

P32/P131/CMP221/EE/20180624

Time : 3 Hours

Marks : 80

Instructions :

1. All Questions are Compulsory.
2. Each Sub-question carry 5 marks.
3. Each Sub-question should be answered between 75 to 100 words. Write every questions answer on separate page.
4. Question paper of 80 Marks, it will be converted in to your programme structure marks.

1. Solve any **four** sub-questions.
 - a) Write note on scales of measurements. 5
 - b) What are the merits and demerits of median? 5
 - c) Explain Coefficient of Variation (C.V.). 5
 - d) There are white balls & black balls in an urn 20% of white balls and 10% of black balls are marked. A person tossed a fair coin. If coin shows head he selects a ball from white balls. Otherwise he selects a ball from black balls. What is the probability that he selected ball is marked? 5
 - e) Give examples of discrete random variable. 5

2. Solve any **four** sub-questions.
 - a) Explain paired t-test for dependent samples. 5
 - b) Define Null hypothesis and Alternative hypothesis. 5
 - c) What are the features of normal distribution. 5
 - d) Write Axioms and theorems on probability. 5
 - e) What are the properties of correlation coefficient 'r'. 5

3. Solve any **four** sub-questions.
 - a) What are the properties of central moments? 5
 - b) Write limitations of statistics. 5
 - c) What are the advantages of tabular representation? 5
 - d) What is pie chart? Show that the following distribution of patients according to type of disease by pie chart. 5

Disease	GI	Chest	E.N.T	Diabetes	Heart	Total
Number	1200	260	400	700	50	2670
% share	47	10	15	26	2	100
Angle(0°)	169.9	35.1	53.9	94.4	6.7	360

- e) Write merits and demerits of Arithmetic mean. 5

4. Solve any **four** sub-questions.
- a) Write note on range. 5
 - b) What are the indexes of skewness? 5
 - c) List identities satisfied by the operations \cup (union) & \cap (intersection). 5
 - d) A refilling machine is set at 1000 gm to fill iodized salt into plastic bags. A consumer activist visits a mall and record wt of 8 selected bags wts are 1005, 995, 985, 995, 998, 1005, 985, 990 do the data support the claims that average wt of bag is 1000 gm (5% O.S). 5
 - e) Write various definitions of statistics. 5

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