|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Q1. | The Nielsen Home Technology Report reported on home technology and its usage by persons aged 12 and older. The following data are the hours of personal computer usage during one week for a sample of 50 persons:   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 4.1 | 1.5 | 10.4 | 5.9 | 3.4 | 5.7 | 1.6 | 6.1 | 3.0 | 3.7 | | 3.1 | 4.8 | 2.0 | 14.8 | 5.4 | 4.2 | 3.9 | 4.1 | 11.1 | 3.5 | | 4.1 | 8.8 | 5.6 | 4.3 | 3.3 | 7.1 | 10.3 | 6.2 | 7.6 | 10.8 | | 2.8 | 4.1 | 9.5 | 12.9 | 12.1 | 0.7 | 4.0 | 9.2 | 4.4 | 5.7 | | 7.2 | 6.1 | 5.7 | 5.9 | 4.7 | 3.9 | 3.7 | 3.1 | 6.1 | 3.1 |   Group these grades into a distribution having the classes 0-3, 3-6 and so on. Construct ogives and hence obtain median. |  |  |
| Q2 | The President of Ocean Airlines is trying to estimate when the Civil Aeronautic Board is most likely to rule on the company's application for a new route between Charlotte and Nashville. Assistants to the president have assembled the following waiting times for applications filed during the past year. The data are given in days from the date of application until a CAB ruling.   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 34 | 40 | 23 | 28 | 31 | 40 | 25 | 33 | 47 | 32 | | 44 | 34 | 38 | 31 | 33 | 42 | 26 | 35 | 27 | 31 | | 29 | 40 | 31 | 30 | 34 | 31 | 38 | 35 | 37 | 33 | | 24 | 44 | 37 | 39 | 32 | 36 | 34 | 36 | 41 | 39 | | 29 | 22 | 28 | 44 | 51 | 31 | 44 | 28 | 47 | 31 |   Construct a frequency distribution using suitable class intervals. Plot a histogram and a frequency polygon. |  |  |
| Q3 | The following figure give the revenue expenditure in Rajasthan on education in crore of rupees for three years. Represent the data using a sub-divided bar diagram.   |  |  |  |  | | --- | --- | --- | --- | | **Particulars** | **Expenditure (crore Rs.)** | | | | **1979-80** | **1980-81** | **1981-82** | | Primary Education | 69.7 | 77.9 | 118.2 | | Secondary Education | 36.6 | 44.6 | 73.3 | | Special Education | 2.0 | 2.2 | 3,5 | | University and Higher Education | 14.1 | 15.7 | 22.9 | | Technical Education | 1.3 | 1.4 | 2.2 | | Sports and Youth Welfare | 1.3 | 1.5 | 2.1 | | General | 1.1 | 1.1 | 1.6 | | Total | 126.1 | 144.4 | 223.8 | |  |  |
| Q5 | During 2013-14 to 2015-16 the number of students joined in a University is as follows. Represent the data using a suitable diagram.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Year | Art | Science | Law | Total | | 2013-14 | 30000 | 20000 | 10000 | 60000 | | 2014-15 | 45000 | 20000 | 10000 | 75000 | | 2015-16 | 50000 | 15000 | 10000 | 75000 | |  |  |

Q6.

|  |  |
| --- | --- |
|  | Classify the following as an attribute or a variable and justify.  a. The weight of a group of dieters.  b. The number of bikes ridden by students in the first year BSc classes. |

Q7.

Identify whether the following represent continuous variable or discrete variable

a. Time of a day. b. Number of accidents in a place. c. Temperature in a city.

(d) Time of a day (e) Number of words remembered (f) Income of a person.

Q8.

The mean salary paid to all employees of a company was Rs. 15000. The mean salary paid to males and females are Rs. 15600 and Rs. 12600 respectively. Calculate the percentage of males and females in the company

9. Define arithmetic mean. The mean of 10 observations is 35. Find the changed mean if (i) each observation is increased by 4 (ii) each observation is multiplied by 5

10. Explain combined SD. Find the combined Standard Deviation from the following data.

|  |  |  |
| --- | --- | --- |
|  | A | B |
| No of Observations | 40 | 60 |
| Average | 10 | 15 |
| S.D. | 1 | 2 |

11. There are 60 students in a class. The following is the frequency distribution of marks obtained by students in a test. Find mean and standard deviation.

|  |  |
| --- | --- |
| MARKS | FREQUENCY |
| 0 | x-2 |
| 1 | X |
| 2 | X^2 |
| 3 | (x+1)^2 |
| 4 | 2x |
| 5 | X+1 |

12. 2 students obtained the following marks. Who is more intelligent and consistent?

|  |  |
| --- | --- |
| X | Y |
| 60 | 80 |
| 35 | 10 |
| 25 | 70 |
| 50 | 50 |
| 45 | 20 |
| 30 | 95 |
| 70 | 55 |
| 42 | 42 |
| 36 | 60 |
| 48 | 48 |