

Question Bank

Subject :- IES M

Semester :- 6th

Branch :- Mechanical

Short questions

- ① Define plate layout.
- ② Define inventory
- ③ Define three time estimates in PERT.
- ④ Define LPP.
- ⑤ Define critical path.

Long questions

- ① Calculate EOQ, given that Annual usage = 100 units, procurement cost = 100 units procurement cost = RS. 25 / order, cost per 10 pieces = RS. 1000 / - cost of carrying inventory = 15% of cost.
- ② Maximize $Z = 2x + 3y$
subject to $x + y \leq 6$
 $2x + y \leq 7$
 $x + 4y \leq 8$
 $x, y \geq 0$
By graphical method.

MECHANICAL Engg, ~~XXXX~~, ~~XXXX~~

NST For 6th Sem
Sub :- Industrial Engey. and Quality Control.

Full Marks: 80

Time: 3 hours

Answer any five Questions including Q.No - 1 & 2.

Q-1

[2×10=20]

- What is ideal Plant location?
- Define PERT & CPM?
- Define Inventory and Classify it?
- Define TQM?
- What do you mean by critical Activity?
- Write the objectives of Inspection?
- What is EOQ?
- What do you mean by JIT?
- Classify the types of Plant maintenance?
- What is LPP?

Q-2

[6×5=30]

(a) Write down the Advantages and Limitation of Urban location of Plant?

(b) Maximize $12x + 24y$. Subjected to $x + 4y \leq 20$

$$3x + y \leq 15$$

$$x, y \geq 0$$

Use graphical Method

- Write about ABC analysis?
- What are the objectives and benefits of Inventory Control?
- Write short notes on ISO 9000?

(8) Explain factors influencing the quality of Manufacture?

(9) Explain about Breakdown maintenance?

[10]

Q-3 Write the objective of Plant layout? Write the factors which affect plant layout?

[10]

Q-4 A small Engineering project consists of six activities namely A, B, C, D, E & F with duration of 5, 7, 6, 5, 4 & 4 days respectively. Draw the network diagram and calculate EST, LST, EFT, LFT and Float. Find the total project duration?

[10]

Q-5 What do you mean by control chart? Calculate UCL & LCL of P, \bar{x} and R chart of the following data sample no.: '1' to 10

$\bar{x} \rightarrow 3290, 3180, 3350, 3470, 3080, 3240, 3260, 3310, 3640, 4110$

$R \rightarrow 560, 410, 200, 300, 90, 650, 890, 410, 1120, 520$.

Where $A = 1.342, A_1 = 1.596, A_2 = 0.577, D_1 = 0, D_2 = 4.982, D_3 = 0$

$D_4 = 2.115$

[10]

Q-6 Explain about different stages of implementation of TQM and its concept?

[10]

Q-7 What are the duties, functions and responsibilities of plant maintenance department?

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Full Marks: 80

Answer any FIVE questions including Q.No.-10/2

[2×10]

1. (a) Define plant layout.
- (b) What are the objectives of plant layout?
- (c) Define Operation Research.
- (d) What is TQM?
- (e) Define Inventory.
- (f) What is JIT Technique?
- (g) Differentiate between critical and non-critical path.
- (h) Define three time estimates in PERT.
- (i) Write down the evolutions of ISO-9000.
- (j) Classify inspection.

2. Answer any SIX questions.

[5×6]

- (a) Define process layout, product layout and combination layout.
- (b) Explain distinct features of PERT with respect to CPM.
- (c) Write down the steps for graphical solution method.
- (d) Define and explain ABC analysis.
- (e) Describe the objectives of plant maintenance.
- (f) Explain Six Sigma in quality management.
- (g) Write down the factors influencing the quality of manufacture.

3. Describe the features of governing plant location. [10]

4. Minimize $Z = 2x + 3y$ [10]

subject to $x + y \geq 6$

$2x + y \geq 7$

$x + 4y \geq 8$

$x, y \geq 0$

using graphical method.

5. Calculate EOQ, given that [10]

Annual usage = 100 units

Procurement cost = Rs. 25/order

Cost per 10 pieces = Rs. 1000

Cost of carrying inventory = 15%.

6. Describe different types of maintenance. [10]

7. What are the different types of control chart? [10]

Explain any two charts.

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BEST OF LUCK.