

13-06-19

Total No. of printed pages = 4

**BBA 181204**

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(GIMT & GIPS)

Roll No. of candidate

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**2019**

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

**BUSINESS STATISTICS**

Full Marks – 70

Time – Three hours

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

Question 1 is compulsory and solve any four out of  
rest of the questions.

1. Answer the following: (10 × 1 = 10)
- (a) If standard deviation is squared, we get \_\_\_\_\_.
  - (b) Coefficient of variation is the ratio of \_\_\_\_\_  
and \_\_\_\_\_.
  - (c) Any data that has been gathered first hand for  
a specific purpose is called \_\_\_\_\_.
  - (d) Qualitative data is numerically expressed  
(True/False)
  - (e) Karl Pearson's coefficient of correlation shows  
the degree of \_\_\_\_\_ between two  
variables.
  - (f) When a dice is rolled the probability its a 7 is  
\_\_\_\_\_.

[Turn over

- (g) The probability of X successes in N attempts can be calculated using Poisson Distribution (True/False)
- (h) Calculate the mode :  
4,4,7,6,5,8,6,7,4,5,7,6,7,4,7,4,2,8,9,5,4.
- (i) Simple random sampling is a non probability sampling (True/False).

2. What are different methods of Primary data collection? What are the disadvantages of Secondary data? What are the advantages of sampling? (5+5+5 =15)

3. (a) Arrange the following data in a tabulated form, with a class interval of 5, and represent the same on a histogram

13,11,24,17,10, 20,15,10,19,12,22,16,24,15,11,  
23,14,17,17,13,21,10,13,10,23. Also find the Mean of the data. (7)

(b) Find the median and mode of the following data. (4 + 4 = 8)

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

4. (a) Find the Variance and Standard Deviation of the following data

9,16,12,17,9,8,22,13,11,19,14,18. (4 + 2 = 6)

(b) A bag contains five red, seven blue and three yellow shirts. If three shirts are drawn at random what is the probability that (3 + 3 + 3 = 9)

(i) All of them are of the same colour

(ii) At least two are blue

(iii) All are of different colour.

5. The following data shows the sugar level of participants(mg/l) on consuming a number of soft drink servings (300 ml)

Servings	25	18	32	21	35	29
Sugar level	205	130	328	165	360	200

(a) Calculate the Karl Pearson's coefficient of correlation from the following data and comment on the relationship of servings and sugar level. (7)

(b) Using regression equations predict the sugar level, if the participant is made to drink 40 servings. (8)

6. (a) The daily sales of 500 branch officials was Rs.1,50,000, with a standard deviation of Rs.15,000. Assuming the distribution to be normal indicate how many branches will have sales between

(i) 1,20,000 and 1,45,000

(ii) 1,40,000 and 1,65,000

(iii) More than 1,65,000 (3 + 3 + 3 = 9)

(b) The arithmetic mean and standard deviation of a series of 20 items was computed as 20 cm and 5 cm. While calculating one of the item 13 cm, was misread as 30 cm. Find the correct mean and standard deviation. (6)

7. Write short notes on (any three) (3 × 5 = 15)

- (a) Limitation of statistics
  - (b) Mutually exclusive events
  - (c) Differences between correlation and regression.
  - (d) Judgement Sampling
  - (e) Stratified sampling.
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