## Odd Semester, 2020

( Held in March, 2021 )

BUSINESS ADMINISTRATION

( Honours )

( BBAC–302 )

( For the Students of 2015, 2016 and 2017 Batches Only )

**( Production and Operations Management )**

*Marks* : 75

*Time* : 3 hours

*The figures in the margin indicate full marks for the questions*

**1.** *(a)* Define Production and Operations Management (POM). What are the objectives of POM? 3+5=8

*(b)* State the features of a good plant layout. 7

*Or*

*(a)* Differentiate between process layout and product layout. 7

*(b)* Describe the various factors that determine the decision to locate an industrial unit in North-East India. 8





**2.** Compute the EOQ from the following :

| *No. of units bought at a time* | *Price per unit* (₹) |
|---|---|
| Less than 100 | 20 |
| 100 to 199 | 18 |
| 200 and more | 16 |

The order cost is ₹ 30 per order and the carrying cost is 15% of the price. Annual requirement of the item is 7200 units. 15

*Or*

*(a)* Write short notes on the following : 4+4=8

*(i)* VED analysis

*(ii)* ABC analysis

*(b)* Briefly explain various types of spares for stock-taking policy. 7

**3.** *(a)* What do you mean by production plan? 4

*(b)* What do you understand by the concept of 'dovetailing' of plan? 4

*(c)* Define aggregate planning. What is Assembly Line Balancing? 7

*Or*

*(a)* What is scheduling? Discuss the objectives of scheduling. 3+4=7

*(b)* There are five jobs, each of which has to be processed on two machines *A* and *B* in the order *AB*. Processing times are given in the following table :

| *Job* | *Machine A* | *Machine B* |
|---|---|---|
| 1 | 6 | 3 |
| 2 | 2 | 7 |
| 3 | 10 | 8 |
| 4 | 4 | 9 |
| 5 | 11 | 5 |

Using Johnson's rule, determine a sequence in which these jobs should be processed so as to minimize the total processing time. 8

**4.** *(a)* Write a note on Supply Chain Management. 10

*(b)* What do you mean by linear programming? 5

*Or*

A company has factories at *A*, *B* and *C* which supply to warehouses at *D*, *E*, *F* and *G*. Monthly capacities of the factories are *A* = 20 units, *B* = 40 units and *C* = 35 units. Monthly demands at the warehouses are *D* = 16 units, *E* = 18 units, *F* = 31 units and *G* = 30 units. The shipping cost in ₹ per unit





from factories to warehouses is as given below :

| *Warehouses* → *Factories* ↓ | *D* | *E* | *F* | *G* |
|---|---|---|---|---|
| *A* | 10 | 8 | 11 | 7 |
| *B* | 9 | 12 | 14 | 6 |
| *C* | 8 | 9 | 12 | 10 |

Using Vogel's approximation method, you are required to find an optimal shipping plan for the company. 15

**5.** *(a)* What is TQM? What are the benefits of TQM? 3+5=8

*(b)* What is just-in-time production? Explain the basic principles of a JIT manufacturing system. 3+4=7

*Or*

*(a)* What is time study? How is it different from method study? 7

*(b)* Write a note on six sigma. 8

★ ★ ★