems?

- a) Economic analysis
- b) Geotechnical analysis
- ☒ c) Environmental Impact Assessment (EIA)
- d) Population projection

9. What is the purpose of conducting a topographical survey in water resources projects?

- a) Evaluating water quality
- b) Assessing soil composition
- ☒ c) Understanding the terrain and elevation of the project area
- d) Monitoring air temperature

10. In preparation of cost estimate of a water resources project, the project works grouped under **Unit-II** are:

- a) Hydro-electric installation
- ☒ b) Main canals, branches and distribution system inclusive of all pucca works
- c) Navigation works
- d) Command Area Development Works

11. Detailed Sub-head under I-Works, the letters E, J, W define for cost estimate of:

- a) Land, Escapes, Losses on Stock
- b) Bridges, Escapes, Navigation works
- ☒ c) Falls, Power Plant Civil Works, Drainage
- d) Miscellaneous, Maintenance, Special T&P

12. The overall provisions under 'A-Preliminary' in a project estimate should be limited to:

- ☒ a) 1% to 2% of the total cost of I-Works
- b) 2% to 3% of the total cost of I-Works
- c) 3% to 4% of the total cost of I-Works
- d) 4% to 5% of the total cost of I-Works

13. Dam Safety Act came into force in the month of :

- a) January 2021
- b) June 2021
- ☒ c) December 2021

14. As per Dam Safety Act, 2021 regular inspection of specified dams are to be carried out:

- a) Before monsoon
- b) After Monsoon
- ☒ c) Both before and after monsoon

15. Which condition is more worrisome during Seepage inspection of a Dam
a) Clear Seepage water
☒ b) Turbid Seepage Water (1) Buy
c) Little or no Seepage water
16. Longitudinal crack on crest of Embankment Dam indicates
☒ a) Differential settlement of core and casing (1) Buy
b) Presence holes in Dam due to rabbits, rats etc.
c) Excessive hydrostatic stress
17. In apportionment of cost (cost allocation), which of the following cost component is distributed among different purposes:
a) Alternative Justifiable cost
b) Separable cost
c) Specific cost
☒ d) Joint cost (1) Buy
18. One of the basic principle of apportionment of cost (cost allocation) is that the cost allocation to a particular purpose:
a) Should be less than specific cost
b) Should not be less than specific cost
c) Should be more than the benefits
☒ d) Should be more than cost of alternative (single purpose) project (1) Buy
19. Overtopping is potentially more dangerous for
☒ a) Earthen Dam (1) Buy
b) Concrete Dam
c) RCC Dam
20. What is not associated with seepage from Embankment Dam
a) Slope sloughing
b) Wet patches on slope
☒ c) Longitudinal crack at top (1) Buy

SECTION-A: (PART 2)
(Common to both Civil & Mechanical Engineers)

PART 2: Attempt 3 short answer type questions (out of 5 questions) having 10 marks each. Where sub-parts are there, all parts carry equal marks.
(3X10= Max. Marks-30)

1. The initial storage at 08:00 AM on 1st July 2023 in a reservoir is 700 Mm³. The reservoir discharges 50 m³/s in the irrigation canal and 200 m³/s in the river from 08:00 AM of 1st July 2023 to 06:00 PM of 1st July 2023 at a uniform rate. The evaporation loss from reservoir during 08:00 AM to 06:00 PM on 1st July 2023 is 10 Mm³. Calculate the storage in the reservoir at 06:00 PM on 1st July 2023 in BCM.
2. Explain the process involved in formulation of Flood Forecast using the following techniques:
 - a. Gauge to Gauge
 - b. Numerical Model
3. (a) List out the investigations required to be carried out as an input for preparation of Detail Project Report of Hydro-electric Project.

(b) List out the major factors responsible for delay in implementation of multipurpose projects and possible solutions thereof.
4. (a) What are the most probable reasons of Embankment Dam failure .
(b) What are the most probable reasons of Concrete Dam failure .
5. Write short note on any TWO related to cost estimate of water resources projects.
 - a) Contractor's overhead costs and Profit
 - b) Contingencies & work charged establishment
 - c) Documents to accompany the Estimate report
 - d) Cost provision for Rehabilitation & Resettlement

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प्रोफेशनल पेपर – II / Professional Paper-II

Section-B
(For Civil Engineers Only) (with related books)

Maximum Marks 50

INSTRUCTIONS

1. ATTEMPT ANY TWO QUESTIONS OUT OF THREE.
2. ALL QUESTIONS CARRY EQUAL MARKS

Question 1

(5X5=25 marks)

Explain the following with regard to powerhouse of a Hydro Power Project:

- a) Type of Powerhouses and different components of a typical Powerhouse
- b) Function of a Turbine and how the type of turbine is finalized
- c) Significance of Main Inlet Valve (MIV) & Draft Tube
- d) Design aspects of a Turbo Generator Foundation
- e) Describe Tail Race Outlet System of a typical Dam Toe Powerhouse with sketch

Question 2

(5X5=25 marks)

Write short notes on any five:

- a) Design Flood
- b) Arch Dam
- c) Concrete Faced Rockfill Dam
- d) Dam Foundation Investigations
- e) Energy Dissipation Arrangement
- f) Drainage galleries
- g) Diversion Tunnel
- h) Cofferdam
- i) Instrumentation and monitoring

Question 3 (Q-3)

- (a) For a hydropower project with a head race tunnel, following data is given (3X4=12 marks)

FRL = El.500 m
MDDL = El.425 m
Design discharge = 350 cumec
Normal TWL = El.350 m
Length of head race tunnel = 3 km
Assume minor losses = 5% major head loss
Overall Efficiency of the Plant = 92%

Tunnel dia = 10m
friction factor = 0.013

Estimate the Following:-

- (i) Head loss of the Project
- (ii) Net head
- (iii) Hydropower potential in Mega Watt (MW)

- Q-3 (b)** What is water hammer pressure? How is it dealt while designing a water conductor system of a Hydro Power Project? (5 marks)

- Q-3 (c)** Differentiate between:

(2x4=8marks)

- (i) Run-of-the River Project, Storage Project and Pumped Storage hydropower projects.
Name one example of projects under each category.
- (ii) Consolidated and curtain grouting.

Section C
(For Mechanical Engineers Only) (with related books)

INSTRUCTIONS

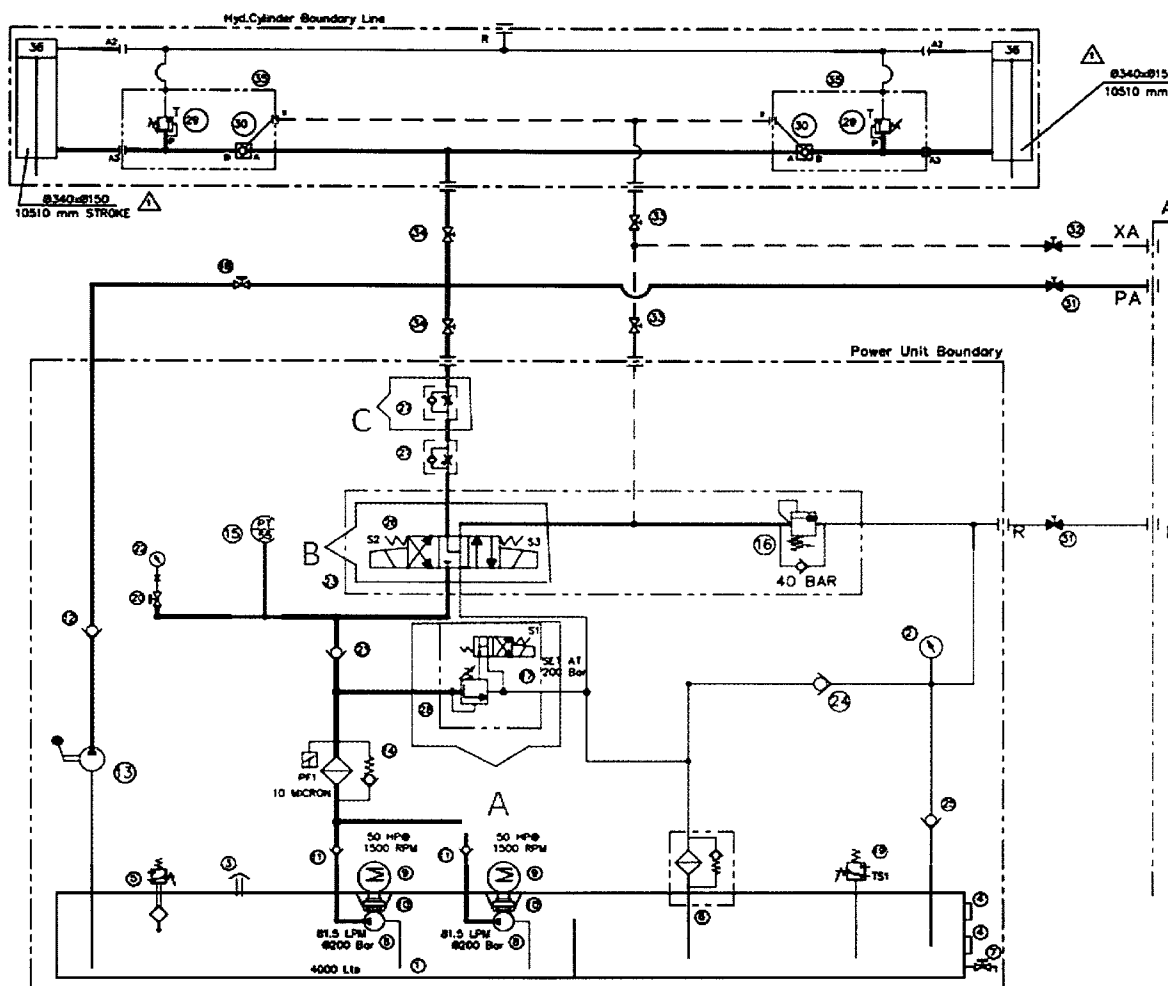
- (i) ATTEMPT ANY TWO QUESTIONS OUT OF THREE.
- (ii) ALL QUESTIONS CARRY EQUAL MARKS (25)

Question 1:

- 1 (a). What is self-locking of a gear box? How is it achieved? **(3+4 Marks)**
- 1 (b). Explain with simple sketch working principle of cylinder head seal, piston seal and piston rod seal of hydraulic hoist cylinder. **(6 Marks)**
- 1 (c). Mark the following statement as true or false: **(8X1 Marks)**
- (i) Resultant water thrust of a radial gate passes through center of curvature of skin plate.
 - (ii) Automation of a radial gate can be achieved by shifting the center of rotation away from the center of curvature of skin plate.
 - (iii) Addendum is more than dedendum of a spur gear.
 - (iv) Worm and worm reducer can transmit power between two parallel shafts.
 - (v) Upstream suspension of wire rope in a radial gate requires less hoist capacity as compared to downstream hoist suspension arrangement.
 - (vi) Life of a rubber dam is more than the steel gated weir.
 - (vii) Cast iron can be used for low head gates.
 - (viii) Zinc coating should not be used for gates in sea environment.
- 1 (d). Explain the Methods of surface treatment of gate parts against corrosion. **(4 Marks)**

Question 2:

2 (a). Following figure shows typical hydraulic circuit of hydraulic hoist. (3X4=12Marks)



Explain the function and working of hydraulic element shown in figure:

- Part 'A'
- Part 'B'
- Part 'C'

2 (b). While operating hydraulic gate by rope drum hoist, free falling of gate due to gravity is prevented by using different types of arrangements. Name any three such arrangements which lock the gate at any intermediate position or fully open position? (4 Marks)

2 (c). Explain with diagram three types of fits? Give example of each type of fit. (6 Marks)

2 (d). What is the use of 'O' ring in a hydraulic cylinder? (3 Marks)

Question 3:

(3X5 =15 Marks)

3 (a). A Fixed Wheel vertical lift gate at spillway has following data:

Width of opening	:	15.5 m
Height of opening	:	10.5 m
Sill level of gate	:	- 3 m
Spillway crest level	:	- 3 m
Type of Gate	:	Fixed wheel vertical lift
Pond Level	:	+ 7.5 m
High Flood Level (HFL)	:	+ 9.35 m
Distance between side seals	:	15.48 m
Hoisting arrangement	:	Rope Drum Hoist
Centre to centre of wheel track	:	16.35 m
Width of Pier	:	4 m
Weight of gate moving parts	:	120 Ton
Type of side seals	:	Z Type rubber seal with Teflon cladding (net pressurising length of side seal head or bulb = 40 mm)
Bottom Seal	:	Wedge type
Operation Raising / lowering	:	Un-balanced water head condition
Type of wheel bearing	:	Self-lubricating bush bearing
Radius of wheel	:	380 mm
Dia of wheel pin	:	200 mm

Coefficient of friction for wheel bearing = 0.2

Rolling friction (fr) = 0.1

Coefficient of friction for Teflon on steel = 0.2

Pre-compression force = 3 kg / cm of seal length.

Buoyancy force may be neglected for lifting/raising.

Assume any other data if required.

Reply :-

- Calculate water thrust on the gate at pond level.
- Calculate hoisting capacity assuming 20% as reserve capacity over and above required forces.
- Whether gate is capable of self-closing or not? Support with calculations

3 (b). Explain the different type of gates depending upon water head and use. **(5 Marks)**

3 (c). Which type of bearing is used for trunnion of radial gate? Reasons thereof. **(5 Marks)**

भारत सरकार
GOVERNMENT OF INDIA
केंद्रीय जल आयोग
CENTRAL WATER COMMISSION

58 वीं विभागीय परीक्षा – कें.ज.आ के इंजीनियरिंग अधिकारियों के लिए
58TH DEPARTMENTAL EXAMINATION FOR ENGINEERING OFFICERS OF CWC

प्रोफेशनल पेपर – III (किताबों के साथ) / PROFESSIONAL PAPER-III (with Books)

समय /TIME: 3 HRS

अधिकतम अंक /MAX MARKS: 100

सामान्य अनुदेश:-

- इस व्यवसायिक पत्र -III में 10 पृष्ठ हैं, और यह दो खंडों में विभाजित है – क और ख ।
- भाग-क अधिकतम 30 अंकों के बहुविकल्पीय/वस्तुनिष्ठ प्रकार के प्रश्न हैं ।
- भाग-ख में लघु उत्तरीय प्रकार के 10 प्रश्न हैं, जिनमें प्रत्येक 7 अंकों का है।
- बहुविकल्पीय प्रश्नों के उत्तर केवल प्रश्न पत्र में ही दिया जाए। अलग उत्तर पुस्तिका में दिए गए उत्तरों का मूल्यांकन नहीं किया जाएगा। जब तक विशेष रूप से उल्लेख नहीं किया जाता है, बहुविकल्पीय / वस्तुनिष्ठ प्रकार के प्रश्नों के केवल एक विकल्प ही सही उत्तर होगा। यदि एक से अधिक विकल्प चिह्नित किए जाते हैं, तो ऐसे उत्तर का मूल्यांकन नहीं किया जाएगा।
- नकारात्मक अंकन नहीं किया जाएगा अर्थात् गलत उत्तरों के लिए कोई अंक नहीं काटे जाएंगे।
- कृपया प्रश्न पत्र के प्रत्येक खंड पर अपना अनुक्रमांक लिखें।
- प्रश्न पत्र को उत्तर पुस्तिकाओं के साथ वापस करना होगा।

General Instructions:-

- This professional paper-III containing 10 pages, divided into two Sections – A & B.
- Section-A is Multiple choice/Objective type Questions with maximum of 30 Marks
- Section-B is short answer type questions with 10 questions, with 7 marks each.
- The multiple choice questions are to be attempted/ answered in the question paper only. Answers in separate answer sheet will not be evaluated. Unless specifically mentioned, each multiple choice/objective type question has one and only one correct answer out of four choices. If more than one choice is marked, the answer would not be evaluated.
- There is no negative marking i.e. no deductions shall be made for incorrect answers.
- Please write your Roll No. on each section of the question paper.
- The Question paper has to be returned back along with the answer sheets.
- Section, Part and Question Numbers, needs to be clearly mentioned in Answer Sheet by Candidate.

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अनुक्रमांक / Roll No.....

प्रोफेशनल पेपर – III / PROFESSIONAL PAPER-III

Section- A

Max Marks-30

Attempt all Multiple Choice Objective Type Questions. Each Question carries 1 mark.

Mark the correct choice

1. Which is a temporary measure used by an incumbent government to meet its expenses until the elections are done, that does need the approval of Parliament and it is usually passed without much discussion.
✓
 - a. Contingent approval
 - b. Expenditure sanction
 - c. Revised Estimate
 - ✓d. Vote on Accounts
2. Major work is a term applied to the estimate for a work when the sanctioned amount of the works expenditure is
✓
 - a. Rs. 50,00,000/-
 - ✓b. More than 50,00,000/-
 - c. Rs. 5,00,000/-
 - d. More than 5,00,000/-
3. From which of the following funds, the government of India cannot spend any money unless and until it is approved by the Parliament:
✓
 - ✓a. Consolidated Fund of India.
 - b. Public Accounts of India.
 - c. Contingency Fund of India.
 - d. Funds of RBI.
4. Form, CPWA-28 is used as
✓
 - a. Stores Indent.
 - b. Cash Memo for goods.
 - c. Tools & Plants Ledger.
 - ✓d. Hand Receipts.
5. What is a standing advance of a fixed sum of money placed at the disposal of an official to meet petty office expenses and emergent charges of small amounts which cannot be foreseen.
✓
 - ✓a. Imprest
 - b. Temporary withdrawal
 - c. Advance remittance
 - d. Temporary advance

प्रोफेशनल पेपर – III/ PROFESSIONAL PAPER-III

6. PFMS, a Web based online software application has been designed, developed and implemented by

- ☒ a. Department of Financial Services.
- b. Institute of Government Accounts and Finance
- ☒ c. Controller General of Accounts.
- d. Comptroller and Auditor General of India.

7. As per delegation of Financial Powers 12.02.2018 the extent of powers delegated to Executive Engineer/Deputy Director, CWC for Procurement of Stores for works under concurrence of Director (Finance) / AAO, CWC

- ☒ a. 5 lakh
- b. 10 lakh
- c. 25 lakh
- d. 2 Cr.

8. Who among the following receives the products on GeM:

- ☒ a. Buyer
- b. Seller
- c. PAO
- ☒ d. Consignee

9. What is the Form in GFR 2017 for Joining Report:

- ☒ a. Form 11
- ☒ b. Form 16A
- c. Form 12A
- d. Form 17A

10. How many minimum days are provided to seller/bidders for participating in bids on GeM.

- ☒ a. 10 days
- b. 7 days
- c. 12 days
- d. 15 days

11. Central Govt. Employee Transfer between two stations within a short distance not more than 20 k.m., if no change of residence involved the Composite Transfer Grant(CTG) will be:

- a. 1/3rd of 80% of last month Basic Pay
- ☒ b. 1/3rd of 100% of last month Basic Pay
- c. 3/4th of 80% of last month Basic Pay
- ☒ d. None of above.

प्रोफेशनल पेपर – III/ PROFESSIONAL PAPER-III

12. Advance of TA to Central Govt. Employee is limited to probable amount of Travelling Expenses admissible under rules

- ☒ a. 80%
☐ b. 75%
☒ c. 90%
☐ d. None of above.

13. TA Claim of a Central Govt. Employee shall fall due for payment on

- ☒ a. On Date of Completion of Journey
☒ b. On Date succeeding the date of Completion of journey
☐ c. After 60 days of completion of journey
☐ d. None of above.

14. Object head code consists of digits

- ☒ a. Four digits
☐ b. Three digits
☒ c. Two digits
☐ d. None of above.

15. Original Work means:

- ☒ a. New Constructions, Site preparation.
☐ b. Works undertaken to maintain building
☐ c. Work which add value to existing asset
☐ d. None of above

16. What is the rate of House Rent Allowance at present in 'Z' class cities?

- ☒ a. 7% of Basic Pay
☐ b. 8% of Basic Pay
☒ c. 9% of Basic Pay
☐ d. None of above.

17. What is the maximum number of un-availed joining time that can be credited to Earned Leave Account of a Government Servant who has 298 days at credit of Earned Leaves.

- ☒ a. 2 days
☐ b. 12 days
☐ c. 17 days
☐ d. None of Above

18. Expenditure on enhancing the utility of Existing Asset is.

- ☒ a. Capital Expenditure
☒ b. Revenue Expenditure
☐ c. Other Expenditure
☐ d. None of above.

प्रोफेशनल पेपर – III/ PROFESSIONAL PAPER-III

19. The maximum immediate monetary relief to the family of a Govt. Servant who dies while in service is

- a. Rs. 20,000 ☒ c. Rs. 25,000
b. Rs. 30,000 ☐ d. Rs. 15,000

20. Re appropriation means

- a. Expenditure which is incurred at regular intervals
b. ☒ Assignment to meet specified expenditure of funds included in primary unit of appropriation
c. ☒ The transfer of funds from one primary unit of Appropriation to another such unit.
d. None of above.

21. Encashment of EL while availing LTC is limited to _____ of EL on one occasion without linkage to number of days and nature of Leave availed and total _____ days of EL in the entire career.

- a. ☒ 10 days, 60 days
b. 10 days, 80 days
c. 10 days, 30 days
d. 15 days, 60 days

22. Which of the following Conduct Rule is not matched correctly:

	Rule	Title
(a)	13-A	Dowry
(b)	15	Private trade or employment
(c)	8	Demonstration and Strikes
(d)	5	Taking part in politics and elections

23. An interruption in the service of a Government servant entails forfeiture of his past service, except in the following cases, namely:-

- (i) authorised leave of absence ;
(ii) unauthorised absence in continuation of authorized leave of absence so long as the post of absentee is not filled substantively;
(iii) suspension, where it is immediately followed by reinstatement, whether in the same or a different post, or where the Government servant dies or is permitted to retire or is retired on attaining the age of superannuation while under suspension ;
(iv) transfer to non-qualifying service in an establishment under the control of the Government if such transfer has been ordered by a competent authority in the public interest ;

प्रोफेशनल पेपर – III/ PROFESSIONAL PAPER-III

(v) Joining time while on transfer from one post to another.

Which of the above is correct:

- a. (i) only
- b. (i) , (iii) and (iv)
- c. All are correct
- ✓ d. (i), (iv) and (v)

24. Which of the following is/are correct:

- ✓ (i) Extra Ordinary leave granted or medical certificate or otherwise may be commuted retrospectively into leave not due subject to provisions of Rules 31.
- (ii) Leave cannot be claimed as of right.
- (iii) Casual Leave can be combined with any other type of leave.
- (iv) When the exigencies of public service so require, leave of any kind may be refused or revoked or altered by the Competent Authority without any request of the Govt. Servant.

- a. All are correct
- b. (i) only
- c. (i), (iii) & (iv)
- ✓ d. (i) and (ii) only

25. Which of the following statement(s) is/are not correct?

- ✗ (i) No oral directions can be given by an officer below the rank of Joint Secretary to any subordinate officer or staff.
- (ii) No officer can give directions to a subordinate officer through social media platforms.
- (iii) No directions can be given by an officer to his/her subordinate officer on matters in respect of which the latter has the power to decide.
- (iv) If directions are given by an officer who is not the immediate superior of the officer to whom instructions are given, the latter is required to bring it to the notice of his/her immediate superior at the earliest.

- a. (i), (ii) and (iii) only
- ✓ b. (ii) only
- c. (i), (iii) and (iv) only
- d. (iv) only

26. When a Government servant is placed under suspension, the competent authority shall pass an order regarding payment of subsistence allowance to him, under:

- ✓ a. F.R. 22(1) (a) (1)
- b. F.R. 52
- ✓ c. F.R. 53
- d. F.R.. 54(1)

प्रोफेशनल पेपर – III/ PROFESSIONAL PAPER-III

27. Consider the following statements regarding joining time:

- (i) Joining time shall commence from the date following the date of relinquishment of charge of old post irrespective of the fact whether the charge is made over in the forenoon or in the afternoon.
- (ii) Quantum of joining time admissible, on transfer involving travel for 1000 km or less between old headquarters and the new headquarters but does not involve continuous travel by road for more than 200 km, is 12 days.
- (iii) Half a day's joining time shall be allowed to a Government servant to join a new post within the same station.

Which of the statement(s) given above is/are not correct?

- ☒ a. (i) and (ii) only
- ☐ b. (iii) only
- ☐ c. (ii) and (iii) only
- ☒ d. (i), (ii) and (iii)

28. The time limit for submission of claims for Travelling Allowance on retirement from the date succeeding the date of completion of the journey is:

- ☒ a. 60 days
- ☐ b. 90 days
- ☒ c. 180 days
- ☐ d. 240 days

29. Consider the following details of a Government servant who retired before attaining the age of normal superannuation and has opted for Commutation of his monthly pension:

Monthly pension	:	Rs. 35,600
Age next birthday	:	60 years
Commutation factor	:	8.287
Percentage of pension opted for commutation	:	40%

The commutation amount of pension payable to him in lumpsum shall be:

- a) Rs. 18,18,007, ☒ b) Rs. 14,16,083 c) Rs. 11,95,018 d) Rs. 10,27,200

30. Which is/are correctly matched:

(i)	8 th Schedule	It consists of 22 languages
(ii)	Art 343 (1)	Hindi in Devanagari script shall be the official language of the Union
(iii)	क क्षेत्र	Gujarat, Maharashtra etc.

- ☒ a. All
- ☐ b. None
- ☒ c. (i) and (ii) only
- ☐ d. (ii) only

प्रोफेशनल पेपर – III/ PROFESSIONAL PAPER-III

Section –B

Short Answers type questions

Note: Attempt all question. Each Question carries 7 marks

(Maximum Marks-70)

✓1. Write Short Notes on:-

- (a) Electronic Reverse Auction. (3 marks)
- (b) Limited Tender Enquiry. (2 marks)
- (c) Unserviceable Stores. (2 marks)

2. You have been assigned the work of hiring on contract basis the services of semi-skilled / un-skilled workers during the Monsoon season. Describe the procedure to be adopted for the same. (7 marks)

✓3.

- a. What facilities are available to MSMEs in GeM portal in terms of Earnest Money Deposit / Reserved Items / Price Preference? (3 marks)
- b. What is the purpose of GeM and what facilities are available on GeM for Government Buyers? (2 marks)
- c. Necessity of Performance Security for Service contracts? (2 marks)

✓4.

- a. What bidding documents include? What are the requirements for a Standard Bidding Document? (3 marks)
- b. What is Definition of Head of Account? Describe 15 Digits classification of any Head of Account? (4 marks)

✓5.

- a. What are the major steps in the bidding process? Also describe reasons/necessity of Two-Stage bidding. (3marks)
- b. Calculate the NPS Contribution: Government Contribution & Employee Contribution from Salary Month April to June'2023, Basic Pay Rs.60400/-, Level-6, DA @42% (4marks)

प्रोफेशनल पेपर – III/ PROFESSIONAL PAPER-III

6. Post the following transactions (all Transactions in Rupee) in the Cash Book of the Ex. Engineer, Building Division, for the month of December 1995 and close the cash book giving analysis of the cash balance:

Opening balance:

(i)	Notes and coins (including counterfeit notes of the value of 25/-)	325/-
(ii)	Service Postage Stamps	15/-
(iii)	25 Revenue stamps of 20 Paise each	
(iv)	Deposit at call receipt as security	1000/-
(v)	Refund of Festival Advance unutilised by the clerk in the Ex. Engineer office	100/-
(vi)	Demand draft on United Commercial Bank Received in payment of government dues of Licence fee of residential quarters	500/-
(vii)	Temporary imprest given to overseer for Muster roll payments	200/-

Date**Transactions**

06-12-95	Drew cheque in favour of contractor T for the Construction of government staff quarters	
	Estimate	1,30,000/-
	Value of work done	4,000/-
	Recoveries:	
	Security deposit	600/-
	Value of material supplied	
	Departmentally	200/-
	Hire charges of concrete mixer	100/-
	Value of tool lost, book value	10/-
07.12.1995	Cheque drawn to replenish cash chest	500/-
15.12.1995	Earnest money received from and Returned to contractor, 'B' on the same Day, 15-12-1995 as his tender was rejected	1,000/-
20.12.1995	Received from sub divisional officer, cash challan Rs.100 remitted by him into the treasury on account of sale proceed of Produce from public building	100/-
24.12.1995	Account of temporary imprest of overseer Received as follows	
	(i) Muster Roll payments	150/-
	(ii) Coolie charges	25/-
	(iii) Amount lost by overseer	25/-

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27.12.1995	Grant of permanent imprest to by Cheque	200/-
28.12.1995	Demand draft on United commercial bank for Rs.500/- remitted into Treasury but received back dishonoured	
29-12-1995	Payment for service stamps by cheque	200/-
31-12-1995	Cash remitted into Treasury	800/-

(7 marks)

7.

a. Write a short note on Buy-Back offer (2 marks)

b. Calculate the reimbursement of food charges as per TA Rules :
An Official in Level -8 proceeded on tour from HQ New Delhi to Mumbai on dated
12/05/2023 at 2000 Hrs and return back to his HQ on dated 14/05/2023 at
0500Hrs. (3 marks)

c. Calculate the leave encashment on superannuation retirement of an employee
whose last basic is Rs.80200 , D A @42% and leave at credit: 250 EI & 200HPL
(2 marks)

8. Write short note on

a. Disciplinary Proceedings (3 marks)

b. Minor Penalties (4 marks)

9. Write short notes on

a. Extra Ordinary Leave (3 marks)

b. Exemption from disclosure of Information under RTI Act (4 marks)

10.

a. What are the differences between Office Memorandum and Demi Official Letter?
(3 marks)

b. Implementation of eOffice has been a great help in official correspondence.
However there have been some issues in eOffice which needs action on the
part of the Portal Developer/NIC. What improvements would you like to
suggest? (4 marks)
