

COLLEGE OF ENGINEERING, PUNE-5

Department of Civil Engineering

Year (M Tech. C&M)-Civil

(CM 503)- (Construction Materials and Materials Management)

Max. Marks- 60

Duration - 3Hrs

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- Que. 1:** a) Discuss with suitable examples the usefulness of the 'Q' and 'P' system of inventory model. Also discuss the difference between the two. (Marks: 05)
- b) Explain the process of 'Writing Off' materials in a government organisation. (Marks: 05)
- Que. 2:** a) Explain the process of preparation of 'Rate Contracts' list by the central organisation in our country. Comment on the advantages and disadvantages of the same. (Marks: 05)
- b) Explain in short the process of purchase of import items. In any government or semi-government organisation in our country. (Marks: 05)
- Que. 3:** a) XYZ company purchases 1000 parts of a machine for its annual requirement, ordering one month usage at a time. Each parts cost is Rs. 2000/-. The ordering cost per order is Rs. 1500/- and the carrying charges are 12% of average inventory per year.
You suggest a more economical purchasing policy for the company. What advice would you offer and how much would it save per year. (Marks 07)
- b) Explain the term 'Dead Stock Verification' or 'Physical Verification'. (Marks: 03)
- Que. 4:** a) In a construction industry the materials manager controls two important materials used for production. The usage equation for the first material is given by $6x + 3y = 28$, the safety stock is 4 units and the lead time is 2 units. For the second material usage equation is given by $10x + 3y = 38$, the safety stock is 3 units and the lead time is 2 units where, x is duration in weeks and y is number of units. Find graphically all important quantity standards. (Marks: 07)
- b) How the economics of quality for design is achieved on construction projects. (Marks: 03)
- Que. 5:** Write short notes on the following construction materials: (Any Five) (Marks 20)
- Composite ductile concrete
 - Concrete cloth
 - Cellular Fibro Concrete
 - Ice as an construction material
 - Bendable concrete
 - Plastic in road construction
