

DEVESHTEDIA CLASSES
Above muthoot finance bank, awadhpuri, bhopal

D.T.CLASSES
Class 09 - Mathematics

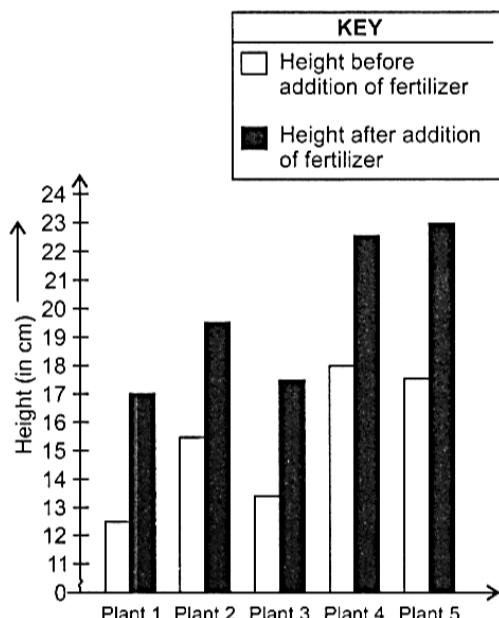
Section A

1. In a histogram, which of the following is proportional to the frequency of the corresponding class? [1]
a) Width of the rectangle
b) Length of the rectangle
c) Area of the rectangle
d) Perimeter of the rectangle
2. In a histogram the area of each rectangle is proportional to [1]
a) the class mark of the corresponding class interval
b) cumulative frequency of the corresponding class interval
c) the class size of the corresponding class interval
d) frequency of the corresponding class interval
3. A histogram is a pictorial representation of the grouped data in which class intervals and frequency are respectively taken along [1]
a) vertical axis only
b) horizontal axis only
c) vertical axis and horizontal axis
d) horizontal axis and vertical axis
4. In a histogram the class intervals or the groups are taken along [1]
a) Y-axis
b) in between X and Y axis
c) X-axis
d) both of X-axis and Y-axis
5. To draw a histogram to represent the following frequency distribution : [1]

Class interval	5-10	10-15	15-25	25-45	45-75
Frequency	6	12	10	8	15

The adjusted frequency for the class 25-45 is

- a) 5
b) 6
c) 3
d) 2
6. The owner of a plant nursery wanted to test the effectiveness of a new type of fertilizer. He measured the heights of 5 plants, and then gave each an equal amount of fertilizer. Two weeks later, he measured the heights of the plants again. The graph below shows the height of the plants before and after the addition of fertilizer. [1]



What was the mean growth of the plants?

7. In a bar graph if 1 cm represents 30 km, then the length of bar needed to represent 75 km is [1]

a) 2 cm b) 3 cm
c) 2.5 cm d) 3.5 cm

8. In a bar graph, 0.25 cm length of a bar represents 100 people. Then, the length of bar which represents 2000 people is [1]

a) 4 cm b) 4.5 cm
c) 3.5 cm d) 5 cm

Section B

9. The following table gives the frequencies of most commonly used letters a, e, i, o, r, t, u from a page of a book : [2]

Letters	a	e	i	o	r	t	u
Frequency	75	125	80	70	80	95	75

Represent the information above by a bar graph.

10. A company manufactures car batteries of a particular type. The lives (in years) of 40 such batteries were recorded as follows: [2]

2.6, 3.0, 3.7, 3.2, 2.2, 4.1, 3.5, 4.5,
3.5, 2.3, 3.2, 3.4, 3.8, 3.2, 4.6, 3.7,
2.5, 4.4, 3.4, 3.3, 2.9, 3.0, 4.3, 2.8,
3.5, 3.2, 3.9, 3.2, 3.2, 3.1, 3.7, 3.4,
4.6, 3.8, 3.2, 2.6, 3.5, 4.2, 2.9, 3.6.

Construct a grouped frequency distribution table for this data, using class intervals of size 0.5 starting from the intervals 2-2.5.

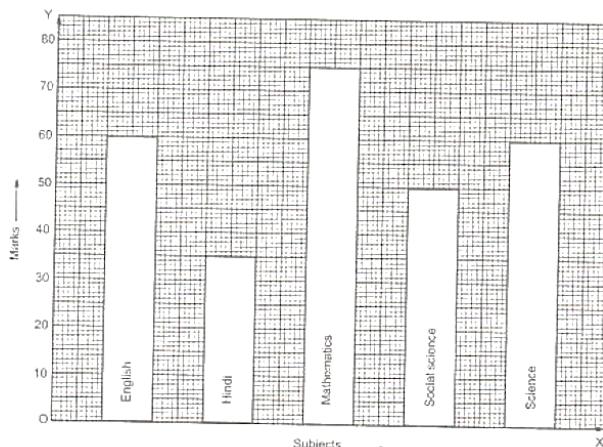
11. The following table gives the distribution of IQ's (intelligence quotients) of 60 pupils of class V in a school: [2]

IQ's:	125.5 to 132.5	118.5 to 125.5	111.5 to 118.5	104.5 to 111.5	97.5 to 104.5	90.5 to 97.5	83.5 to 90.5	76.5 to 83.5	69.5 to 76.5	62.5 to 69.5
No. of pupils:	1	3	4	6	10	12	15	5	3	1

Draw a frequency polygon for the above data.

12. Look at the bar graph given below.

[2]



Read it carefully and answer the following questions.

- What information does the bar graph give?
- In which subject does the student very good?
- In which subject is he poor?
- What is the average of the marks?

13. The following table gives the distribution of IQ (intelligence quotient) of 60 pupils of Class VIII in a School : [2]

IQ	60-70	70-80	80-90	90-100	100-110	110-120	120-130	Total
Number of pupils	2	3	5	16	14	13	7	60

Draw a frequency polygon for the above data.

14. The approximate velocities of some vehicles are given below:

[2]

Name of vehicle	Bicycle	Scooter	Car	Bus	Train
Velocity (in km/hr)	27	45	90	72	63

Draw a bar graph to represent the above data.

15. Draw a histogram and frequency polygon to represent the following data on the same scale) which shows the monthly cost of living index of a city in a period of 2 years : [2]

[2]

Cost of living index	Number of months
440-460	2
460-480	4
480-500	3

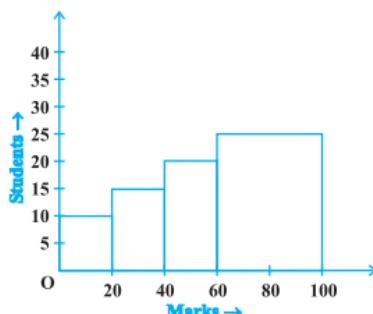
500-520	5
520-540	3
540-560	2
560-580	1
580-600	4
Total	24

16. The frequency distribution

[2]

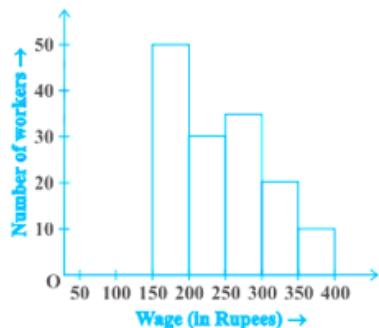
Marks	0-20	20-40	40-60	60-100
Number of students	10	15	20	25

has been represented graphically as follows :



Do you think this representation is correct? Why?

17. In fig, there is a histogram depicting daily wages of workers in a factory. Construct the frequency distribution table [2]



18. The following distribution gives the time taken by 25 students to solve a problem : [2]

Time (in seconds)	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55
Number of students	2	3	7	6	4	2	1	25

Draw a histogram to represent the above data.

Section C

19. The following is the monthly expenditure (Rs.) of ten families of the particular area: 145, 115, 129, 135, 139, 158, 170, 175, 188, 163 [3]

i. Make a frequency distribution table by using the following class interval: 100 - 120, 120 - 140, 140 - 160, 160 - 180, 180 - 200.

ii. Construct a frequency polygon for the above frequency distribution.

20. Draw a histogram of the following distribution: [3]

Height (in cm)	Number of students

150 - 153	7
153 - 156	8
156 - 159	14
159 - 162	10
162 - 165	6
165 - 168	5

21. On a certain day, the temperature in a city was recorded as under:

[3]

Time	5 a.m.	8 a.m.	11 a.m.	3 p.m.	6 p.m.
Temperature (in °C)	20	24	26	22	18

Illustrate the data by a bar graph.

22. The population of Delhi State in different census years is as given below:

[3]

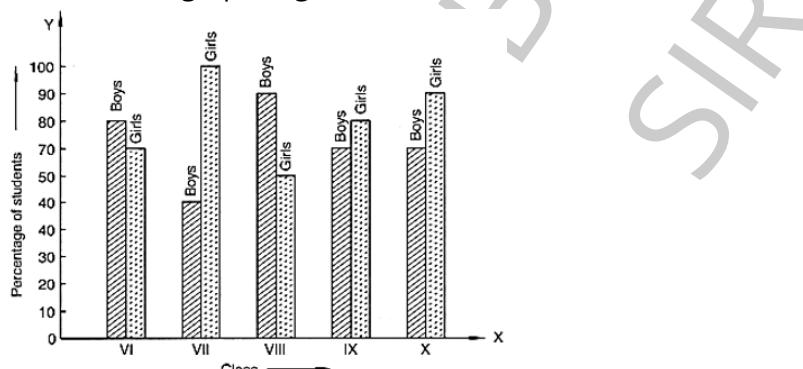
Census year	1961	1971	1981	1991	2001
Population in Lakhs	30	55	70	110	150

Represent the above information with the help of a bar graph.

23. The following bar graph shows the results of an annual examination in a secondary school.

[3]

Read the bar graph (Figure) and choose the correct alternative in each of the following:



i. The pair of classes in which the results of boys and girls are inversely proportional are:

- a. VI, VIII
- b. VI, IX
- c. VIII, IX
- d. VIII, X

ii. The class having the lowest failure rate of girls is

- a. VII
- b. X
- c. IX
- d. VIII

iii. The class having the lowest pass rate of students is

- a. VI
- b. VII

c. VIII

d. IX

24. The following table gives the quantity of goods (in crore tonnes)

[3]

Year	1950-51	1960-61	1965-66	1970-71	1980-81	1982-83
Quantity of Goods (in crore tonnes)	9	16	20	20	22	26

Represent this information with the help of a bar graph. Explain through the bar graph if the quantity of goods carried by the Indian Railways in 1965-66 is more than double the quantity of goods carried in the year 1950-51.

25. The marks obtained (out of 100) by a class of 80 students are given below:

[3]

Marks	10-20	20-30	30-50	50-70	70-100
Number of students	6	17	15	16	26

Construct a histogram to represent the data above.

26. Construct a histogram for the following data:

[3]

Monthly School fee (in ₹):	30-60	60-90	90-120	120-150	150-180	180-210	210-240
No of Schools	5	12	14	18	10	9	4

27. The marks scored by 750 students in an examination are given in the form of a frequency distribution table.

[3]

Marks:	600-640	640-680	680-720	720-760	760-800	800-840	840-880
No. of Students:	16	45	156	284	172	59	18

Represent this data in the form of a histogram and construct a frequency polygon.

28. The following table shows the favourite sports of 250 students of a school. Represent the data by a bar graph.

[3]

Sports	Cricket	Football	Tennis	Badminton	Swimming
No. of students	75	35	50	25	65

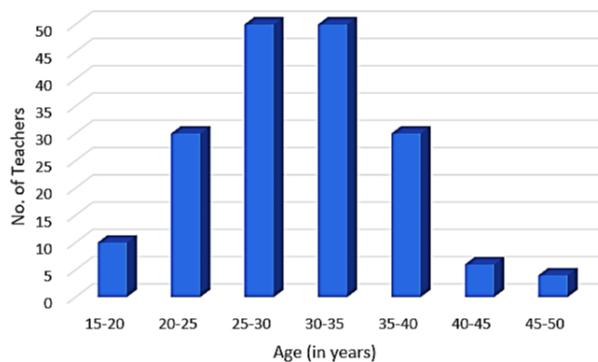
Section D

29. **Read the following text carefully and answer the questions that follow:**

[4]

A teacher is a person whose professional activity involves planning, organizing, and conducting group activities to develop student's knowledge, skills, and attitudes as stipulated by educational programs. Teachers may work with students as a whole class, in small groups or one-to-one, inside or outside regular classrooms. In this indicator, teachers are compared by their average age and work experience measured in years.

For the same in 2015, the following distribution of ages (in years) of primary school teachers in a district was collected to evaluate the teacher on the above-mentioned criterion.



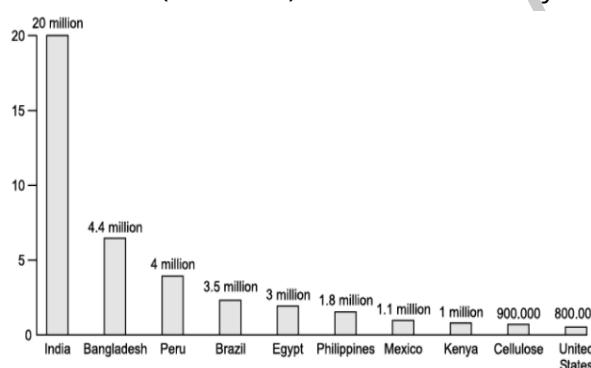
- i. What is the total no of teachers? (1)
- ii. Find the class mark of class 15 - 20, 25 - 30 and 45 - 50? (1)
- iii. What is the no of teachers of age range 25 - 40 years? (2)

OR

Which classes are having same no. of teachers? (2)

30. **Read the following text carefully and answer the questions that follow:** [4]

Child labour refers to any work or activity that deprives children of their childhood. It is a violation of children's rights. This can them mentally or physically. It also exposes them to hazardous situations or stops them from going to school. Naman got data on the number of child labors (in million) in different country that is given below.



- i. What is the difference between highest no child labor and the minimum no of child labor? (1)
- ii. What is the percentage of no. of child labor in Peru over the no. of child labor in India? (1)
- iii. What is the total no. of child labor in the countries having child labor more than 2 million? (2)

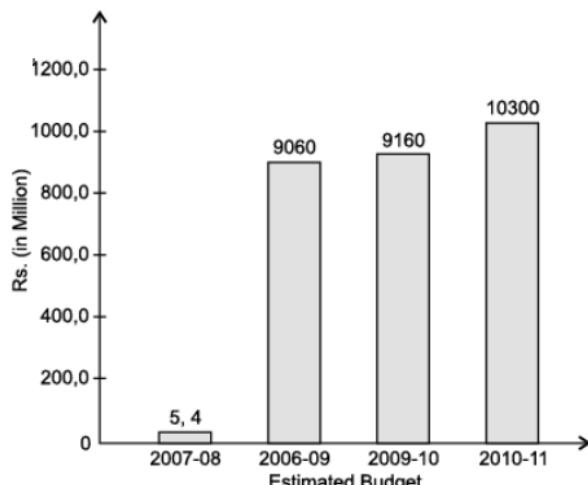
OR

How many countries are having child labor more than Mexico? (2)

31. **Read the following text carefully and answer the questions that follow:** [4]

Ladli Scheme was launched by the Delhi Government in the year 2008. This scheme helps to make women strong and will empower a girl child. This scheme was started in 2008.

The expenses for the scheme are plotted in the following bar chart.



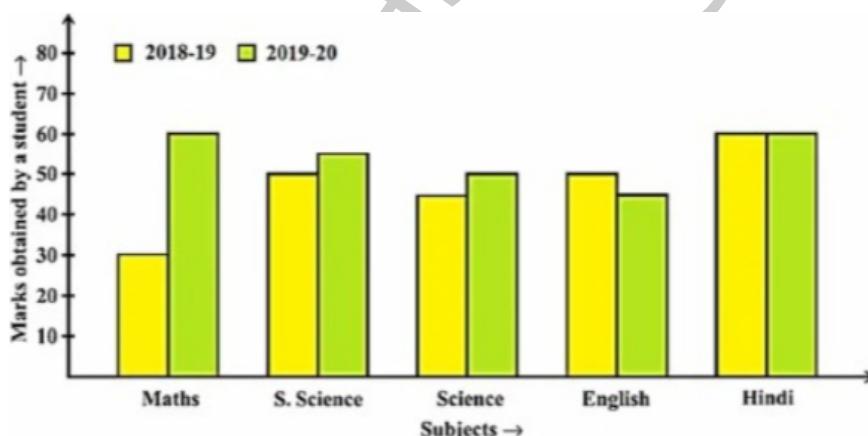
- What are the total expenses from 2009 to 2011? (1)
- What is the percentage of no of expenses in 2009-10 over the expenses in 2010-11? (1)
- What is the percentage of minimum expenses over the maximum expenses in the period 2007-2011? (2)

OR

What is the difference of expenses in 2010-11 and the expenses in 2006-09? (2)

32. **Read the following text carefully and answer the questions that follow:** [4]

The Class teacher of Class X preparing result analysis of a student. She compares the marks of a student obtained in Class IX (2018-19) and Class X (2019-20) using the double bar graph as shown below:



Based on the above information, answer the following questions:

- In which subject has the performance improved the most? (1)
- In which subject the performance is deteriorated? (1)
- Find the total marks obtained by students in 2018-19 and 2019-20. (2)

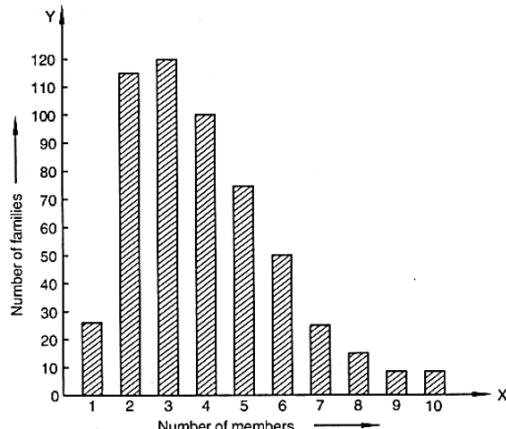
OR

What is the difference in Maths subject? (2)

Section E

33. Read the bar graph given in Figure and answer the following questions: [5]

- What is the information given by the bar graph?
- What is the number of families having 6 members?
- How many members per family are there in the maximum number of families? Also tell the number of such families.
- What are the number of members per family for which the number of families are equal? Also, tell the number of such families?



34. Draw a histogram and the frequency polygon from the following data: [5]

Class interval	20-25	25-30	30-35	35-40	40-45	45-50
Frequency	30	24	52	28	46	10

35. Given below is a table which shows the yearwise strength of a school. Represent this data by a bar graph. [5]

Year	2012-13	2013-14	2014-15	2015-16	2016-17
No. of students	800	975	1100	1400	1625

36. The birth rate per thousand in five countries over a period of time is shown below: [5]

Country	China	India	Germany	UK	Sweden
Birth rate per thousand	42	35	14	28	21

Represent the above data by a bar graph.

37. Draw a histogram for the frequency distribution of the following data: [5]

Class interval	8-13	13-18	18-23	23-28	28-33	33-38	38-43
Frequency	320	780	160	540	260	100	80

38. The following table shows the daily production of T.V. sets in an industry for 7 days of a week: [5]

Day	Mon	Tue	Wed	Thurs	Fri	Sat	Sun
Number of T.V. Sets	300	400	150	250	100	350	200

Represent the above information by a pictograph.

39. The following data gives the amount of loans (in crores of rupees) disbursed by a bank during some years: [5]

Year	1992	1993	1994	1995	1996

Loan (in crores of rupees)	28	33	55	55	80
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- Represent the above data with the help of a bar graph.
- With the help of the bar graph, indicate the year in which amount of loan is not increased over that of the preceding year.

40. The population of four major cities in India in a particular year is given below:

City:	Mumbai	Kolkata	Delhi	Chennai
Number of students:	120	130	150	80

Construct a bar graph to represent the above data.

41. Draw a frequency polygon for the following frequency distribution:

Class interval	1-10	11-20	21-30	31-40	41-50	51-60
Frequency	8	3	6	12	2	7

42. The following data gives the number of students of Delhi state who went abroad for study during some years:

Year:	1995	1996	1997	1998	1999	2000
Number of students:	1400	1600	1250	1000	2000	2200

Represent the above data with the help of a bar graph.