Reg. No.

Time : 3 Hours   **Maximum Marks : 70**

Instructions to Candidates :
      Answer should be only in English.

SECTION - A

Answer any **Five** sub-questions, each question carries **2** marks.   **(5×2=10)**

1.   a)   Define Statistics

      b)   Find correlation co-efficient, if 2 regression co-efficients are 0.8 and 0.4.

      c)   What is probable error?

      d)   What is regression analysis?

      e)   Mention the parts of a table.

      f)   If $\overline{X}=12$, $Z = 13$ find Median.

      g)   Name the types of hypothesis.

SECTION - B

Answer any **Three** question, each question carries **5** marks.   **(3×5=15)**

2.   Read the following data of results of I semester BBA students examination of BCU held in December 2018, 2019, 2020 in multiple bar diagram.

Year	I Class	II Class	Pass Class	Repeater
2018	1000	3000	5000	3000
2019	1200	4000	6000	2800
2020	1000	5000	7000	3000

P.T.O.

3. For the following information.

   a) Write two regression equations

   b) Estimate the value of Y when X = 34

   c) Estimate the value of X when Y = 38

Variables	Mean	S.D.
X	48	6
Y	45	4

   r = -0.54

4. What is the probability of getting a Jack or a spade from a pack of 52 cards?

5. Given a sample mean of 83, a sample standard deviation of 12.5 and sample size of 22. Test the hypothesis that the value of the population mean is 70 against alternative that it is more than 70. Use the 0.025 significance level.

SECTION - C

Answer any **Three** questions, each question carries **15** marks.   (3×15=45)

6. The following table shows the scores of two batsmen Rahul & Raju in a recent cricket tournament. Find out who is better run getter and who is more consistent batsmen?

   Rahul: 103 85 8   50   10   17 28   142 35 49

   Raju: 47   79 9   105   111 51 67   78   4 28

7. Calculate Median and Mode

Marks	Students
5-15	07
15-25	12
25-35	17
35-45	29
45-55	31
55-65	16
65-75	03

8. Find co-efficient of correlation between average profits and average advertisement expenditure per store.

No.of stores	12	18	25	20	10
Total Profits	7200	5400	10000	3000	1800
Total advertisement expenses.	1200	3600	7500	1000	600

9. Find Karl Pearson co-efficient of skewness from the following data.

Wages	No.of workers
0-10	05
10-20	09
20-30	08
30-40	12
40-50	10
50-60	04
60-70	03
70-80	02

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