

## **QUESTION 2012**

**Group - A**

**(Multiple Choice Type Questions)**

1. Choose the correct alternatives for the following:

i) Tactical planning is done over a

a) long time horizon

c) short time horizon

b) medium time horizon

d) none of these

ii) TQM stands for

a) Total Quantity Management

c) Total Qualitative Management

b) Total Quality Management

d) None of these

iii) Process layout is also called

a) straight-line layout

c) functional layout

b) layout for serialized manufacture

d) all of these

iv) Break-down maintenance is a form of

a) corrective maintenance

c) predictive maintenance

b) preventive maintenance

d) routine maintenance

v) The symbol □ in method study indicates

a) Operation

b) Transportation

c) Inspection

d) Storage

vi) Which one among the following is a fixed type of material handling system?

a) Industrial trolleys

b) Conveyors

c) Industrial trucks

d) Wheel Barrow

vii) Standard time is equal to

a) normal time

c) average time + allowance

b) average time

d) normal time + allowance

viii) Time allowed to an operator to carry out a specified task under specified condition and at the defined level of performance is called

a) observed time

b) normal time

c) standard time

d) none of these

ix) The work done by hand and body movements could be classified according to Gilberth into fundamental motions and are termed as

- a) Line Balancing
- ✓ b) Therbligs
- c) Controlled Movements
- d) Cycle Time

x) Low product variety and high production volume are characteristics of

- a) Job shop production
- ✓ c) Mass production
- b) Batch production
- d) none of these

xi) Ship building industry will be best fitted for

- a) Process layout
- ✓ c) Fixed position layout
- b) Product layout
- d) none of these

xii) Gantt chart is used for

- a) inventory control
- ✓ c) production schedule
- b) material handling
- d) none of these

#### Group – B

(Short Answer Type Questions)

2. Distinguish between Inspection and Quality control.

See Topic: INSPECTION AND QUALITY CONTROL, Long Answer Type Question No. 1.

3. Highlight the concept and importance of work measurement.

See Topic: WORK STUDY, Short Answer Type Question No. 9.

4. a) Pinpoint the differences between process and product layout.

b) Name two major criteria for a good plant layout.

See Topic: PLANT LOCATION AND LAYOUT, Short Answer Type Question No. 3(a) & (b).

5. Discuss the factors you would consider for selection of Materials Handling Equipment.

See Topic: PLANT MAINTENANCE AND MATERIALS HANDLING, Short Answer Type Question No. 5.

6) State the principle of X-bar chart, and its use in statistical quality control.

See Topic: INSPECTION AND QUALITY CONTROL, Long Answer Type Question No. 4(b).

#### Group – C

(Long Answer Type Questions)

7. a) Define production planning and control.

b) Discuss briefly the steps involved in production control process.

c) Write a note on line balancing technique.

- a) See Topic: **PRODUCTION PLANNING AND CONTROL**, Long Answer Type Question No. 4(a).  
 b) See Topic: **PRODUCTION PLANNING AND CONTROL**, Long Answer Type Question No. 4(b).  
 c) See Topic: **MISCELANOUS**, Long Answer Type Question No. 1.

8. a) Explain any three methods of Location model.  
 b) State the relative importance of Location factors.  
 c) A company has to decide on the location of a new plant. It has narrowed down the choice to 3 locations A, B and C, data in respect of which is furnished below:

Data	Locations		
	A (Rs.)	B (Rs.)	C (Rs.)
Wages and Salaries	20,000	20,000	20,000
Power and water supply expenses	20,000	30,000	25,000
Raw materials and other supplies	80,000	75,000	60,000
Total initial investment	2,00,000	3,00,000	2,50,000
Distribution expenses	50,000	40,000	60,000
Miscellaneous expenses	40,000	25,000	30,000
Expected sales per year	2,25,000	2,50,000	2,25,000

Use a suitable criterion and advise the company on the best choice.

- a) See Topic: **PLANT LOCATION AND LAYOUT**, Long Answer Type Question No. 6(a).  
 b) See Topic: **PLANT LOCATION AND LAYOUT**, Long Answer Type Question No. 6(b).  
 c) See Topic: **PLANT LOCATION AND LAYOUT**, Long Answer Type Question No. 3.

9. a) Discuss in brief the various categories of maintenance undertaken in plants.  
 b) A machine is set to deliver packets of a given weight. Ten samples of size 5 each were recorded. The mean and the range of individual samples are given below:

Sample No.	1	2	3	4	5	6	7	8	9	10
Mean $\bar{X}$	15	17	15	18	17	14	18	15	17	16
Range R	7	7	4	9	8	7	12	4	11	5

Calculate the values for the central line and the control limits for mean chart and the range chart and comment on the state of control. (Conversion factors for  $n = 5$ . are  $A_2 = 0.58$ ,  $D_3 = 0$  and  $D_4 = 2.11$ ).

- a) See Topic: **PLANT MAINTENANCE AND MATERIALS HANDLING**, Short Answer Type Question No. 6.  
 b) See Topic: **INSPECTION AND QUALITY CONTROL**, Short Answer Type Question No. 9.

10. a) What is work sampling? What are its merits? A group of 10 workmen working 8 hours per day (one shift) on a group of engine lathes produced 320 pieces of a component. During the study, it was observed that workmen were idle for 20% of the total available time and 80% of the time they worked at an average performance of 75%. Calculate Standard Time for the job assuming:

- i) the operation to be completely manual
- ii) the workmen are entitled to 20% allowance for this type of work.
- b) Differentiate between gravity and power conveyors.
- a) 1<sup>st</sup> & 2<sup>nd</sup> Part: See Topic: WORK STUDY, Short Answer Type Question No. 7.
- 3<sup>rd</sup> Part: See Topic: WORK STUDY, Long Answer Type Question No. 7.
- b) See Topic: PLANT MAINTENANCE AND MATERIALS HANDLING, Long Answer Type Question No. 3 (2<sup>nd</sup> part).

11. Write short notes on any three of the following:

- a) Kaizen philosophy
  - b) Objectives of work study
  - c) Acceptance sampling
  - d) Aggregate planning
  - e) Space determination in plant layout exercise.
- a) See Topic: INSPECTION AND QUALITY CONTROL, Long Answer Type Question No. 7(a).
  - b) See Topic: WORK STUDY, Long Answer Type Question No. 14(e).
  - c) See Topic: INSPECTION AND QUALITY CONTROL, Long Answer Type Question No. 4(c).
  - d) See Topic: PRODUCTION PLANNING AND CONTROL, Long Answer Type Question No. 5.
  - e) See Topic: PLANT LOCATION AND LAYOUT, Long Answer Type Question No. 8.