SHIKSHA CLASSES

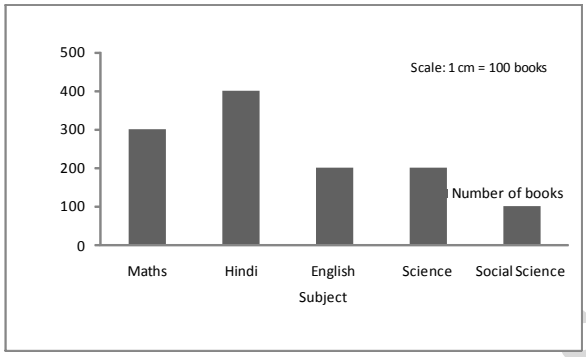
Sub. : Maths **Answer Paper** **Marks : 30**

Std. : VIIIth(CBSE) **4: Data Handling**

Section A (Each 1 Mark)

Select the most appropriate answer from the given options (MCQ'S - Q.1 to Q.5)

Observe the following bar graph carefully and answer the following questions :



Q.1 : Which subject have the maximum books?

Ans : a) Hindi

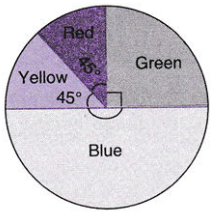
Q.2 : Which two subjects have the same number of books?

Ans : c) English and Science

Q.3 : The total number of books is.

Ans : a) 1200

Observe the pie chart and answer the following questions:



Q.4 : Which two colours have the same central angles?

Ans : a) Red, Yellow

Q.5 : The proportion of sector for red is.

Ans : c) $\frac{1}{8}$

Fill in the blank. (Q.6 to Q.7)

Q.6 : The difference between the highest and the lowest values of the observations in a data is called _____ of the data

Ans : range

Q.7 : A geometric representation showing the relationship between a whole and its parts is called a _____.

Ans : pie chart.

Write whether the following statements are True or False. (Q.8 to Q.9)

Q.8 : In a pie -chart, whole circle is divided into various sectors.

Ans : True

Q.9 : The probability of a sure event is 0.

Ans : False

Section B (Each 2 Marks)

Q.10 : A child has a block in the shape of a cube with one letter written on each face as shown below.

A	B	C	D	E	A

The cube is thrown once. What is the probability of getting A?

Ans : a) $\frac{1}{3}$

Total number of outcomes of event (A, B, C, D, E, A) = 6

Number of letter A = 2

$\therefore$ Probability of getting a letter A

$= \frac{2}{6} = \frac{1}{3}.$

OR

A die is thrown. What is the probability of getting an even prime number?

Ans : a) $\frac{1}{6}$

Total number of outcomes of event (1, 2, 3, 4, 5 and 6)

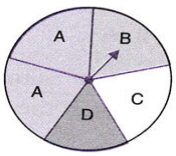
Number of even prime number = 1

$\therefore$ Probability of getting a even prime number

$= \frac{1}{6}$

Q.11 : List the outcomes you can see in these exprimets.

a) Spinning a wheel



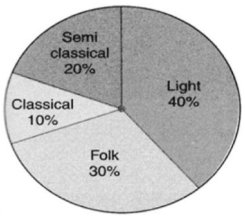
Ans : The outcomes we can see in spinning the given wheel are A, B, C and D.

b) Tossing two coins together

Ans : The outcomes we can see in tossing two coins together are : HT, HH, TH, TT (Here HT means Head on first coin and Tail on the second coin and so on).

Section C (Each 3 Marks)

Q.12 : A survey was made to find the type of music that a certain group of young people liked in a city. Adjoining pie chart shows the findings of this survey.



i) If a cassette company were to make 1000 CD's, how many of each type would they make?

Ans : light type =40%of1000=400

folk type =30%of1000

$\frac{30}{100} \times 1000 = 300$

semi-classical=20%of1000

$\frac{20}{100} \times 1000 = 200$

classical type =10%of1000

$\frac{10}{100} \times 1000 = 100$

OR

A group of 360 people were asked to vote for their favourite season from the three seasons rainy, winter and summer.

Season	No. of Votes
Summer	90
Rainy	120
Winter	150

i) Find the central angle of each sector.

Ans : Total votes = 90 + 120 + 150 = 360.

Central angle of sector corresponding to summer season

$= \frac{\text{Number of people who vote for summer season}}{\text{Total number of people}} \times 360^0$

$= \frac{90}{360} \times 360^0 = 90^0$

Central angle of sector corresponding to rainy season

$= \frac{\text{Number of people who vote for summer season}}{\text{Total number of people}} \times 360^0$

$= \frac{120}{360} \times 360^0 = 120^0$

Central angle of sector corresponding to winter season

$= \frac{\text{Number of people who vote for summer season}}{\text{Total number of people}} \times 360^0$

$= \frac{150}{360} \times 360^0 = 150^0$

Q.13 : If you have a spinning wheel with 3 green sectors, 1 blue sector and 1 red sector, what is the probability of getting a green sector? What is the probability of getting a non blue sector?

Ans : Number of green sectors = 3

Number of blue sectors = 1

Number of red sectors = 1

$\therefore$ Total number of sectors

= 3 + 1 + 1 = 5

$\therefore$ Total number of outcomes of the event = 5

Number of oucomes of getting a green sector = 3.

$\therefore$ Probability of getting a green sector $= \frac{3}{5}$

Number of outcomes of getting a non-blue sector

= Number of green sectors

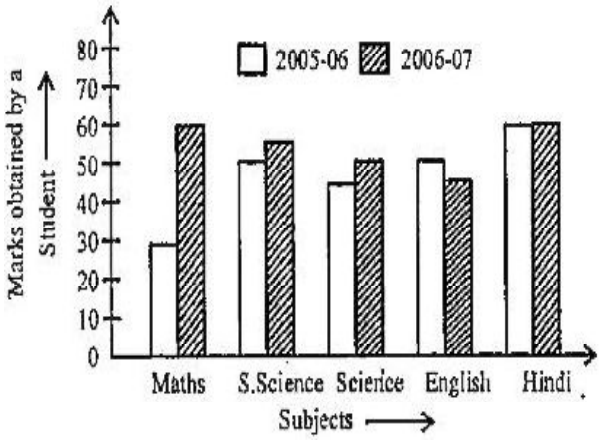
+ Number of red sectors

= 3 + 1 = 4

$\therefore$ Probability of getting a non-blue sector

$= \frac{4}{5}$.

Q.14 : A bar graph showing two sets of data simultaneously. It is useful for the comparison of the data.



i) What is the information given by the double bar graph?

Ans : The doube bar graph gives the information about the marks obtained by a student in different subjects in the academic years 2005-06 and 2006-07.

ii) In which subject has the performance improved the most?

Ans : The performance has improved the most in the subject Mathematics.

iii) In which subject is the performance at par?

Ans : The performance is at par in the subject Hindi.

Section D (Each 4 Marks)

Q.15 : Draw a pie-chrt of the data given below.

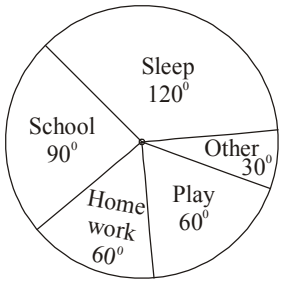
The time spent by a child during a day.

Sleep	**-**	**8 hours**
School	**-**	**6 hours**
Home work	**-**	**4 hours**
Play	**-**	**4 hours**
Others	**-**	**2 hours**

Ans :

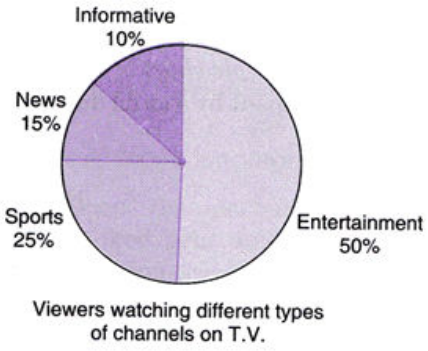
Activity	Time spent in hours	Time spent in fraction of a day	Central angle corresponding to the activity
Sleep	8	$\frac{\text{Hours for sleep}}{\text{Total hours in a day}} = \frac{8}{24} = \frac{1}{3}$	$\frac{1}{3} \times 360^0 = 120^0$
School	6	$\frac{\text{Hours for school}}{\text{Total hours in a day}} = \frac{6}{24} = \frac{1}{4}$	$\frac{1}{4} \times 360^0 = 90^0$
Home work	4	$\frac{\text{Hours for home work}}{\text{Total hours in a day}} = \frac{4}{24} = \frac{1}{6}$	$\frac{1}{6} \times 360^0 = 60^0$
Play	4	$\frac{\text{Hours for play}}{\text{Total hours in a day}} = \frac{4}{24} = \frac{1}{6}$	$\frac{1}{6} \times 360^0 = 60^0$
Others	2	$\frac{\text{Hours for others}}{\text{Total hours in a day}} = \frac{2}{24} = \frac{1}{12}$	$\frac{1}{12} \times 360^0 = 30^0$

Now, we make the pie chart



OR

Answer the following questions based on the pie chart given (Fig.)



Viewers watching different types of channels on T.V.

i) Which type of programmes are viewed the most?

ii) Which two types of programmes have number of viewers equal to those watching sports channels?

Ans : From the given pie chart, we prepare the following table.

Types of viewers	Percentage
Entertainment	50
Informative	10
News	15
Sports	25
Total	**100**

i) Since the percentage of entertainment viewers is the highest, therefore, entertainment programmes are viewed the most.

ii) Percentage of viewers watching news = 15 %

Percentage of viewers watching informative = 10%

$\therefore$ Sum of the percentages of viewers watching news and informative

= (15 + 10)% = 25%

= Percentage of viewers watching sports

Hence, news and informative programmes have number of viewers equal to those watching sports channels.

Q.16 : Numbers 1 to 10 are written on ten separate slips (one number on one slip), kept in a box and mixed well. One slip is chosen from the box without looking into it. What is the probabiity of.

(i) getting a number 6?

(ii) getting a number less than 6?

(iii) getting a number greater than 6)

(iv) getting a 1-digit number?

Ans : Total number of outcomes of the event (1, 2, 3, 4, 5, 6, 7, 8, 9 and 10) = 10

i) $\because$ Number of outcomes of getting a number 6 = 1

$\therefore$ Probability of getting a number 6

$$= \frac{1}{10}$$

ii) $\because$ There are 5 numbers (1, 2, 3, 4 and 5) less than 6.

$\therefore$ Number of outcomes of getting a number less than 6 = 5

$\therefore$ Probability of getting a number less than 6

$$= \frac{5}{10} = \frac{1}{2}$$

iii) $\because$ There are 4 numbers (7, 8, 9 and 10) greater than 6

$\therefore$ Number of outcomes of getting a number

greater than $6 = 4$

$\therefore$ Probability of getting a number greater than $6 = \frac{4}{10} = \frac{2}{5}$

iv) $\because$ There are 9 1-digit numbers (1, 2, 3, 4, 5, 6, 7, 8 and 9)

$\therefore$ Number of outcomes of getting a 1-digit number = 9

$\therefore$ Probability of getting a 1-digit number $= \frac{9}{10}$.

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