**Assignment#1**

**NOTE:** Write the answers of the assignment.

**Question 1 [CLO-1,PLO1]**

The following data represent the travel times, in minutes, from home to office of 30 company executives:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 68 | 37 | 18 | 48 | 25 | 12 | 64 | 35 | 40 | 43 |
| 34 | 28 | 54 | 57 | 43 | 31 | 38 | 43 | 50 | 39 |
| 44 | 41 | 26 | 17 | 19 | 12 | 35 | 53 | 60 | 48 |

1. Represent this data set in a stem and leaf diagram.
2. What is the most common travel time?
3. What is the percentage of executives who take less than half an hour to reach the office?

**Question 2 [CLO-1,PLO1]**

The data given below show the diameter in inches of ball-bearings manufactured by a company:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 73.1 | 74.7 | 84.2 | 64.2 | 64.5 | 72.4 | 84.6 | 74.6 | 48.1 | 66.0 |
| 78.3 | 63.1 | 84.1 | 61.3 | 84.0 | 83.4 | 77.2 | 84.7 | 78.1 | 77.5 |
| 56.6 | 73.8 | 80.1 | 58.4 | 71.2 | 94.2 | 93.7 | 72.1 | 64.2 | 71.5 |
| 78.5 | 74.7 | 86.4 | 67.8 | 56.3 | 58.2 | 82.1 | 72.0 | 94.0 | 70.4 |
| 84.9 | 70.8 | 66.9 | 78.0 | 74.2 | 70.4 | 39.3 | 54.1 | 78.3 | 51.0 |

Prepare a frequency distribution using the following grouping: 35.0 – 39.9, 40.0 – 44.9 …

1. Find the class boundaries and class marks.
2. Also find Mean and median

**Assignment#2**

**NOTE:** Write the answers of the assignment.

**Question 1 [CLO-2,PLO1]**

The following table shows the distribution of monthly salaries of a company’s

employees:



You are required to calculate:

(i) Mean deviation from Median

(ii) Co-efficient of Mean deviation from Median

**Question 2 [CLO\_2,PLO1]**

(a) The five temperature readings in oC are as follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X | 15.3 | 21.3 | 17.4 | 20.1 | 15.9 |

* Calculate variance of these observations
* Make the transformation 
* Calculate the variance of the transformed observations
* What is the effect of this transformation on the variance of the original observations?

1. The duration of patients’ stay in a hospital were organized into a frequency distribution. The mean duration of stay was 28 days, the mode was 23 days and the median was 25 days. The standard deviation was 4.2 days. Find the co-efficient of skewness. Is the distribution symmetrical, positively skewed or negatively skewed? Give reasons to support your answer.

**Assignment#3**

**NOTE:** Write the answers of the assignment.

**Question 1 [CLO3-PLO2]**

The daily incomes of 233 employees range from Rs. 0 to Rs. 18. They are grouped in 9 classes with a common interval of Rs. 2 and the class frequencies from the lowest to the highest are 5, 39, 69, 41, 29, 22, 16, 7 and 5. Find the Bowley’s coefficient of skewness

**Question 2 [CLO3,PLO2]**

A farmer wishes to predict the number of tons per acre of crop which will result from a given number of applications of fertilizer. Data collected is given below:



Find a suitable linear regression relationship to help the farmer in making the required prediction and from your result predict the number of tons per acre of crop from 7 applications of fertilizer

**Assignment#4**

**NOTE:** Write the answers of the assignment.

**Question 1 [CLO-4.PLO2]**

Five balls are drawn from a box containing 4 white and 7 black balls. If X denotes the number of black balls drawn, then obtain the probability distribution of X. Find the mean and variance of this distribution.

**Question 2 [CLO-4,PLO2]**

A coin is so biased that a head is twice as likely to occur as a tail. Find the probability distribution of heads when the coin is tossed 3 times