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Total No. of Pages : 04

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MBA/MBA(FinTech)(IB) (Sem.-2)

BUSINESS ANALYTICS FOR DECISION MAKING

Subject Code : MBA-201-18

M.Code : 76153

Date of Examination : 21-05-2025

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A** contains **EIGHT** questions carrying **TWO** marks each and students has to attempt **ALL** questions.
2. **SECTION-B** consists of **FOUR** Subsections : Units-I, II, III & IV. Each Subsection contains **TWO** questions each carrying **EIGHT** marks each and student has to attempt any **ONE** question from each Subsection.
3. **SECTION-C** is **COMPULSORY** and consists of **ONE** Case Study carrying **TWELVE** marks.

SECTION - A

- 1. Explain briefly :**
- a) Descriptive Statistics
 - b) Two Way Table
 - c) Stratified Sampling
 - d) Sampling Distribution
 - e) Goodness of Fit
 - f) Trend Analysis
 - g) Autocorrelation
 - h) Tests of Consistency

SECTION - B

UNIT - I

2. ***"Statistics or statistical Methods may be defined as the collection, presentation, analysis and interpretation of Numerical Data"***. Elaborate the statement with respect to scope of statistics in managerial decision making.
3. **Present the following information in a suitable tabular form :**

Out of total number of 10000 candidates who applied for jobs in a government department, 6854 were males, 3146 were graduates and others, non-graduates. The number of candidates with some experience was 2623 of whom 1860 were males. The number of male graduates was 2012. The number of graduates with experience was 1093 that includes 323 females.

UNIT - II

4. What is Hypothesis Testing? Explain the procedure of Hypothesis Testing.
5. A Car Manufacturer claims that its new car gives a mileage of at least 10 kms. Per litre of petrol. A Sample of 10 Cars is taken, and their mileage recorded as follows (in kms P.l) 11.2, 10.7, 11.3, 11.0, 10.8, 10.7, 10.6, 10.6, 10.7 and 10.4. Is there any statistical evidence to support the claim of the manufacturer about the mileage of the Car? (Tabulated value at 5% level of Significance is 1.83)

UNIT - III

6. Elaborate different steps of Business Forecasting. Explain different methods of forecasting.
7. Distinguish between simple, partial and multiple correlation giving suitable examples.

UNIT - IV

8. What is an index number? Explain the various problems involved in the construction of Index Numbers.
9. Fit a Linear Trend to the following data by the least square method.

Year	1990	1992	1994	1996	1998
Production (in 000 units)	18	21	23	27	16

Also Estimate the Production for the Year 1999.

SECTION - C

10. Case study

Bright Future Academy is a private high school that recently implemented a new curriculum aimed at improving student performance in mathematics. After the first semester, the administration collected test scores from two classes to evaluate the effectiveness of the curriculum. The Academy collected data to analyze the variation in test scores to understand the consistency of student performance and identify areas for improvement.

Data Collection :

Test Scores: The final test scores from two math classes :

- o Class A : [85, 90, 78, 92, 88, 76, 95, 89]
- o Class B : [65, 70, 68, 72, 75, 78, 80, 74]

Results of Analysis :

1. Descriptive Statistics :

- **Class A:**

- Mean : $\frac{85+90+78+92+88+76+95+89}{8} = 86.25$
- Median : 88.5
- Range : $95 - 76 = 19$
- Variance : $\frac{(85-86.25)^2 + (90-86.25)^2 + \dots + (89-86.25)^2}{7} = 33.79$
- Standard Deviation: $\sqrt{33.79} \approx 5.81$

- **Class B:**

- Mean : $\frac{65+70+68+72+75 + 78+80+74}{8} = 72.25$
- Median : 72.5

- Range : $80 - 65 = 15$
- Variance : $\frac{(65-72.25)^2 + (70-72.25)^2 + \dots + (74-72.25)^2}{7} = 22.50$
- Standard Deviation : $\sqrt{22.50} \approx 4.74$

Questions to be answered :

- a) How the results of the analysis can be interpreted?
- b) What additional data could be collected to provide more insights into student performance?
- c) How can measures of variation help in assessing long-term trends in student achievement?

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.