Progressive Education Society's
Modern College of Arts, Science & Commerce Ganeshkhind, Pune – 16, NEP 2020 (Autonomous)
End Semester Examination: Oct / Nov 2024

***Total No. of Questions**: 3/17* ***Total No. of Pages**: 2*

FIRST YEAR (BSc)
STA11101: Descriptive Statistics
(Semester I)

Program: BSc **Credits: 2**
Program Specific: BSc (Gen.) **Time: 2 Hours**
Course Type: DSC **Max. Marks: 30**
Paper: I **SET: A**

Instructions to the candidate:
1) *All questions are compulsory.*
2) *Figures to the right indicate full marks.*
3) *Draw a well labelled diagram wherever necessary.*

Q1) Attempt ANY FIVE of the following: **[5 X 2 = 10]**

a) Define and Explain Statistics.

b) Define : i) Variable.
ii) Attribute

c) If variance is 4, $\mu_3 = 3$ and $\mu_4 = 10$ then find β_1 and β_2 .

d) Differentiate between regression and correlation.

e) Compute combine mean for following Data
$n_1 = 100$ $\overline{X1} = 85$
$n_2 = 200$ $\overline{X2} = 90$

f) State Bowley's coefficient of Skewness and coefficient of Kurtosis based on moments.

Q2) Attempt ANY THREE of the following: **[4 X 3 = 12]**

a) Compute the variance and coefficient of variation for the data given below:
10 , 12 , 14 , 16 , 18 , 20 , 22

b) Explain Spearman's correlation coefficient

c) Write the 2rd , 3rd and 4rd central moment in terms of raw moments.

d) For bivariate data we have $\overline{X} = 33$, $\overline{Y} = 58$, $b_{XY} = -0.2$ and $b_{YX} = -1.5$ then find corr(X,Y) and estimate of Y for X = 30.

e) Find mean for following data :

Class	0-10	10-20	20-30	30-40	40-50
Frequency	5	12	15	4	4

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Q3) Attempt ANY TWO of the following: **[2 X 4 = 08]**

a) Explain the following terms and hence calculate it for the following data :

5, 7, 10, 8, 6, 5 , 2

i) Mean deviation about mean

ii) Coefficient Mean deviation about mean

b) The mode of the daily expenditure of 100 families is 44.375. The expenditure of these families are given below.

Expenditure	20-30	30-40	40-50	50-60	60-70
Number of families	14	-	27	-	15

Find the missing frequencies.

c) Explian the procedure of fitting of line for $Y = a + b X$.

d) Define the following:

i) response variable

ii) independent variables.

iii) correlation

iv) regression coefficient

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