

2 0 2 1

(July)

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 are the objectives and scope of Production and Operations Management? 5
- (b) What are the basic principles of plant layout? Describe the three kinds of basic plant layouts. 5+5=10

OR

2. (a) In order to attract more industries to the industrially backward areas in the North-East, what measures would you suggest to the government? Discuss. 6
- (b) What is value analysis? 2
- (c) State the merits and demerits of centralized and decentralized buying. 7
3. (a) A mail-order house uses 18000 boxes a year. Carrying costs are 20% of the price per box per year, and ordering costs are ₹ 96. The following price schedule applies :

Number of boxes	Price per box
100 to 499	₹ 125
500 to 699	₹ 120
700 and above	₹ 115

- Compute the optimal order quantity. 12
- (b) What is buffer stock? 3

OR

4. (a) How does the practice of selective management contribute towards the achievement of efficiency in an organization? 5
- (b) Explain the various types of spares for stock-taking policy. 5
- (c) Discuss the characteristics of a good coding system. 5

(3)

5. (a) What is meant by production planning?
How is production plan an integral part
of the overall corporate plan? 3+7=10
- (b) What is assembly line balancing?
Explain. 5

OR

6. (a) Distinguish between scheduling and
sequencing. 4
- (b) What are the various rules of dispatch? 4
- (c) We have six jobs, each of which must go
through machines X, Y and Z in the
order XYZ. Processing times (in hours)
are given in the following table :

Job	A	B	C	D	E	F
Machine X	8	3	7	2	5	1
Machine Y	3	4	5	2	1	6
Machine Z	8	7	6	9	10	9

Using Johnson's rule, determine a
sequence for the six jobs. 7

7. (a) What is supply chain management?
Discuss the principles of supply chain
management. 8
- (b) A farmer can plant up to 8 acres of land
with wheat and barley. He can earn
₹ 5,000 for every acre he plants with
wheat and ₹ 3,000 for every acre he

(4)

plants with barley. His use of a
necessary pesticide is limited by
government regulations to 10 litres for
his entire 8 acres. Wheat requires
2 litres of pesticide for every acre
planted and barley requires just 1 litre
per acre.

Formulate the above as an LP problem. 7

OR

8. Five warehouses are supplied by four
factories. The supply available from each
factory, the demand at each warehouse and
the cost per unit of transporting goods
from the factories to the warehouses are
summarized in the following table :

	W_1	W_2	W_3	W_4	W_5	Supply
F_1	13	9	15	10	12	40
F_2	11	10	12	12	9	10
F_3	12	9	11	12	9	20
F_4	13	12	13	12	10	10
Demand	12	15	20	15	18	—

Use Vogel's approximation method to find an
optimal shipping plan for the problem. 15

(5)

9. (a) Define quality. Briefly explain the types of quality control methods available. 2+5=7
- (b) What is total quality management (TQM)? Discuss the benefits an organization would reap by implementing TQM. 2+6=8

OR

10. (a) What is time study? How is it different from method study? 3+3=6
- (b) Write a note on six sigma explaining its importance and benefits in today's corporate world. 9

★ ★ ★