FD-992

BBA 5th Semester
Examination, Dec.-Jan., 2021-22

Paper - II

Quantitative Techniques

Time : Three Hours]   [*Maximum Marks* : 90
[*Minimum Pass Marks* : 32

Note : Answer **all** questions. All questions carry equal marks.

Unit-I

1. Define functions and explain the types of functions with suitable examples. Describe the importance of any one of them in the business decision making.

OR

15 radios are sold when price is ₹ 400 and 25 radios are sold when the price is ₹ 350. What is the demand function assuming it to be linear ?

(2)

Unit-II

2. What is differentiation ? What are the objectives of differentiation ? What are the Basic rules of differentiation ?

OR

Find the derivative of the function $y = \sqrt[3]{x^6}$.

Unit-III

3. Explain what is probability ? What is the use of probability ? What is the addition and multiplication theorem on probability ?

OR

(*a*) A die is thrown. Find the probability of getting a digit less than 4.

(*b*) A single letter is selected at random from the word 'Probability'. What is the probability that it is a vowel ?

Unit-IV

4. What is Sampling ? Describe the methods of sampling with their advantages and disadvantages.

OR

A sample of size 10 has mean as 57 and standard deviation as 16. Can it come from a population with mean 50 ? (for 9 d.f. at 5% level of significance the value of $t = 2.262$)

Unit-V

5. Define Linear Programming. Explain the basic requirement and scope of areas of application of linear programming ?

OR

Solve the following linear programming problem graphically :

Maximize $Z = 3x + 5y$

such that $\quad x + 2y \leq 20$

$\quad\quad\quad\quad x + y \leq 15$

$\quad\quad\quad\quad y \leq 6$

and $\quad\quad x \geq 0,\ y \geq 0$

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