

M.H.A. Sem-II (2012 COURSE) (CHOICE BASED CREDIT SYSTEMS) : WINTER - 2018
SUBJECT : BASIC STATISTICS

Day : Wednesday
Date : 14/11/2018

W-2018-1275

Time : 10.00 AM TO 01.00 PM
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer book.

SECTION – I

Q.1 Answer any **TWO** of the following questions: **(14)**

- a) A find mean, mode and median , range of plant-dry-matter. Observations in gm/plat are as under

4.0	4.0	4.2	4.1	4.5	4.0	4.0	3.9	4.1	4.2
4.4	4.3	4.2	4.3	4.2	4.2	4.3	4.2	4.0	4.4

- b) Prepare a frequency table from the following observations, received from a health camp. Here D= diabetic, UN= under nourished, H= Hyper-tension-prone, OW= Over-weight , are the results of checkup. Answer the following queries: Which is the most frequent disorder/ailment found in the sample? What is the relative frequency of D in the data set? If the population of the village is 3020, can you estimate the total Hyper-Tension-Prone cases in the whole of the population.

Data = { D, D, D, UN, UN, UN, H, H, H, D, H, OW, UN, OW, H, H, D, D, D, D, D, H, H }

- c) What are the different methods of sampling? Describe at least one method in detail. Use a specific case or instance for illustration.

Q.2 Solve any **FOUR** of the following: **(16)**

- a) What do the terms simple correlation, and partial correlation mean?
- b) Use the following information to compute slope and intercept.
Mean(X) = 2.24, Mean(Y) = 4.86, Var(x) = 4.0, Cov(X,Y) = 4.0
- c) Write a short note on Rank Correlation.
- d) Write a short note on Gaussian Distribution.
- e) Write a note on Multivariate Analysis.

SECTION – II

Q.3 Answer any **TWO** of the following questions: **(14)**

- a) Use the following data to compare mean BMI of normal individuals from two different localities.

Districts	n	Mean	Variance
Rural	25	17.4	1.45
Urban	25	17.5	1.34
t-value 48df = 1.96, assume alpha = 0.05			

- b) With the help of scatter diagrams, straight line fits and nonlinear curves indicate the following situations:
- i) Positively correlated (eg. Height –weight-chart)
 - ii) Negatively correlated
 - iii) Uncorrelated
- c) Discuss importance of measures of central tendencies and measures of dispersion.

Q.4 Write short notes on any **FOUR** of the following: **(16)**

- a) Paired t-test is mostly used in testing effectiveness of Physio Therapy. Discuss.
- b) State the properties of Gaussian distribution.
- c) With a simple illustrative example explain how expected frequencies are computed from observed frequencies in Chi-sq test.
- d) Discuss nature of a growth curve.
- e) Discuss nature of an exponential curve.

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