Mathematics: Practice Test

Internal Assessment -January 2020

Time: 1 Hr 15 Mins   Maximum Marks: 35

Section A

1. Answer any FIVE out of SEVEN questions $5 \times 2 = 10$

   (a) Write the formula to find mode of grouped data and explain the terms involved.

   (b) Compute the 25th percentile value of the following data: 20, 23, 27, 28, 31, 35, 38.

   (c) Find the mode of the following data: 10, 12, 7, 10, 17, 8, 7, 10, 16, 15, 12, 7.

   (d) Compute the inter quartile range of the following data: 20, 23, 27, 28, 31, 35, 38.

   (e) The regression coefficients are given by $b_{xy} = \frac{4}{5}$ and $b_{yx} = \frac{9}{20}$. Find the value of co-efficient of Karl pearson.

   (f) Write down the actual mean method technique for finding the co-efficient of correlation.'

   (g) Write the formula for finding the Spearman's Ranking method for co-efficient of correlation and explain the terms involved.

Section B

2. Answer any FIVE out of SEVEN questions $5 \times 5 = 25$

   (a) Considering the following data set : 11, 10, 10, 47, 37, 1, 63, 5,176, 127, 14, 214.

      i. Find Q_1 and Q_3

      ii. Mean, Median and Mode

   (b) Find the Mean deviation of Mean and Co-efficient of Mean deviation from the below given data set in Table 1

Table 1: frequency data set for grouped data

2-4	4-6	6-8	8-10	10-12	12-14	14-16	16-18	18-20
22	25	32	34	26	40	28	30	35

Table 2: Grouped data Set

Class Interval:	0-10	10-20	20-30	30-40
Frequency:	40	60	65	45

(c) Find the Mean , Median and Mode from the given data set in Table 2

(d) find from the following values of the demand and the corresponding price of a commodity, the degree of correlation between the demand and price by computing Karl pearson's coefficient of correlation.

Demand in Quintals:	65	66	67	67	68	69	70	72
Price in Paise Per Kg:	67	68	65	68	72	72	69	71

(e) Calculate the Spearman's Rank correlation coefficient from the following data.

X:	12	17	22	27	32
Y:	113	119	117	115	121

(f) Find the equation of regression lines and estimate y for x = 10 and x for y =5.

X:	3	2	-1	6	4	-2	5	7
Y:	5	13	12	-1	2	20	0	-3

   i. find a regression line of y on x hence predict Y if x =10

  ii. fit a regression line of x on y hence predict X if y =5

(g) Find Correlation Coefficient from two Regression line equations $X + 2Y - 5 = 0$ and $2X + 3Y - 8 = 0$

********** **All the Best** **********