2022

(May/June)

BUSINESS ADMINISTRATION

(Honours)

(Production and Operations Management)

(BBAC–402)

(For the Students of 2018 Batch and Onwards)

Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. *(a)* What is Production and Operations Management? Explain the various types of production systems. 2+5=7

(b) Classify the different types of plant layouts. Briefly describe each of them. 8

Or

(a) As a manager, what are the factors that you would consider in the location of a manufacturing plant? 6

(b) Briefly describe the functions of a purchasing manager. 4

(c) Enumerate the steps involved in value analysis. 5

2. A hospital sources 9000 disposable syringes annually from a supplier. The ordering cost per order is ₹ 10. The carrying cost is 10% of the price of the syringe. The supplier offers the following discounts :

Quantity bought at a time	*Price per unit* (₹)
Less than 500	10·00
500 to 899	9·85
900 and above	9·70

Evaluate the various discount options, and advise the management of the hospital about the best inventory policy for disposable syringes. 15

Or

(a) Why do manufacturing firms maintain safety stock? 3

(b) Distinguish between ABC and VED classification of materials. 5

(c) Explain how codification and standardization help reduce inventories. If an item is stored under two different names, what kind of problem is foreseen? 7

3. (a) What is meant by production planning and control? 5

(b) What is 'dovetailing' of plans? 3

(c) How do you balance an assembly line? 7

Or

(a) What is scheduling? Discuss the objectives of scheduling. 3+6=9

(b) The table below gives the processing time (in hours) of seven jobs to be processed on three machines *M1*, *M2* and *M3* in the order *M1*, *M2* and *M3*. Sequence these jobs using Johnson's rule : 6

Job	*M1*	*M2*	*M3*
A	1	7	8
B	3	3	10
C	7	8	9
D	9	2	11
E	4	8	9
F	5	6	14
G	2	1	12

4. Determine an initial basic feasible solution to the following transportation problem using Vogel's approximation method : 15

	D1	*D2*	*D3*	*D4*	*Availability*
O1	6	4	1	5	14
O2	8	9	2	7	16
O3	4	3	6	2	5
Demand	6	10	15	4	

Or

(a) A firm produces two types of products *A* and *B* and sells them at a price of ₹ 2 and ₹ 3 respectively. Each product passes through two machines *M1* and *M2*. Product *A* requires one minute of processing time on machine *M1* and two minutes on machine *M2*. Product *B* requires one minute on machine *M1* and one minute on machine *M2*. The machine *M1* is available for not more than 6 hours while machine *M2* is available for 10 hours during any working day. The firm wishes to determine its daily product mix so as to maximize revenue.

Formulate the above as a linear programming problem. 8

(b) Write a note on Supply Chain Management. 7

5. *(a)* Write a note on JIT manufacturing. 8

(b) Briefly explain the scope of TQM. 7

Or

(a) Explain the steps involved in method study. 6

(b) Describe the uses of time study. 6

(c) Write a note on ergonomics. 3

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