**SAINTGITS COLLEGE OF APPLIED SCIENCES**

**Department of B A**

**ELEMENTARY STATISTICS FOR ECONOMICS 1**

**MODULE 1 (CO) (Blooms Taxonomy Level)**

**SECTION A**

1. What are the characteristics of statistics?
2. Select the scope of statistics?
3. Define questionnaire
4. Define statistical unit
5. Define population and sample
6. Requisites of an ideal classification
7. What is Tabulation
8. List different types of data?
9. What are different data collection methods
10. What are the different parts of a table?

**SECTION B**

1. Difference between primary data and secondary data?

2.Differentiate Questionnaire and Schedule

3.Distinguish between census method and sample survey method

4. Distinguish between sampling and non-sampling errors

 5.What are the criteria for choosing census method and sample survey method

 6.What are the merits of sampling method

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |

7.what are the objectives of classification?

8.what are the methods of classification?

**SECTION C**

1.Discuss the importance of statistics

2. Distinguish between census method and sampling survey methods of collecting data and compare their merits

3.Discuss the various types of probability based and non-probability-based techniques.

4.Describe statistics in different in different fields

**MODULE 2 (CO) (Blooms Taxonomy Level)**

**SECTION A**

1. Define bar diagram

2. What is pie diagram

 3.define histogram

 4.what are pictograms

 5.whatare cartograms?

 6. what is frequency polygon?

 7. what is frequency polygon?

 8.Define graphs?

 9. define ogive

 10. what is a Lorenz curve?

**SECTION B**

1. differentiate frequency polygon and frequency curve?

2. Draw histogram of the following data.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Class | : | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 |
| *f* | : | 3 | 5 | 12 | 8 | 4 |

3. Draw bardiagram of the following data.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| year | : | 2000-01 | 02-03 | 04-05 | 06-07 | 08-09 |
| *f* | : | 3 | 5 | 12 | 8 | 4 |

4. draw pie diagram

Items: A, B, C, D

Expenditure: 210, 130, 100, 70

5. Draw a frequency polygon.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Class | : | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
| *f* | : | 10 | 40 | 80 | 60 | 50 |

6 What are ogives. How can you draw it. What are the uses of ogives.

 7. Draw a frequency curve

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Class  | : | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 |
| *f* | : | 3 | 5 | 12 | 8 | 4 |

8. what are the uses of Lorenz Curve?

**SECTION C**

1. Draw Ogives

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Class  | : | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 |
| *f* | : | 10 | 15 | 30 | 35 | 10 |
|  |  |  |  |  |  |  |

2. Draw a frequency curve

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Class  | : | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 |
| *f* | : | 3 | 5 | 12 | 8 | 4 |

3. Explain Lorenz Curve with example? Write the uses of Lorenz curve?

4. Draw Ogives

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Class  | : | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 |
| *f* | : | 10 | 15 | 30 | 35 | 10 |
|  |  |  |  |  |  |  |

**MODULE 3 (CO) (Blooms Taxonomy Level)**

**SECTION A**

1. Define Arithmetic mean?

 2. What is Median?

 3. What is mode?

 4. If mean =30, median=32 find mode ?

 5. Find mean of the values 10, 12, 30, 28, 53,47?

 6. Find median of the values 20, 22, 18, 24, 16, 14, 28

 7. what is combined mean?

 8 Find mode of the values 40, 25, 60, 15, 18?

 9. what are the merits of median?

 10. what is weighted mean?

**SECTION B**

1. Find Arithmetic Mean of the following data.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  Size  | : | 75 | 100 | 120 | 150 | 200 |
| frequency | : | 5 | 12 | 20 | 14 | 9 |

2. Find Median

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Class | : | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 10-12 |
| *f* | : | 2 | 4 | 6 | 4 | 2 | 6 |

3. Find Mode

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| x | : | 2 | 4 | 6 | 8 | 10 |
| *f* | : | 5 | 7 | 9 | 8 | 11 |

4. Find mean

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| x | : | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 |
| *f* | : | 5 | 20 | 47 | 38 | 10 |

5. Find Mode

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Marks | : | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| *f* | : | 6 | 5 | 8 | 15 | 7 | 6 | 3 |

6. if a sample of size 22 items has a mean of 15 and another sample of size 18items has a mean of 20,find the mean of the combined mean?

7calculate the weighted mean.

Size: 5, 10, 15, 20, 25

Weight: 8, 4, 5, 10, 7, 6

8. Find mode.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| x | : | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 |
| *f* | : | 5 | 20 | 47 | 38 | 10 |

**SECTION C**

1. Find Mean , Median & Mode of the following.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Wages | : | 10 | 12 | 15 | 18 | 20 | 25 | 30 |
| No. of workers | : | 3 | 5 | 8 | 12 | 13 | 12 | 7 |

2 Find mean,median and mode of the following.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Class | : | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 10-12 |
| *f* | : | 2 | 4 | 6 | 4 | 2 | 6 |

3.discribe the advantages and disadvantages of central tendency

4. Find missing frequencies of 100 families, given that mean=50

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Class | : | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 |  |
| *f* | : | 14 | ---- | 27 | ---- | 15 |  |

**MODULE 4 (CO) (Blooms Taxonomy Level)**

**SECTION A**

 1.define range

2. find the range of 25, 32, 35, 32, 42, 10, 20, 18, 28

3.merits of range?

4.define Q.D

4.define Q.D

5. what are the uses of S.D

6. What are the percentiles?

7. What is dispersion?

8. If Mean = 100 and SD=15. Find coefficient of variation.

9 Find Mean if SD=10 and coefficient of variation = 25

10. What is standard deviation?

**SECTION B**

1. Find Q.D. for the following values.

10 25 15 20 12 18 30

2. Find Mean deviation about mean.

15 30 53 47 25 40

3. Find standard deviation for the following values.

43 25 18 29 10 9

4. Find SD .

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| x | : | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 |
| *f* | : | 5 | 20 | 47 | 38 | 10 |

5. Find Mean deviation about mean. Also find its coefficient.
 11, 3, 0, 7, 2, 6, 4, 7

6. Find quartile deviation and its coefficient.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| x | : | 10 | 15 | 20 | 25 | 30 |
| *f* | : | 3 | 12 | 18 | 12 | 3 |

7. Which measure of dispersion is considered to be best? Why?

8. Find quartiles and 70th percentile

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| x | : | 5 | 15 | 25 | 35 | 45 | 55 | 65 |
| *f* | : | 8 | 12 | 10 | 8 | 3 | 2 | 7 |

**SECTION C**

1. Find SD and variance.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| x | : | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 |
| *f* | : | 5 | 20 | 47 | 38 | 10 |

2. Find Mean deviation and quartile deviation

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Marks | : | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| *f* | : | 6 | 5 | 8 | 15 | 7 | 6 | 3 |

3. Find Q,D and S.D of the following.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Class | : | 0-2 | 2-4 | 4-6 | 6-8 | 8-10 | 10-12 |
| *f* | : | 2 | 4 | 6 | 4 | 2 | 6 |

4. Calculate QD and M.D of the following

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Marks  | : | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
| *f* | : | 5 | 7 | 15 | 25 | 8 |

**MODULE 5 (CO) (Blooms Taxonomy Level)**

**SECTION A**

**1.** Define Skewness

2. What is kurtosis

3. What are the different types of skewness

4. What are the different types of kurtosis

5. Define person’s coefficient of skewness

6. Define bowley’s coefficient of skewness

7.what is kurtosis and how it is measured?

8.differentiate positive skewness and negative skewness?

9.what is the difference between skewness and kurtosis

**SECTION B**

1. calculate Karl person’s coefficient of skewness

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Marks | : | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| *f* | : | 6 | 5 | 8 | 15 | 7 | 6 | 3 |

2. calculate Karl person’s coefficient of skewness based on mean, mode and sd

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Marks | : | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| *f* | : | 6 | 5 | 8 | 15 | 7 | 6 | 3 |

3. calculate coefficient of skewness based on quartiles

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Marks | : | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| *f* | : | 6 | 5 | 8 | 15 | 7 | 6 | 3 |

4. calculate bowley’s coefficient of skewness

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| x | : | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 |
| *f* | : | 5 | 20 | 47 | 38 | 10 |

5. find kurtosis

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Marks | : |  | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 |
| *f* | : |  | 18 | 20 | 30 | 22 | 10 |

6. distinguish between skewness and kurtosis

7. calculate kurtosis

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| x | : | 10 | 20 | 30 | 40 | 50 |
| *f* | : | 5 | 7 | 9 | 8 | 11 |

8. calculate kurtosis

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| x | : | 10 | 20 | 30 | 40 | 50 |
| *f* | : | 2 | 10 | 4 | 8 | 12 |

**SECTION C**

**1.** Calculate skewness

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Marks  | : | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
| *f* | : | 5 | 7 | 15 | 25 | 8 |

2. Calculate skewness

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Marks  | : | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 |
| *f* | : | 6 | 7 | 10 | 12 | 8 |

3. **.** Calculate Kurtosis

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Marks  | : | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
| *f* | : | 5 | 7 | 15 | 25 | 8 |

4. Calculate Kurtosis

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Marks  | : | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 |
| *f* | : | 6 | 7 | 10 | 12 | 8 |

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