

Duration: 2hrs. 30 min

N.B.: 1) All questions are compulsory.

2) Figures to the right indicate marks for each question.

- Q.1 (a) Distinguish between : (a) Activity and Event (b) PERT and CPM (10)
- OR
- (a) Define i) predecessor event ii) successor event.iii) start event iv) end event. (10)
Explain rules of drawing Network
- (b) Explain different costs associated with crashing of activity & Explain the need of crashing of activities and the effect of crashing on the cost of the project. (10)
- OR
- (b) Explain EST, EFT, LST, LFT in usual notation & Explain three different Floats in CPM network (10)
- Q.2 (a) What do you understand by Statistical Quality Control (SQC) & What is meant by 'Process Control' & 'Product Control'? (10)
- OR
- (a) Set up \bar{X} & R chart when standards are not given. How the standard deviation of process can be estimated from R chart? (10)
- (b) Define i) defect & ii) defective. Set up 'C' chart when i) standards are given. ii) Standards are not given. (10)
- OR
- (b) i) Discuss method of stabilization using two sets of control limits corresponding to n_{\max} & n_{\min} in 'P' chart when sample size is variable. (10)
ii) Discuss method of stabilization using standardized variable in 'P' chart when sample size is variable.
- Q.3 (a) Define following terms in Acceptance sampling plan. (10)
i) Acceptance Quality Level.
ii) Rejection Quality Level.
iii) Process Average Fraction Defective.
iv) Producer's Risk.
v) Consumer's Risk.
- OR
- (a) Explain Double Sampling Plan. State the expression of O.C. for Double Sampling Plan. (10)

- (b) Describe Single Sampling Plan. Obtain i) O.C. & O.C. Curve. ii) Producer's Risk. (10)
iii) Consumer's Risk.

OR

- (b) For Single Sampling Plan obtain an expression for AOQ and ATI & Discuss AOQ (10)
curve AOQ Limit for this plan.

Q.4

Attempt any 3

- (a) Explain Fulkerson's rule of numbering the events. (5)
(b) Explain the basic steps in network analysis. (5)
(c) Set up 'P' chart when sample size is fixed & standards are given. (5)
(d) Explain the causes of variation in quality. (5)
(e) What do you understand by Acceptance Sampling plan (ASP)? (5)
(f) What are Gantt Charts? What are there strengths and weaknesses? (5)
