Roll No.
Total No. of Questions: 08

## Bachelor of Commerce (Honours) (Sem.-2) <br> BUSINESS STATISTICS

## Subject Code : BCOM-GE 201-18

## M.Code : 75830

Date of Examination : 13-07-21
Time: 2 Hrs.
Max. Marks : 60

## INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE question(s), each question carries $\mathbf{1 2}$ marks.
2. What do you understand by statistics? "Statistics is said to be both science and an art" comment. Also discuss its importance in business decision making.
3. Explain the following with examples
a) Population and sample
b) Parameter and statistic
c) Descriptive and inferential statistics
4. Calculate mean, median and mode from the following data :

| Marks | $30-40$ | $40-50$ | $50-60$ | $60-70$ | $70-80$ | $80-90$ | $90-100$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of Students | 3 | 4 | 6 | 10 | 6 | 4 | 3 |

4. What do you understand by sampling distribution of Statistic? A population comprises of 4 elements $4,6,8$ and 10 a) List all possible samples of size 2 that can be drawn from the population without replacement. b) Show that mean of Sampling distribution of sample means is equal to the population mean. c) Calculate standard deviation of the sampling distribution of sample means and show it is less than the population standard deviation.
5. Find Karl Pearson coefficient of correlation for the following data.

| $\mathbf{X}$ | 10 | 12 | 18 | 16 | 15 | 19 | 18 | 17 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{Y}$ | 30 | 35 | 45 | 44 | 42 | 48 | 47 | 46 |

6. Discuss the role of regression analysis in business and industry. What are the properties of regression coefficients? How these are helpful in analysing the regression lines?
7. a) Define Probability. How does the concept of probability help in decision making?
b) A bag contains 4 white balls, 5 black balls and 6 red balls. Three balls are drawn at random one after another without replacement, find the probability that first ball is white, second is red and third is black ball.
8. Fit a binomial distribution to the following data :

| $\mathbf{X}$ | 0 | 1 | 2 | 3 | 4 | 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{Y}$ | 38 | 144 | 342 | 287 | 164 | 25 |

Note: Any student found attempting answer sheet from any other person(s), using incriminating material or involved in any wrong activity reported by evaluator shall be treated under UMC provisions.
Student found sharing the question paper(s)/answer sheet on digital media or with any other person or any organization/institution shall also be treated under UMC.
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