

B.N. Bandodkar College of Science, Thane
F.Y. B.Sc. First semester Examination Oct. 2011
USST 101

Duration 2 hrs

Max Marks-60

- N.B. 1) All Questions are compulsory.
2) Figures to right indicate marks.
3) Use of calculators is allowed.

Q1) Attempt any **Three**

- 1) When are two attributes said to be 5
 - i. Positively associated
 - ii. Negatively associated
 - iii. Completely associated
 - iv. Completely disassociated
 - v. independent?
- 2) Prepare the blank table to represent the data. Workers in a factory ABC 5
Divisions:- Production, Accounts, Sales.; Sex – Male, Female, Year- 2001, 2005, 2010.
- 3) Discuss different methods of collecting primary data. 5
- 4) What is measurement of scales? Discuss various scales with example. 5

Q 2) a) State the rules used for deciding i) number of classes and ii) width of class interval. 3

b) Attempt any **Three**

- 1) With the help of suitable example, explain stem and leaf diagram. 4
- 2) With the help of an example explain how you draw frequency curve and frequency polygon. 4
- 3) Give all steps in the construction of a pie diagram. 4
- 4) Explain histogram. How are they different from simple bar diagram? 4
- 5) With the help of suitable example explain the construction of ogives. 4

Q.3) a) Define various measures of central tendency. State merits and demerits of median as a measure of central tendency. 7

b) Attempt any **one**

1) Define i) quartiles ii) deciles iii) percentiles, stating interpolation formula for calculating each of them for grouped frequency data. Also explain with the help of suitable example how you locate these values by using graph. 8

2) Discuss the situations where median or mode is better average than arithmetic mean. Also state the situations where geometric mean or harmonic mean is better average than arithmetic mean. 8

Q 4) Attempt any **Three**

1) With usual notations show that if data is consistence then for data with two attributes, 5

$$\text{Max} \{ 0, (A) + (B) - N \} \leq (AB) \leq \text{Min} \{ (A), (B) \}$$

2) State the properties of Arithmetic mean. Explain the effect of change of origin and scale on Arithmetic mean. 5

3) Name all the diagrams you have studied .State the merits and demerits of the diagrams. 5

4) Define Mode. Explain with the help of example how it can be calculated for i) ungrouped frequency data ii) grouped frequency data. 5

-----XXXXXXXXXXXX-----