VCD-25/11/19 **F.Y.Bsc(statistics)/Sem-I/paper-I (Descriptive Statistics)**

Duration: 3hrs. **Marks: 100**

Instructions:

- Use of scientific Non-programmable calculator is allowed.
- All questions are compulsory.

Q.1) (a) Correct the following if necessary. Justify each (correct or wrong) statement. **[10]**

1) Qualitative data cannot be represented on ordinal scale. [02]
2) If Yule's coefficient is ± 1 then attributes A & B are independent. [02]
3) To draw a pie-chart the total of the values of the variables should be 100. [02]
4) For two positive numbers, AM $\leq$ GM $\leq$ HM. [02]
5) Two sets of values are compared with respect to variability on the basis of absolute measure of dispersion. [02]

Q.1) (b) Answer in one sentence. **[10]**

1) Define the term skewness. [02]
2) State any one property of S.D. [02]
3) State empirical relation between mean , median & mode [02]
4) Give any one advantage of diagrammatic representation. [02]
5) Name the ways of selecting a Simple Random Sampling. [02]

Q.2) Attempt any two. **[20]**

1) Discuss(i) Nominal (ii) Ordinal (iii) interval and ratio scales giving one example of each. [10]
2) (i) State characteristics of good sample.
   (ii) Distinguish between qualitative and quantitative data.
   (iii) What is secondary data? Which are the chief sources of secondary data. [10]
3) For the following data on 3 attributes find all the remaining class frequencies.
   N = 600 , (A) = 348 , (B) = 455 , (γ) = 135 , (A β) = 18 , (Bγ) = 102, (ABC) = 300, $(\alpha\beta\gamma)$ = 25, Is the data consistent? [10]
4) The following is a set of prices of company XYZ's shares on 50 consecutive days
   30,33,43,30,40,33,42,41,40,37,39,49,36,45,21,24,27,23,26,37,33,38,40,41,34, 32,40,47,32,27,53,28,37,44,26,36,41,34,36,38,25,48,39,36,46,49,38,39,37,51.
   Prepare a frequency table for the above data using class intervals 20-24, 25-29, 30-34, etc. [10]

Q.3) Attempt any two. **[20]**

1) With appropriate illustration, describe: [10]
   (i) Simple Bar-diagram
   (ii) Multiple Bar-diagram
   (iii) Sub-divided Bar-diagram
2) what is Arithmetic mean. Explain the effect of change of origin & scale on A.M. [10]
3) Calculate G.M & H.M for the following distribution. [10]

x	3	4	5	6	7	8	9	10	11
f	2	5	9	14	15	8	6	3	

4) Find A.M , Median &Mode for the following frequency distribution data: [10]

Marks	0 - 20	20 - 40	40 - 60	60 - 80	80 - 100
No. of students	5	12	32	40	11

Q.4) Attempt any two **[20]**

1) State different absolute and relative measures of dispersion. [10]
2) State the different measures of kurtosis and their interpretations. [10]
2) The prices of a particular commodity during last five years in two different cities are as follows: [10]

Prices in city A	20	22	19	23	16
Prices in city B	10	20	18	12	15

Which city has more stable prices ? Why ?

3) Find the 1st four moments about the mean for the following distribution: [10]

C.I.	10 - 12	12 - 14	14 - 16	16 - 18	18 - 20	20 - 22	22 - 24
Frequency	1	3	7	20	12	4	3

Q.5) Attempt any four. **[20]**

1) Discuss the different methods of collecting primary data. [05]
2) What are the objectives of tabulations? [05]
3) Write a short note on SRSWR and SRSWOR. [05]
4) State merits & demerits of median. [05]
5) Explain the effect of change of origin & scale on S.D. [05]
6) Describe various measures of skewness. [05]
7) Define sampling and types of sampling. [05]

.....Best of Luck.....