B.Tech. Civil (Construction Management)

Term-End Examination

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ET-581(B) : INVENTORY AND STORES MANAGEMENT

Time : 3 hours　　　　　　　　*Maximum Marks : 70*

Note : *Attempt any* **ten** *questions. All questions carry equal marks. Use of non-programmable scientific calculator is permitted.*

1. (a) Explain the process of procurement of equipment and materials, for a project, say a multi-storied complex.　　　　*4*

    (b) Discuss the aims and objectives of procurement division, and duties of the procurement manager.　　　　*3*

2. At a site, 120 corrugated iron roof sheeting, 10 rolling shutters (4 × 3 m), 5 standard size steel almirahs for office work, and 25 ceiling fans (biggest size) are required. Draw a purchase order for the items, explaining the factors you consider.　　　　*7*

3. A Panchayat-cum-recreational one-storied structure is proposed for a village. Draw a list of materials required, and explain how you will monitor the use of the material at site. 7

4. (a) A rigid-pavement road is to be laid in a countryside, which goes to a small government office township which is laid with flexible pavement lanes. What materials are to be supplied by the PWD ? Prepare the requisition for these items. 5

   (b) What detailed information do you require on which you can base your requisition for any civil work ? 2

5. (a) Discuss the factors that influence the following : 5

   (i) Cost for placing an order for any item

   (ii) Cost of carrying items, and the average inventory value of an item

   (iii) Optimal size of an order to be placed for supply of items

   (iv) Time-period allowed for supplying ordered items

   (b) Write out the format of an order placed for supply of items. 2

6. Explain the following terms : 7

(a) Demand rate of an item

(b) Purchase cost of an item

(c) Cost of ordering an item vs its carrying charges

(d) Optimal total cost of inventory management

7. The annual demand for an item is 3200 parts. The unit cost is ₹ 6 and the inventory carrying charges are estimated as 25% per annum. If the cost of one procurement is ₹ 180, find the : 7

(a) EOQ

(b) Time between two consecutive orders

(c) Number of orders per year

(d) Optimal cost

8. (a) Explain the principles of designing a layout of material storage facility, at a project site. 4

(b) What are the merits and demerits of having a central store ? 3

9. Why do some stored materials get damaged ? How will you proceed to minimize the damage ? Give examples. 7

10. Explain with suitable examples as to how one can arrive at the optimum size of a storing facility for a project work. 7

11. Explosives for stone blasting, and petrol and diesel (for vehicles and machines) are needed to be stored at a project site. Draw a plan for laying an appropriate storage facility. *7*

12. What considerations are important in providing storage for lime, sand, coarse aggregate, cement and timber ? *7*

13. Write short notes on any *two* of the following :

  (a) Framing an inspection plan with respect to various items of material supplied and stored at the site of work $3\frac{1}{2}$

  (b) Precautions to be taken for storage of items that get spoiled by dampness and termites $3\frac{1}{2}$

  (c) Drainage and lighting of a store $3\frac{1}{2}$

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