

[A-16]

SEAT No. _____

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Sardar Patel University
B.Sc. (Semester - III) Examination (NC – 2010 Batch)
Thursday, 29th November, 2018
Course Code: US03FSTA01
Foundation of Statistics - I
(Foundation Course)

Time: 2 to 4 p.m

M.Marks: 70

Note: (i) Simple/Scientific calculator is allowed. (ii) Graph paper will be provided on request.

Q.1 Multiple Choice Questions (10 × 1)

- (1) The suitable formula for computing the number of classes in construction of grouped frequency distribution
(a) $3.322 \log N$ (b) $1 + 0.322 \log N$ (c) $1 - 3.322 \log N$ (d) $1 + 3.322 \log N$
- (2) Sampling is inevitable(essential) in the situation:
(a) Blood test of a person (b) Testing life of electronics item
(c) To test the quality of a manufactured items (d) All of the above
- (3) A statistical table must have
(a) Title (b) Body (c) Caption (d) All of the above
- (4) Which of the following can be described as a variable?
(a) Pulse rate (b) Fat content in milk (c) Body temperature (d) All of the above
- (5) Which of the following can be determined graphically with the help of histogram?
(a) Mean (b) Median (c) Mode (d) Standard Deviation
- (6) In _____ first unit is selected at random and remaining units are selected units are selected according to some system/pattern.
(a) Simple Random Sampling (b) Stratified Random Sampling
(c) Systematic Sampling (d) All of the above
- (7) Difficulty level of question paper (Very difficult, difficult, so-so, easy, and very easy) is?
(a) Nominal (b) Ordinal (c) Discrete (d) continuous
- (8) If a data set has an even number of observations, the median
(a) must be equal to the mean
(b) is the average value of the two middle items
(c) is the average value of the two middle items when all items are arranged in descending order
(d) cannot be determined
- (9) The sampling technique in which an entire population is first divided into homogeneous groups and then a sample is drawn from each group is called
(a) Systematic sampling (b) Simple Random Sampling
(c) Stratified Random Sampling (d) None of these
- (10) The standard deviation of 15, 22, 27, 11, 9, 21, 14, 9 is
(a) 6.22 (b) 6.12 (c) 6.04 (d) 6.32

Q.2 Short Type Questions (Attempt Any Ten) (10 × 2)

- (1) State importance of diagrams.
- (2) List out the various parts of tabulation. Write in brief about any one of them.
- (3) State the limitations of Statistics?
- (4) Give two examples each of variable and categorical variable.
- (5) Write in brief about Lottery method.
- (6) Define Mean. Write down the formulae to calculate mean.
- (7) Give two examples each of nominal and ordinal data.
- (8) How will you calculate median?
- (9) State any two applications of Statistics.
- (10) What is classification? State the rules for classification.
- (11) List out the various methods of collecting primary data. If the informants/respondents are literate and spread over a vast area, which method do you consider to be best?
- (12) Write in brief about Systematic sampling.

- Q.3(a) State the various methods of collecting data. Write in brief about any one of them. (5)
 (b) How will you draw a sample of size 4 from 20 units in the population using Systematic sampling? (5)

OR

- Q.3(a) List out the various methods of drawing a sample. Explain any one of them by giving an example. (5)
 (b) Describe in brief the application of Statistics in the various fields. (5)
 Q.4(a) Write a note on mailed questionnaire method. (5)
 (b) What is sample and sample survey? State its advantages. (5)

OR

- Q.4(a) What do you mean by questionnaire? State the essential points to be remembered in drafting a questionnaire. (5)
 (b) An analysis of the fat content (%) of a random sample of 175 cheese burgers resulted in the following summarized information: (5)

Fat content (%)	26 - 28	28 - 30	30 - 32	32 - 34	34 - 36	36 - 38	38 - 40
No. of cheese burgers	7	22	36	45	33	28	4

Determine median graphically.

- Q.5(a) What is classification? State the rules for classification. (5)
 (b) The following data relates to the monthly expenditure (in Rs.) of two families. Which diagram is used to present the following? State its objective(s), if any. (5)

Item of Expenditure	Expenditure (in Rs.)	
	Family - A	Family - B
Food	1600	1200
Clothing	800	420
Rent	600	480
Fuel & Lighting	200	160
Misc.	800	240

OR

- Q.5(a) List out the various types of diagrams you have studied. Describe any one of them by giving an example. (5)
 (b) Tabulate the following information: (5)
 "In 2010 out of total 2000 patients in Krishna Hospital, 1550 were admitted in special ward. The number of women patients was 250, out of which 200 admitted in general ward."
 "In 2015 the total patients in special ward was 1725 out of which 1600 were men. The number of patients in general ward was 380 among which 155 were women."

- Q.6(a) State the various measures of central tendency. Define any one of them. Write its merits and demerits. (4)
 (b) An analysis of the fat content (%) of a random sample of 175 cheese burgers resulted in the following summarized information, calculate mean and mode. (6)

Fat content (%)	26 - 28	28 - 30	30 - 32	32 - 34	34 - 36	36 - 38	38 - 40
No. of cheese burgers	7	22	36	45	33	28	4

OR

- Q.6(a) List out the various measures of central tendency. According to you which measure do you considered to be best and why? (4)
 (b) The albumin blood levels of 11 dialysis patients are (6)

39	36	34	33	30	28	33	34	29	21	32
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Calculate mean, median, mode and standard deviation.

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 (2)