BBA Sem - 4   **Prelims Exam – 2023**
Sub: Statistics for Business Decisions   **Marks 70**

1(A) Find trend by fitting equation of second degree parabola from given data of time series.   **10**

X	1987	1992	1997	2002	2007
Y	11	12	14	18	16

1(B) Explain different method of forecasting.   **10**

OR

1(A) Explain moving average method.   **10**
1(B) Fit a straight line to the following data.   **10**

Year	1991	1992	1993	1994	1995
Production	10	12	8	10	14

2(A) Give the difference between the charts for variables and charts for attributes.   **10**
2(B) Discuss the causes of variations in a production process.   **10**

OR

2. Draw appropriate charts for the following data. Comment on the state of control. 20

Sample No.	Average	Range	Sample No.	Average	Range
1	82	10	9	88	15
2	86	12	10	90	12
3	84	15	11	86	9
4	86	20	12	85	10
5	89	22	13	83	15
6	70	8	14	82	8
7	81	2	15	85	9
8	87	6			

3(A) Write short on: **10**
(i) Maxi-Min Principle   (ii) Hurwich Principle   (iii) Laplace Principle
3(B) Write Short note on Decision Theory.   **5**

OR

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3. Determine the best act for the following pa-off matrix by applying: **15**
(i) Maxi-Min Principle (ii) Maxi-Max Principle (iii) Horwich's Principle (with α = 0.4)
(iv) Laplace Principle (v) Minimax regret Criterion

4. Write a note on: **15**
(i) Simple Random Sampling
(ii) Stratified Random Sampling
(iii) Systematic Sampling

OR

4(A) State properties of good estimator.   **8**
4(B) How can the size of sample be determined?   **7**