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UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2017

Program: B Tech (Production and Industrial)
Subject (Course): OPERATIONS MANAGEMENT
Course Code : IPEG 421
No. of page/s:

Semester – VII
Max. Marks : 100
Duration : 3 Hrs

SECTION A (20 Marks)

Note : Answer all questions

1. Explain the effect of increased use of Emails on postal productivity.
2. Name some of the main advantages and disadvantages of standardization.
3. Explain the significance of Lean and JIT in modern day industries. .
4. Elaborate the relation between scheduling and productivity.

SECTION B (40 Marks)

Note : Answer all questions

5. A catering company prepared and served 300 meals at an anniversary celebration last week using eight workers .The week before, six workers prepared and served 240 meals at a wedding reception.
 - a. For which event was the labor productivity higher? Explain
 - b. List the possible reasons for the differences in productivity.
6. Think of a new or revised product or service that you would like to see on the market. Explain the implications of producing that product or service relative to ethical, competitive, design and production issue.
7. Determine the total cost for the plan given the following forecast.

Month	1	2	3	4	5	6
Forecast	380	400	420	440	460	480

Use steady regular output of 400 units per month, use overtime as needed for up to 40 units per month, and use subcontracting to make up any needed output to match the forecast. Unit cost are-

Regular output: Rs 25/-

Overtime: Rs 40/-

Subcontract: Rs 60/-

Average Balance inventory: Rs 15/-

8. Define Master Production scheduling. Distinguish between aggregate planning and Master production scheduling.

OR

Explain rough-cut technique of Master production scheduling with the help of suitable example.

SECTION C (40 Marks)

Note : Answer all questions

9. A manager is attempting to put together an aggregate plan for the coming nine months. The manager has obtained a forecast of expected demand for the planning horizon. The plan must deal with highly seasonal demand; is relatively high in periods 3 and 4 and again in period 8, as can be seen from the following forecast.

Period	1	2	3	4	5	6	7	8	9	Total
Forecast	190	230	260	280	210	170	160	260	180	1940

The department has 20 full time employees, each of whom produces 10 units of output per period as a cost of Rs 6 per unit. Beginning inventory for period 1 is zero. Inventory carrying cost is Rs 5 per unit per period, and backlog cost is Rs 10 per unit per period.

- a. Will the current work force be able to handle the forecast demand?
b. Determine the total cost of the plan , including production, inventory and back order costs.

OR

- a. Service operations often face more difficulty in planning than their manufacturing counterparts. However, service does have certain advantages that manufacturing often does not. Explain service planning difficulty, the advantages and disadvantages.
b. Explain the inputs and outputs to master production schedule. Explain the impact of technology on master production schedule.
10. a. The scheduling is simple for repetitive systems but complex for job shops. Explain.
b Briefly explain the following priority rules.
i. FCFS ii SPT iii. EDD. iv Rush

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