

Roll No.

Total No. of Pages : 02

Total No. of Questions : 15

MBA/MBA(IB) (2015 to 2019) (Sem.-1)

QUANTITATIVE TECHNIQUES

Subject Code : MBA-104

M.Code : 49004

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A contains SIX questions carrying FIVE marks each and students has to attempt any FOUR 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 consist of ONE Case Study carrying EIGHT marks.

SECTION-A

- Q1. What is the significance of coefficient of variation?
- Q2. State and explain the differences between census and sampling.
- Q3. Explain the concept of splicing.
- Q4. Explain the two laws of probability.
- Q5. What are the differences between probability and non-probability sampling?
- Q6. Explain the importance of rank correlation coefficient?

SECTION-B

UNIT-I

- Q7. Discuss how is data classified and tabulated. Give examples.
- Q8. Given the marks data of 110 students, find the mode of the following data :

| Marks | Less than 10 | Less than 20 | Less than 30 | Less than 40 | Less than 50 | Less than 60 | Less than 70 | Less than 80 | Less than 90 | Less than 100 |
|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| No. of students | 8 | 12 | 19 | 29 | 44 | 64 | 82 | 94 | 102 | 110 |

UNIT-II

- Q9. What is meant by sampling theory? Discuss the steps in formulation of hypothesis.

Q10. 8 salesmen were given training after observing their low performances in the field. The sales figures (in Rs. Crores), of salesmen before and after the training is as under :

| Salesman | S ₁ | S ₂ | S ₃ | S ₄ | S ₅ | S ₆ | S ₇ | S ₈ |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Before training | 11 | 15 | 12 | 14 | 17 | 10 | 8 | 12 |
| After training | 13 | 16 | 11 | 12 | 19 | 13 | 6 | 15 |

Find out whether the training to the salesmen can be considered as successful? Test at 5% level of significance.

UNIT-III

- Q11. Discuss the various methods of construction of Index numbers. Also state the problems faced therein.
- Q12. Explain how regression analysis is helpful in managerial decision making. Support your answer with examples.

UNIT-IV

- Q13. Differentiate between Binomial, Poisson and Normal probability distributions.
- Q14. Explain the concept of time series analysis? Explain its various components.

SECTION-C

Q15. To study the performance of 3 newly launched water soluble detergent liquids at 3 different water temperature settings, the following "Cleaning ability" readings were noted with specially designed equipments :

| Water Temperature | Detergent D ₁ | Detergent D ₂ | Detergent D ₃ |
|-------------------|--------------------------|--------------------------|--------------------------|
| Hot Water | 66 | 54 | 57 |
| Warm Water | 61 | 52 | 59 |
| Cold Water | 69 | 45 | 53 |

You as a statistician are required to analyze the given data, and determine :

- Whether the detergents are significantly different in their cleaning abilities?
- Whether the temperature settings affect the cleaning significantly?

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