

# INDUSTRIAL ENGINEERING & QUALITY CONTROL

6th semester

## 1- plant Location & Layout

2-marks question:-

- 1) Define plant Layout.
- 2) Define process Layout, product layout, combination Layout.

## 2- ~~Plant~~ operations Research

- 3) Define Linear programming.
- 4) Define operational Research and its application.
- 5) Define PERT & CPM.

## 3- Inventory control :-

- 6) what is Inventory?
- 7) Define objective of inventory.
- 8) Describe function of inventory.
- 9) what is EOQ?

## 4- plant maintenance :-

- 10) Describe objective of plant maintenance.
- 11) what are types of plant maintenance.
- 12) what is performance Rating?
- 13) what is prime cost?
- 14) what do you mean by plant Location?

## 5- Inspection & Quality control :-

- 15) Define inspection?
- 16) Define Quality control.
- 17) Describe different types of inspection.

(18) what is control charts?

(19) what is work study?

Contemporary quality management concepts :-

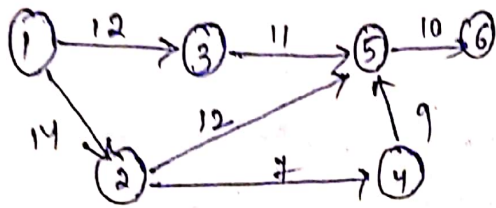
20) what is Total Quality Management?

21) what is Sigma?

22) what is Six-sigma?

### 5 marks Question: Plant Location & Layout :-

- 1) Describe objective and principles of plant Layout.
  - 2) Describe features governing plant Location.
- ### Operational Research:-
- 3) Differentiate Between PERT & CPM.
  - 4) Define operational Research & its applications.
  - 5) Find minimum time for completion of project.



- 6) Define total float, free float, & Independent float.
- 7) what are the 3-types of estimate in project analysis?

### 3- Inventory control :-

- 8) Annual demand = 1000 unit price 100 rupees cost 14.4 % of unit cost per annum ordering cost 2000 per order. find EOQ.

- 9) Explain ABC analysis.

### plant maintenance :-

- 10) what is preventive maintenance?
- 11) what is scheduled maintenance?
- 12) what is Breakdown maintenance?
- 13) Describe procedure of plant Layout?

## Inspection & Quality control :-

- (14) Describe objectives of inspection.
- (15) what are the types of inspection?
- (16) write the method of stopwatch time study?

## Contemporary Quality management concepts :-

- (17) Explain ISO-9000/14000 & its concept and complications?
- (18) Explain JIT ?
- (19) what is Lean Manufacturing?

10 marks Questions :-  
Operational Research :-

(1) Solve this Linear programming problem by graphical method.

$$Z_{\max} = 20x_1 + 40x_2$$

Subjected to

$$x_1 + 4x_2 \leq 24$$

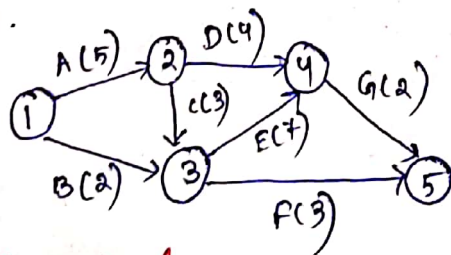
$$3x_1 + x_2 \leq 21$$

$$x_1 + x_2 \leq 8, \quad x_1 \geq 0, \quad x_2 \geq 0$$

(2) Find critical path & duration of completion of project.

Activity	Predecessor	Duration
A	-	7
B	-	13
C	A	10
D	A	17
E	B	3
F	D, E	26
G	C, F	15

3) The small project consist of 6 activity mainly A, B, C, D, E, F with duration respectively. Calculate EST, LST, EFT, LFT and find total project duration.



Inventory control.

4) what is inventory? what are the uses of inventories?

## plant maintenance:-

5) Describe the procedure of predictive maintenance.

## Inspection & Quality control:-

6) Explain different types of process chart with symbol?

7) Explain different types of allowance use in time study?

8) Explain the necessity of workstudy & motion study.

## Contemporary Quality management concepts

9) What is Six Sigma? Use of Six Sigma?  
Explain Role & Responsibility of Six-sigma?

(10) Explain the 6-basic concept of Total Quality management?