Roll No. .....

E–1927

Bachelor of Business Administration

(Fifth Semester)

EXAMINATION, Dec.-Jan., 2020-21

QUANTITATIVE TECHNIQUES

(123)

Time : Three Hours] [*Maximum Marks : 90*

[*Minimum Pass Marks : 32*

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

Unit—I

1. Define variable. Explain different types of variable with suitable examples.

   Or

   A transistor-set manufactures finds that at ₹ 500 per transistor-set, its Sales are 2000 sets per month. However at ₹ 450 per set, the sales are 2,400 sets. Determine the demand equation assuming it to be linear.

Unit—II

2. Differentiate $\frac{2x^2+3}{\sqrt{x}}$ with respect to x.

Or

Find $\frac{dy}{dx}$ at $x=1$, $y=1$ if $x^3-2x^2y^2=5-y-5x$.

Unit—III

3. Define probability and explain the importance of this concept in statistics.

Or

The following is the frequency distribution of 128 throws of seven coins, according to the number of heads :

No. of Heads	Throws
0	7
1	6
2	19
3	35
4	30
5	23
6	7
7	1
Total	128

Fit a binomial distribution under the hypothesis that the coins are unbiased. What is the mean and the standard deviation of the fitted distribution ?

Unit—IV

4. Explain sampling distribution of the difference between two sample means.

Or

One hundred students appeared for an examination and results were categorized as follows depending on whether they received special training :

Special Training	Result	
	Pass	**Fail**
Yes	36	12
No	30	22

Test whether the special training was useful to the students. Closely state the steps in your analysis. [You May use the information that the relevant table value at 5% level is 3.84]

Unit—V

5. What is a linear programming problem ? Briefly explain the major application of linear programming in business.

Or

What steps are required in solving linear programming problem ? Discuss in brief.