

**S'12:3FN : IC402 (1411)**  
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**ENGINEERING MANAGEMENT**

*Time : Three hours*

*Maximum Marks : 100*

*Answer FIVE questions, taking ANY TWO from Group A,  
ANY TWO from Group B and ALL from Group C.*

*All parts of a question (a, b, etc.) should  
be answered at one place.*

*Answer should be brief and to-the-point and be supplemented  
with neat sketches. Unnecessary long answers may  
result in loss of marks.*

*Any missing or wrong data may be assumed suitably giving  
proper justification.*

*Figures on the right-hand side margin indicate full marks.*

**Group A**

1. (a) What support exists for the claim that management is a science ? Explain. 5
- (b) Does the expected monetary value criterion (EMV) always provide the decision maker with the best course of action ? Explain. 5
- (c) A manufacturer of farm equipment is considering three locations (A, B, and C) for a new plant. Cost studies show that fixed costs per year at the sites are \$ 2,40,000, \$ 2,70,000 and \$ 2,52,000, respectively, whereas variable costs are \$ 100 per unit, \$ 90 per unit, and \$ 95 per unit, respectively. If the plant is designed to have an effective system capacity of 2500 units per year and is expected to operate at 80 percent efficiency, what is the most economic location on the basis of actual output ? 5

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*( Turn Over )*



(d) Distinguish among the following types of layout :  
(i) Fixed position, (ii) job-shop, and (iii) line processing.  
Give examples of each type. 5

2. (a) What are the major outputs from an MRP system ? In what way do MRP benefits extend to inventories, priorities, and capacities ? 5

(b) Which aspect, or principle, of Taylor's philosophy of scientific management corresponds most closely with some firms' efforts to improve the quality of work life today ? Explain with an example. 5

(c) Distinguish between dependent and independent inventories. Give some examples. 5

(d) In what major respect are facilities and personnel maintenance different ? Give examples. 5

3. (a) What aspects of goals are especially important when applying them at the job design level ? Explain. 5

(b) Discuss the following in brief : 3 + 3

(i) Participative management

(ii) Collective bargaining

Give one example of each.

(c) Give an example of a situation where a pure planning strategy would be infeasible from a practical standpoint. 4

(d) In what respect is the location of goods producing facilities more flexible than that of service-producing facilities ? Explain. 5

4. (a) Identify four different approaches to management, and then define what you mean by the term 'management'. 5



- (b) A producer needs to add a component sub-assembly operation that can produce 80 units during a regular 8 hr shift. The operations have been designed for three activities with times as shown below :

Operation	Activity	Standard Time, min
A	Mechanical assembly	12
B	Electric wiring	16
C	Test	3

- (i) How many work-stations (in parallel) will be required for each activity ? 5
- (ii) Assuming that the workers at each station cannot be used for other activities in the plant, what is the appropriate percentage of idle time for this sub-assembly operation ? 5
- (c) How is recruitment process of an IT company different from the same of a manufacturing company ? Explain. 5

### Group B

5. (a) What are the essential differences between PERT and CPM ? Give an example of each. 5
- (b) How are control charts for variables different than the control charts for attributes ? Explain. 5
- (c) What are different financial ratios ? Discuss their implications. 5
- (d) What is ERP ? How is it different from MRP-I and MRP-II ? 5
6. (a) Discuss different acceptance sampling plans used in SQC. Give examples of each plan with their merits and demerits. 10



- (b) Discuss the following : 5 + 5
- (i) Fund flow statement
- (ii) Profit and loss statement.

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7. (a) Define the following : 4 + 3 + 3
- (i) Quality assurance
- (ii) Quality planning
- (iii) Total quality management.
- (b) Discuss the role of information technology in pricing and promotion of products in the scenario of globalization. Give some examples. 10
8. (a) Define the following : 5
- (i) Fixed and current asset items
- (ii) Fixed and current liability items.
- (b) What is ISO 9000 quality system ? Discuss its various clauses and provisions. 7
- (c) What is the 'law of diminishing marginal return' ? Explain. 4
- (d) What is e-commerce ? Give some of its benefits. 4

### Group C

9. Answer the following in brief : 10 × 2
- (i) What is CRAFT and ALDEP ?
- (ii) What is marginal productivity ?
- (iii) What do you understand by the crashing of the activity ?

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- (iv) What is mass customization ?
- (v) What is decision support system ?
- (vi) What are different types of organizations ?
- (vii) What is ABC classification of inventory ?
- (viii) What is preventive maintenance ?
- (ix) What are 'BOM' and 'MPS' in MRP ?
- (x) What is a balance-sheet ?

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