Total No. of printed pages = 3

BBA 181204

Roll No. of candidate

2022

B.B.A. 2nd Semester End-Term Examination

BUSINESS STATISTICS

Full Marks – 70   Time – Three hours

The figures in the margin indicate full marks
for the questions.

Question No. 1 is compulsory and answer any *four* out of the rest of the question.

1. Answer the following questions : $(10 \times 1 = 10)$

    (a) Interviews are used to generate (primary/secondary) data

    (b) (Median/Variance) tells us how wide the distribution of data is.

    (c) In (Cluster/Stratified) sampling, the entities within group are homogeneous

    (d) (Convenience/Systematic) sampling is a non-random sampling

    (e) Standard deviation can have negative values as well (True/false)

    (f) The probability of an event happening is between (0 to 1/ –1 to 1)

    (g) In a single draw of a card from a deck, the probability it's a 11 is ($\frac{4}{52}$ / 0)

    (h) Linear regression can be used for (extrapolation/ trend analysis)

    (i) Rank correlation coefficient is also known as (Pearson's/Spearman's) coefficient

    (j) The outcome of a coin toss is (mutually exclusive/ not mutually exclusive)

[Turn over

2. (a) What are different methods of primary data collection? What are the disadvantages of primary data over secondary data? (5+3=8)

(b) What are the different types of random sampling? (7)

3. (a) Tabulate the following data in a frequency table of interval 10, and graphically represent it on a histogram (7)

19,1,8,18,3,2,95,25,9,69,95,2,6,72,63,52,19,84,96,19,71,51,49,69,84,37,52,39, 8,4,62,9,48

(b) Find the median and mode of the following grouped data (8)

Speed of vehicles	Number of vehicles
40-50	16
50-60	24
60-70	53
70-80	47
80-90	32
90-100	19
100-110	14

4. (a) Find the variance and standard deviation of the following data : (8)

Monthly Wages	Number of workers
800-1000	18
1000-1200	25
1200-1400	30
1400-1600	34
1600-1800	26
1800-2000	10

(b) If two dice are rolled simultaneously what is the probability we get a sum of

(i) Exactly Seven

(ii) More than nine

(iii) 3 or more, but not more than 6 (2+2+3=7)

5. The following data shows the amount of advertising broadcast time (in minutes), and the number of appliances sold over the last 6 weeks.

Time	25	18	32	21	35	29
Unit's sold	16	11	20	15	26	28

(a) Predict the units that can be sold, if the broadcast time is increased to 40 minutes. (8)

(b) Calculate the Karl Pearson's coefficient of correlation from the following data. (7)

6. (a) The probability that a bomb can hit a target is 7/11. Two bombs are the required to destroy a target. If 7 bombs are fired what is the probability the target is destroyed. (8)

(b) If the average weight of a class of 30 boys and 20 girls is 56kgs, and the average weight of the boys is 61kg. Find the average weight of the girls. (7)

7. Write short notes on (any three) : (3×5=15)
   (a) Application of linear regression
   (b) Binomial probability distribution
   (c) Advantages of median over mean
   (d) Quantitative and Qualitative data
   (e) Limitation of statistics