| Subject : Algebra | **Question Paper** | Total Marks : 20 |
| Class : X | **6. Statistics** | Time : 1 Hour |

Q.1 : A) Choose the correct alternative of the following questions.   2

    1) If the numbers in data are arranged in ascending order, the number at the middle position is called as.

        a) Mode   b) Frequency   c) Median   d) Mean

    2) An experiment can have.

        a) One out come   b) Many out come

        c) Zero out come   d) None of the above

  : B) If the given values are   1

    c. f. 22, L = 30 f =18, h = 10, N = 70 then find median

Q.2 : A) Attempt any ONE of the following.   2

    1) The following table shows the number of students and the time they utilized daily time spent by students for their studies by direct method.

Time (hrs)	0-2	2-4	4-6	6-8	8-10
No. of Students	7	18	12	10	3

Time (hrs.)	Class Marks	Frequency	Class mark x Frequency x_i / f_i
$0-2$	1	7	$\boxed{} = 7$
$2-4$	3	18	$3 \times 18 = \boxed{54}$
$4-6$	5	12	$5 \times 12 = \boxed{}$
$6-8$	7	10	$7 \times 10 = \boxed{}$
$8-10$	9	3	$3 \times 9 = \boxed{}$
		$N = \sum f_i = \boxed{}$	$\sum x_i f_i = \boxed{}$

$$\text{Mean } \overline{x} = \frac{\sum f_i x_i}{\sum f_i} = \frac{\boxed{}}{\boxed{}} = 4.36 \text{ hrs.}$$

    2) The following table shows the daily supply of electricity to different place in a town show the information by a pie diagram.

Places	Factories	Houses	Roads	Shops	offices	Other
Supply of electricity	24	14	7	5	6	4

B) : Attempt any ONE of the following. 2

1) The percentage of marks of 50 students in a test is given in following table.

Percentage of marks	0-20	20-40	40-60	60-80	80-100
No. of students	3	7	15	20	5

Find the mean of the percentage.

2) The maximum temperature in °C of 30 towns in the last summer, is shown in the following table.

Max. temp.	24-28	28-32	32-36	36-40	40-44
No. of towns	4	5	7	8	6

Find mean of the maximun temperatures.

Q.3 : A) Attempt any ONE of the following. 3

1) Grouped frequency distribution of supply of milk to hotels and the no. of hotels is given in the following table. Find the mode of the supply of milk.

Milk (Litre)	1-3	3-5	5-7	7-9	9-11	11-13
No. of Hotels	7	5	15	20	35	18

Class	Frequency
1 – 3	7
3 – 5	3
5 – 7	15
7 – 9	20 f_0
9 – 11 Modal class	35 f_1
11 – 13	18 f_2

∴ Modal class is 9-11.

∴ $f_1 = 35,\ f_0 = 20,\ f_2 = 18$

$L = 9,\ h = 2$

$$\text{Mode} = L + \boxed{} \times \boxed{}$$

$$= 9 + \left[\frac{35 - 20}{2 \times 35 - 20 - 18}\right] \times 2$$

$$= 9 + \left[\frac{\boxed{}}{\boxed{}}\right] \times 2$$

$$= 9 + \frac{30}{32}$$

$$= 9 + \boxed{}$$

Mode = 9.94 litre.

2) The following table shows ages of 300 patients getting medical treatment in a hospital on particular day.

Age (in years)	10-20	20-30	30-40	40-50	50-60	60-70
Number of patients	60	42	55	70	53	20

Find the median age of the patient.

: B) Attempt any ONE of the following. 3

1) Draw the histogram to represent the following data.

Daily Sales of a Store (in ₹)	0-1000	1000-2000	2000-3000	3000-4000	4000-5000
No. of days in month	2	12	10	4	2

2) The following table shows frequency table of daily wages of 50 workers in trading company. Find the mean wages of a worker, by assumed mean method.

| Daily wages	200-240	240-280	280-320	320-360	360-400
Frequency	5	10	15	12	8

Q. 4 : Attempt any ONE of the following. 4

1) As deduced from a survey, the classification of skilled workers is shown in the pie diagram.

**If the no. of workers in the production sector is 4500 answer the following questions.**

i) What is the total number of skilled workers in all fields?

ii) What is the number of skilled workers in the field of constructions?

iii) How many skilled workers are in agriculture?

iv) Find the difference between the numbers of workers in the field of production and construction.
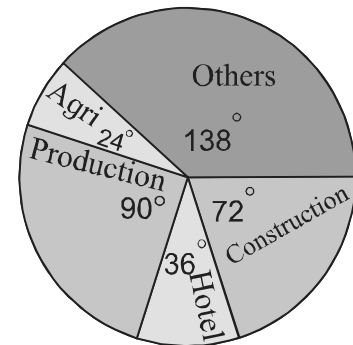
2) Draw a pie diagram to represent the world population of countries given in the following table after determining the value of a.

Country	India	China	Russia	USA	Others	Total
Percentage	15	20	a	a	25	100

Q. 5 : Attempt any ONE of the following.

1) Observe the following frequency polygon and write the answers of the questions below it.
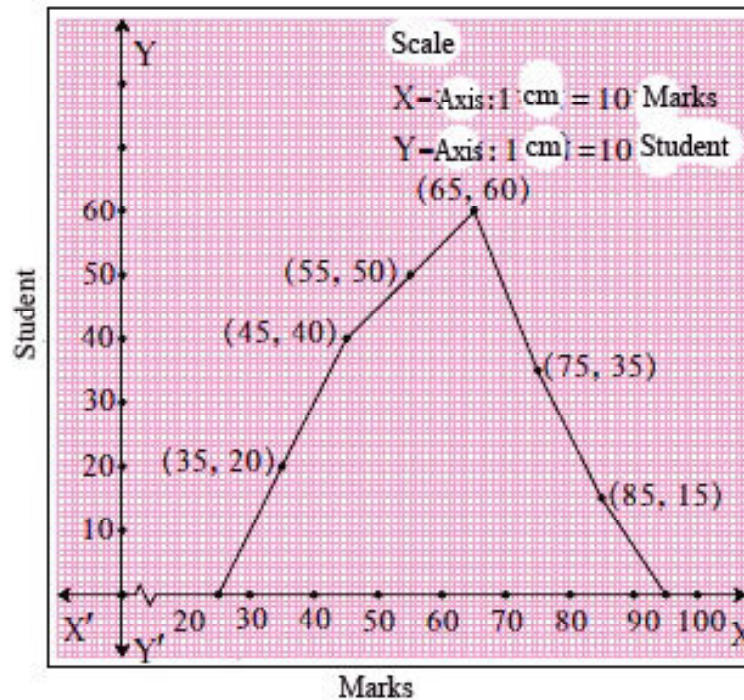
i) Which class has the maximum number of students?

ii) Write the classes having zero frequency.

iii) What is the class mark of the class having frequency of 50 students ?

2)Represent the following data using histogram and hence draw frequency polygon.

No. of words. typed per minute	30-39	40-49	50-59	60-69	70-79
No. of typists	2	8	15	12	3

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