UNIVERSITY OF THE PUNJAB

Third Semester – 2019
Examination: B.S. 4 Years Program

PAPER: Elementary Statistics
Course Code: STAT-211/GEN-21129   Part – II

MAX. TIME: 2 Hrs. 45 Min.
MAX. MARKS: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2.   Questions with short answers.   **(4x5=20)**

i) Differentiate between Population and Sample.
ii) Differentiate between Parameter and Statistic.
iii) Define Dispersion.
iv) Define Classification.
v) Define Positive and Negative Correlation.
vi) Define Null Hypothesis.
vii) Write down two properties of Arithmatic Mean.
viii) What do you mean by Probability?
ix) Describe Regression.
x) Define Sampling Without Replacement.

QUESTIONS WITH BRIEF ANSWERS   **(3x10=30)**

Q. No.3: A population consists of values 3, 5, 7, 9. Take all possible samples of size 2 with replacement from this population. Find the mean for each sample. Make a sampling distribution of mean and verify that:
(a) Mean of Sample Means = Population Mean
(b) Variance of Sample Means = Population Variance/n   **(10 Marks)**

Q. No.4: The following frequency distribution gives the ages of 100 college Students:

Ages	14-15	16-17	18-19	20-21	22-23	24-25	Total
Number of students	6	16	20	31	15	12	100

Compute Mean and Standard Deviation.   **(10 Marks)**

Q. No.5: The data of heights and weights is given below:

Height (X)	72	54	73	63	66	65	60	70	71	69
Weight (Y)	67	57	68	64	68	72	67	73	69	72

Find Regression Line of X on Y and Correlation Coefficient between X and Y.   **(10 Marks)**

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Roll No. in Fig. ....

Roll No. in Words. ....

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PAPER: Elementary Statistics

Course Code: STAT-211/GEN-21129   Part–I (Compulsory)

MAX. TIME: 15 Min.

MAX. MARKS: 10

Signature of Supdt.:

Attempt this Paper on this Question Sheet only.
Please encircle the correct option. Division of marks is given in front of each question.
This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the right answer, cutting and overwriting is not allowed.   **(1x10=10)**

(i) Number of students in a College is an example of:
    (a) discrete variable   (b) qualitative variable
    (c) Attribute   (d) continuous variable

(ii) The median of the following data 8,5,8,7,3,5,8 is:
    (a) 8   (b) 4   (c) 7   (d) 3

(iii) A numerical quantity calculated from population data is called:
    (a) Statistic   (b) parameter
    (c) Constant   (d) None of above

(iv) A branch of statistics by which obtained data is organized and summarized in order to describe its nature is called as:
    (a) Explanatory statistics   (b) descriptive statistics
    (c) Inferential statistics   (d) none of these

(v) Sampling error can be decreased by:
    (a) Increasing sample size   (b) decreasing sample size
    (c) Fixing the size   (d) none

(vi) For a Negatively Skewed distribution:
    (a) Mean, mode, median are equal   (b) Mean, mode, median are not equal
    (c) Mean is greater than mode   (d) Mean is less than mode

(vii) Observed data organized into rows and columns is called:
    (a) Classification   (b) Tabulation
    (c) Array   (d) Frequency Distribution

(viii) Mean and variance of 7, 7, 7, 7, 7 is:
    (a) -7, 7   (b) 0, -7   (c) 7, 0   (d) 7,7

(ix) The range of Correlation Coefficient is:
    (a) 0 to ∞ (b) $-\infty$ to 0
    (c) $-\infty$ to ∞ (d) -1 to 1

(x) A non-deserving player is selected in a team is an example of:
    (a) Correct decision   (b) type –II error
    (c) Type –I error   (d) level of significance