

V.P & R.P.T.P. SCIENCE COLLEGE, V.V.NAGAR
 B.Sc. Semester – III Examination
 Internal Test – 2018
 Foundation of Statistics – I
 (US03FSTA01)



Saturday, 29th September, 2018

Time: 3.00 to 5.00 pm

Note: (i) Figures to the right indicate marks

(iii) Simple or scientific calculator is allowed.

(ii) Graph paper will be provided on request.

(iv) Q.3 to Q.6 each sub question is of 4 marks.

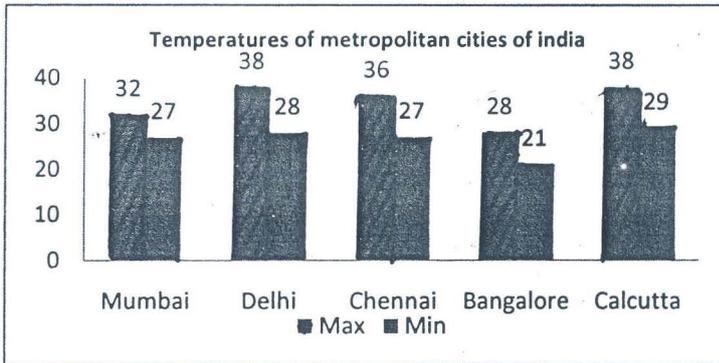
M. Marks : 50

Q. 1 Multiple Choice Questions (1 × 8)

- (1) A statistical table must have
 (a) Title (b) Body (c) Caption (d) All of the above
- (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) Difficulty level of question paper (Very difficult, difficult, so-so, easy, and very easy) is?
 (a) Nominal (b) Ordinal (c) Discrete (d) continuous
- (4) 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) $1 + 3.322 \log N$
- (5) 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
- (6) The mean and standard deviation of 5, 5, 5, 5, 5, 5, 5 is
 (a) 5, 1 (b) 5, 0 (c) 5, 5 (d) 1, 5
- (7) In a village of 1000 population, 40% constitute Hindu, 30% Muslim, 10% Sikhs and 20% Christians. We want to take a sample of 10% of the population to study the eating habits of this population. The best method would be
 (a) Simple Random Sampling (b) Systematic Sampling
 (c) Stratified Random Sampling (d) All of these
- (8) Which of the following can be determined graphically with the help of histogram?
 (a) Mean Median (c) Mode (d) Standard Deviation

Q. 2 Short Type Questions (Attempt Any Five) (2 × 5)

- (1) If population is heterogeneous which method of sampling do you recommend? Write in brief about it.
- (2) Identify the following diagram. Name it and state its objective(s).



- (3) Define the following terms:
 (i) Categorical variable (ii) Aim of the sample survey
- (4) Write down the purpose of classification.
- (5) Give two definitions of Statistics.
- (6) Find the mode of the following data:

52	37	66	45	12	45	78	51	37	46
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- (7) What is tabulation? State its importance.
- (8) What is median? How will you calculate it?

- Q. 3(a)**
- (i) Write down the limitations of Statistics.
 (ii) List out the various methods of collecting data. Write in brief about any one of them.
 - (b) Write a note on Simple Random Sampling (SRS).

OR

- Q.3(a) Describe in brief about application of Statistics in any two fields.
(b) With reference to survey sampling, explain the following terms:
(i) Parameter (ii) Sample (iii) Sampling Frame (iv) Population Survey
- Q.4(a) What do you mean by questionnaire? State the essential points to be remembered in drafting a questionnaire.
(b) Define the following :
(i) Ordinal Data (ii) Secondary Data and its sources

OR

- Q.4(a) 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? Write in brief about it by giving an example.
(b) Write on the following:
(i) Chief sources of secondary data (ii) Give two examples each of Qualitative and Quantitative data.
- Q.5(a) Out of the total no. of 10,000 candidates applied for jobs in a government department, 6854 were males, 3146 were graduates and others were non-graduates. The no. of candidates with some experience was 2623 of which 1860 were males. The no. of male graduates was 2012. The no. of graduates with experience was 1093 that includes 323 females. Present the above data in an appropriate table.
(b) Present the following data through most suitable diagram.

Year	Mobile Internet Users (in millions)		Total
	Rural	Urban	
2012 – 13	04	44	48
2013 – 14	21	70	91
2014 – 15	29	126	155
2015 – 16	68	171	239
2016 - 17	109	262	371

Source: IAMAI, Morgan Stanley Research



OR

- Q.5(a) Tabulate the following information:
“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.”
(b) Present the following information through most suitable diagram. State its objective(s).

Infant Mortality Rate (IMR) from year 1995 – 2000 of SAARC countries

Country	Afghanistan	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
Male	162	60	62	65	60	76	81	16
Female	178	78	78	62	55	78	80	18

- Q.6(a) State the various measures of central tendency. Define any one of them with its merits and demerits.
(b) Measurements of the acidity level (pH) of rain samples were recorded at 12 sites in an industrial region.

4.3	4.2	4.5	4.9	4.7	4.8
3.5	5.1	5.0	3.6	4.8	3.6

Calculate median and standard deviation of the acidity level of rain samples.

OR

- Q.6(a) What is an average? State its uses.
A sample of underweight babies was fed a special diet and the following weight gains (lbs) were observed at the end of three month.

6.7	2.7	2.5	3.6	3.4	4.1	4.8	5.9	8.3
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Calculate mean and standard deviation.

- (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.

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