

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

CLASS: MBA
BRANCH: MBA

SEMESTER : III
SESSION : MO/19

SUBJECT: MT533 OPERATIONS STRATEGY & SUPPLY CHAIN MANAGEMENT

TIME: 3.00Hrs.

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

Q.1 “Effective Operation strategy and its implementation may be differentiated within supply chain in performance”- Do you agree? Justify the above statement with real life business application and give managerial significance. [5+5]

Q.2(a) Define Quality. How does the consumer’s perspective of quality differ from the producer? [5]

Q.2(b) What are the different quality characteristics you (as a consumer) would expect to find in the following three products: a DVD player, a Pizza, and running Shoes? [5]

Q.3 The Western Jeans Company produces denim jeans. The company wants to establish a *p-chart* to monitor the production process and maintain high quality. Western believes that approximately 99.74% of the variability in the production process (corresponding to 3-sigma limits or $z = 3.00$) is random and thus should be within control limits, whereas 0.26% of the process variability is not random and suggests that the process is out of control. The company has taken 20 samples (one per day for 20 days) each containing 100 pairs of jeans and inspected them for defects, the result (data) of which are as follows: [5+5]

Sample	Number of Defectives	Proportion Defectives
1	6	0.06
2	0	0.00
3	4	0.04
4	10	0.10
5	6	0.06
6	4	0.04
7	12	0.12
8	10	0.10
9	8	0.08
10	10	0.10
11	12	0.12
12	10	0.10
13	14	0.14
14	8	0.08
15	6	0.06
16	16	0.16
17	12	0.12
18	14	0.14
19	20	0.20
20	18	0.18
-	200	-

The proportion defective for the population is not known. Company wants to construct a *p-chart* to determine when the production process is ‘out of control’? Solve the above problem and give your recommendation.

Q.4(a) Define News Vendor Model with managerial significance? [5]

Q.4(b) TVS Company buys in lots of 500 boxes which is a 3 month supply. The cost per box is Rs. 125 and the ordering cost is Rs. 150. The inventory cost is estimated at 20% of unit value. (i) What is the total annual cost of the existing inventory policy? (ii) How much money could be saved by employing the Economic Order Quantity (EOQ) policy? [5]

Q.5 Discuss any TWO of the following in light of ‘Effective Operations Strategy’: [5+5]

1. Supply chain collaboration
2. Six sigma
3. Supply chain risk
4. Strategic Fit Model of Supply Chain