

2013

**MASTER OF BUSINESS ADMINISTRATION**

**[ Second Semester Examination ]**

**PRODUCTION AND OPERATIONS MANAGEMENT**

**PAPER— 205**

*Full Marks : 100*

*Time : 3 hours*

*The figures in the right-hand margin indicate marks  
Candidates are required to give their answers in their  
own words as far as practicable*

*Illustrate the answers wherever necessary*

**Write the answers to Questions of each Half in  
separate books**

**FIRST HALF**

**[ Marks : 50 ]**

1. Answer any *four* of the following : 5 × 4

(a) Briefly state the concept of Batch Production.

( Turn Over )

- (b) What is production system and what are its subsystems ?
- (c) Explain the use of Factor Rating Method in plant location selection process.
- (d) Briefly explain the system of cellular layout and state its advantages.
- (e) State the fundamentals of Material Requirement Planning.
- (f) Briefly discuss the concept of Assembly line Balancing in respect of Man and continuous production.

2. Answer any *two* of the following : 10 × 2

- (a) (i) Discuss the process of cost-volume-profit analysis method in plant location evaluation model.
- (ii) Godavari Electricals Ltd. wanted to set up a new plant for manufacturing industrial heaters. The management of

Godavari Electricals identified Kakinada, Vijayawada and Hyderabad as the potential areas to set up plants. The fixed costs per year and the variable costs per heater at each of the three locations are given below :

Location	Fixed cost/Year	Variable cost/unit
Kakinada	Rs. 2,00,000	325
Vijayawada	Rs. 2,50,000	285
Hyderabad	Rs. 3,00,000	265

The product is expected to be sold at Rs. 1,050 and the company hopes to sell 600 industrial heaters per year. Calculate the likely profit at each location and determine the most profitable location of the company.

4 + 6

(b) (i) What is mass and flow production ?

(ii) State the characteristics of mass and flow production.

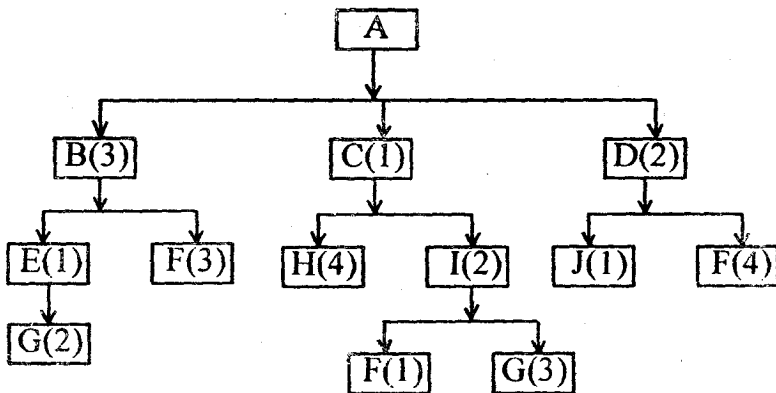
4 + 6

( 4 )

(c) (i) What is bill of material in a manufacturing process ?

(ii) Given the product structure tree as shown in the following figure, how many units of 'F' overall are required to manufacture 200 units of 'A' ? The on-hand inventory available is 100 units of subassembly 'D' and 100 of subassembly 'B'.

3 + 7



[ Internal Assessment : 10 Marks ]

SECOND HALF

[ Marks : 50 ]

3. Attempt any *four* questions : 5 × 4

(a) State the objectives of inventory management.

(b) Define control charts. How does it work ?

(c) Explain briefly the benefits of work sampling.

(d) A work sampling study showed that 20 % of a work week of 48 hours was covered by avoidable delays. Every time a work sampling observations was made, the operator was rated and the average of such ratings was 110 %. If 110 units were produced per week, calculate the normal time per unit.

(e) Distinguish between preventive maintenance and breakdown maintenance.

(f) A company produces 15,625 units of raw materials @ Rs.12 per unit to meet its entire annual requirement. The order cost comes

to Rs.60 per order and inventory carrying cost is Rs. 1.20 per unit. Calculate : (i) EOQ and (ii) Total inventory cost.

4. Attempt any *two* questions : 10 × 2

(a) Explain briefly the inventory systems with respect to : 5 + 5

(i) Fixed order internal scheduling policy.

(ii) Optional Replenishment policy.

(b) Define value Analysis. State its advantages. 10

(c) A machine costs Rs. 8,000. Annual operating costs are Rs. 1,000 for the first year and then increases by Rs.500 every year. Resale prices are Rs.4,000 for the first year and then increases by Rs.500 every year. At what age should the machine be replaced ? 10

[ *Internal Assessment* : 10 Marks ]

---