**Q.1. Find the mean of the 32 numbers, such that if the mean of 10 of them is 15 and the mean of 20 of them is 11. The last two numbers are 10.**

**Q.2. Find the mean of the first 10 natural numbers.**

**Q.3. Find the value of y from the following observations if these are already arranged in ascending order. The Median is 63.**

**20, 24, 42, y , y +2, 73, 75, 80, 99**

**Q.4 While checking the value of 20 observations, it was noted that 125 was wrongly noted as 25 while calculating the mean and then the mean was 60. Find the correct mean.**

**Q.5. Find the mode of the following items.**

**0, 5, 5, 1, 6, 4, 3, 0, 2, 5, 5, 6**

**Q.6. A student scored the following marks in 6 subjects:**

**30, 19, 25, 30, 27, 30**

**Find his modal score.**

**Q.7.The daily minimum steps climbed by a man during a week were as under:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Saturday** |
| **35** | **30** | **27** | **32** | **23** | **28** |

**Find the mean of the steps.**

**Q. 8 : If the mean of 4 numbers, 2,6,7 and a is 15 and also the mean of other 5 numbers, 6, 18 , 1, a, b is 50. What is the value of b?**

**Question 9. The cumulative frequency table is useful in determining the \_\_\_\_\_\_\_\_\_\_\_\_?**

### **Long Answer Type Questions**

**Q. 1: Consider the following distribution of daily wages of 50 workers of a factory.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Daily wages (in Rs.)** | **100-120** | **120-140** | **140-160** | **160-180** | **180-200** |
| **Number of workers** | **12** | **14** | **8** | **6** | **10** |

**Find the mean daily wages of the workers of the factory by using an appropriate method.**

**Solution:**

**Q.2: Thirty women were examined in a hospital by a doctor and the number of heartbeats per minute was recorded and summarised as follows. Find the mean heartbeats per minute for these women, choosing a suitable method.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Number of heart beats per minute** | **65-68** | **68-71** | **71-74** | **74-77** | **77-80** | **80-83** | **83-86** |
| **Number of women** | **2** | **4** | **3** | **8** | **7** | **4** | **2** |

**Q. 3: The median of an ungrouped data and the median calculated when the same data is grouped are always the same. Do you think that this is a correct statement? Give reason.**

**Q. 4: The following data gives the distribution of total monthly household expenditure of 200 families of a village. Find the modal monthly expenditure of the families. Also, find the mean monthly expenditure :**

|  |  |
| --- | --- |
| **Expenditure** | **Number of families** |
| **1000-1500** | **24** |
| **1500-2000** | **40** |
| **2000-2500** | **33** |
| **2500-3000** | **28** |
| **3000-3500** | **30** |
| **3500-4000** | **22** |
| **4000-4500** | **16** |
| **4500-5000** | **7** |

**Q. 5: A student noted the number of cars passing through a spot on a road for 100**

**periods each of 3 minutes and summarised it in the table given below. Find the mode**

**of the data:**

|  |  |
| --- | --- |
| **Number of cars** | **Frequency** |
| **0-10** | **7** |
| **10-20** | **14** |
| **20-30** | **13** |
| **30-40** | **12** |
| **40-50** | **20** |
| **50-60** | **11** |
| **60-70** | **15** |
| **70-80** | **8** |

**Q. 6: An aircraft has 120 passenger seats. The number of seats occupied during 100 flights are given in the following table :**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Number of seats** | **100-104** | **104-108** | **108-112** | **112-116** | **116-200** |
| **Frequency** | **15** | **20** | **32** | **18** | **15** |

**Determine the mean number of seats occupied over the flights.**

**Q. 7: A survey regarding the heights (in cm) of 51 girls of Class X of a school was conducted and the following data were obtained:**

|  |  |
| --- | --- |
| **Height (in cm)** | **Number of girls** |
| **Less than 140** | **4** |
| **Less than 145** | **11** |
| **Less than 150** | **29** |
| **Less than 155** | **40** |
| **Less than 160** | **46** |
| **Less than 165** | **51** |

**Find the median height.**

**Q. 8: The lengths of 40 leaves of a plant are measured correct to the nearest millimetre, and the data obtained is represented in the following table :**

|  |  |
| --- | --- |
| **Length(in mm)** | **Number of leaves** |
| **118-126** | **3** |
| **127-135** | **5** |
| **136-144** | **9** |
| **145-153** | **12** |
| **154-162** | **5** |
| **163-171** | **4** |
| **172-180** | **2** |

**Find the median length of leaves.**

**(Hint: The data needs to be converted to continuous classes for finding the median since the formula assumes continuous classes. The classes then change to 117.5 – 126.5, 126.5 – 135.5, . . ., 171.5 – 180.5.)**

**Q. 9: If the median of a distribution given below is 28.5 then, find the value of an x &y.**

|  |  |
| --- | --- |
| **Class Interval** | **Frequency** |
| **0-10** | **5** |
| **10-20** | **x** |
| **20-30** | **20** |
| **30-40** | **15** |
| **40-50** | **y** |
| **50-60** | **5** |
| **Total** | **60** |

**Q. 10: The annual profits earned by 30 shops of a shopping complex in a locality give rise to the following distribution :**

|  |  |
| --- | --- |
| **Profit (Rs in lakhs)** | **Number of shops (frequency)** |
| **More than or equal to 5** | **30** |
| **More than or equal to 10** | **28** |
| **More than or equal to 15** | **16** |
| **More than or equal to 20** | **14** |
| **More than or equal to 25** | **10** |
| **More than or equal to 30** | **7** |
| **More than or equal to 35** | **3** |

**Hence obtain the median profit.**

**Q. 11: The following tables give the production yield per hectare of wheat of 100 farms of a village.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Production Yield** | **50-55** | **55-60** | **60-65** | **65-70** | **70-75** | **75-80** |
| **Number of farms** | **2** | **8** | **12** | **24** | **38** | **16** |

**Change the distribution to a more than type distribution and draw its ogive.**