2811E819　　Candidate's Seat No :_____

M.Sc Sem-3 Examination
504
Statistics

Time : 2-30 Hours]　　November-2024　　[Max. Marks : 70

Q-1 (A): Explain the instantaneous demand inventory control model without set up cost. **[07]**

Q-1 (B): Explain inventory control model with reorder lead time without set up cost and probabilistic approach. **[07]**

=OR=

Q-1 (A): Explain single period EOQ model for uncertain demand in probabilistic inventory control model. **[07]**

Q-1 (B): State the limitations of inventory control model. **[07]**

Q-2 (A): State and prove Mortality Theorem. **[07]**

Q-2 (B): Explain individual replacement policy and group replacement policy in detail. **[07]**

=OR=

Q-2 (A): Explain Staffing Theory in detail. **[07]**

Q-2 (B): Explain the replacement policy of items whose running cost increases with time for discrete as well as continuous time variable. **[07]**

Q-3 (A): Write a short note on project planning phase. **[07]**

Q-3 (B): Explain time cost trade off procedure stepwise. Also explain project crashing with the help of a suitable diagram. **[07]**

=OR=

Q-3 (A): Define Resource Smoothing. State the steps of resource smoothing process. **[07]**

(P.T.O)

Q-3 (B): Explain "max flow min cut" theorem. **[07]**

Q-4 (A): Explain the steps of simulation with the help of a suitable chart. **[07]**

Q-4 (B): What is Monte Carlo Simulation? Explain the technique stepwise. **[07]**

=OR=

Q-4 (A): Explain Wolfe's method for solving a non linear programming problem. **[07]**

Q-4 (B): State the steps of separable programming stepwise. **[07]**

Q-5: Answer in short: (any 7) **[14]**

1. Explain Earliest Starting Time and Earliest Finishing Time.
2. Explain Latest Starting Time and Latest Finishing Time.
3. Explain Demand Rate and Replenishment Rate
4. Define order cycle and EOQ.
5. Explain Buffer Inventories with suitable example.
6. State any two differences between PERT and CPM.
7. State any two advantages of staffing procedure.
8. Explain sudden failure with suitable example.
9. Explain gradual failure with suitable example.
10. Define quadratic problem and state any one application of it.
11. State any two Kuhn Tucker's conditions.
12. Define Separable Programming and give an example of it.

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