

22601

23124

3 Hours / 70 Marks

Seat No.

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- Instructions* –
- (1) All Questions are *Compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following: **10****
- a) Define contract. List out any two requirements of valid contract.
 - b) State four conditions under which the contract is terminated?
 - c) List any four types of engineering contracts.
 - d) Define arbitration. State two qualities of arbitrator.
 - e) Define ‘first and final payment bill’. Which form number is used for it?
 - f) Define :
 - i) Speculative value
 - ii) Distress value
 - g) Define depreciation. Enlist two methods of calculating depreciation.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Write any four functions each of
 - i) CE (Chief Engineer)
 - ii) SE (Superintending Engineer)
 - b) Draw organizational structure of PWD.
 - c) Mention the method of execution of the following works, you would prefer. Support your answer by reasons :
 - i) A polytechnic building
 - ii) Marble cladding of pedestal of a statue
 - iii) Concrete lining to canal
 - iv) W.B.M. road
 - d) State classification of contractors based on financial capabilities. Enlist six documents required to be submitted for registration of contractor in P.W.D.
- 3. Attempt any THREE of the following:** **12**
- a) Define B.O.T. project. Write four objectives of B.O.T. project.
 - b) State salient features of B.O.T. project with two examples of B.O.T. projects.
 - c) Write eight points to be included while drafting a tender notice.
 - d) Define tender and enlist the types and necessity of tender.

4. Attempt any THREE of the following: 12

- a) Prepare NMR-Part-I for the following details mentioned below.
Period of writing NMR-9th January 2023 to 15th January 2023.
Weekly off Sunday.
- Nand Kishor (Mason) ₹ 800/- per day. Present on all days.
 - Vijay Kumar (Mason) ₹ 800/- per day. Absent on 12th Jan 2023.
 - Meena Kumari (Female labour) ₹ 400/- per day. Present on all days.
 - Ramesh Kumar (Male labour) ₹ 400/- per day. Present on all days.
- b) State one use of
- Measurement book
 - Indent and invoice
- Also draw their format in tabular form.
- c) Describe procedure of issuing materials through indent.
- d) State any four legal aspects of the specification.
- e) Differentiate between brief specification and detailed specification.

5. Attempt any TWO of the following: 12

- a) Draft a tender notice for construction of multi speciality hospital in a city costing 3.2 Cr. invited by E.E. (P.W.D). Assume suitable information if required.
- b) Define the following terms :
- Sinking fund
 - Year's purchase
 - Valuation
- c) Calculate capitalised value of a property. The property fetches gross income of ₹ 10,000/- per month. The total outgoings are 30% of gross income. Assume rate of interest 12%p.a.

6. Attempt any TWO of the following:**12**

- a) Draw formats of schedule 'A' and schedule 'B'. State purpose of both.
 - b) Draft a detailed specification for external plastering in cm(1:4) with 20mm thickness on a new brick wall.
 - c) A building is newly constructed at the cost of ₹ 14,00,000/- on a plot of 500m². Fix monthly rent of this property from the following data :
 - i) Rate of land = ₹ 800/- sqm.
 - ii) Return expected on cost of land = 8%.
 - iii) Return expected on cost of building = 10%.
 - iv) Life of building = 60 years.
 - v) Rate of interest for sinking fund = 3%.
 - vi) Scrap value of building = 10% of construction cost.
 - vii) Other outgoings = 30% of gross rent.
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