Duration: 75 mins	Date: 24-02-2020
Max. Marks: 40	Class: IV sem

Note: Solve Any TWO FULL Questions.
Use of statistical tables permitted.

Q.No	Questions	Marks
1a	Describe how skewness is used to characterize data? Mention the measures of skewness.	4
1b	Prepare a blank table in which the following types of information can be shown properly (i)Total number of workers by sex. (ii)Classification of male and female workers by skill, that is skilled, semi-skilled and un-skilled. (iii)Classification of workers according to broad age groups, that is, below forty years and above forty years.	4
1c	Given the following data Performance evaluation: 28, 33, 21, 40, 38, 46 Aptitude test score: 74, 87, 69, 69, 81, 97 Prior experience (Years): 5, 11, 4, 9, 7, 10 (i)Obtain a model for performance evaluation and determine its variation explained by the model. (ii)If an employee scored 83 on the aptitude test and had a prior experience of seven years. What performance evaluation would be expected?	12
2a	In a partially destroyed laboratory record, the lines of regression of y on x and x on y were available as 4x-5y+33=0 and 20x-9y=107. Calculate (i) Mean (ii) coefficient of correlation between x and y.	4
2b	Does this data set come from the normal distribution? Discuss. 3.89 4.75 6.33 4.75 7.21 5.78 5.80 5.20 6.64	8
2c	A semi-commercial test plant produced the following daily outputs in tonnes/ day: 1.3 2.5 1.8 1.4 3.2 1.9 1.3 4.0 1.1 1.7 1.4 3.0 1.6 1.2 2.3 2.9 1.1 1.7 2.0 1.4 (i) Construct a boxplot and identify outliers if any. (ii)Discuss symmetry numerically and graphically.	8
3a	Consider the following data. They represent concentration of arsenic in drinking water to 10 communities around Phoenix and 10 rural communities in Arizona. Discuss the variances of concentration of arsenic in both the populations by Q-Q plot. Phoenix: 3, 7, 25, 10, 15, 6, 1, 25, 15, 7 Arizona: 48, 44, 40, 38, 33, 21, 20, 12, 1, 18	4
3b	Following table gives the demand for TV sets in 7 towns Population(lakh): 11, 14, 14, 17, 17, 21, 25 No of TV sets demanded: 15, 27, 27, 30, 34, 38, 46 Estimate the demand for TV for a city with a population of 20 lakhs.	6
3c	Data set: Amount (in dollars) spent on books for a semester 91, 472, 279, 249, 530, 376, 188, 341, 266, 199 142, 273, 189, 130, 489, 266, 248, 101, 375, 486 190, 398, 188, 269, 43, 30, 127, 354, 84 (i)Construct a frequency histogram for the data. (ii)How many percent of books cost more than Rs.450? Justify using ogive. (iii) Mention the number of books whose cost is between Rs.200 and Rs.500 with the help of ogive.	10