CLASS : 6 3rd MID TERM PORTIONS AND PATTERNS

MATHEMATICS

NUMBER SYSTEM	SYMMETERY	PRACTICAL GEOMETRY

I.	Fill in the blanks	5 x 1 = 5
II.	Choose the correct answer	5 x 1 = 5
III.	Match the following	5 x 1 = 5
IV.	True or False	5 x 1 = 5
V.	Answer the following	5 x 2 = 10
VI.	Answer the following	3 x 5 = 15
VII.	Practical Geometry	1 x 5 = 5
		Total = 50

SCIENCE

MAGNETISM	WATER	ECONOMIC BIOLOGY

I.	Choose the correct answer	10 x 1 = 10
II.	Answer the following (any 7) (match the following; true or false; pick out the add one and give reason; analogy questions; assertion and reasoning; spot the error and correct the mistakes; short answers)	7 x 2 = 14
III.	Answer the following in brief (any 4)	4 x 4 = 16
IV.	Answer the detail	2 x 5 = 10
		Total = 50

SOCIAL SCIENCE

HISTORY	GEOGRAPHY	CIVICS
SOCIETY AND CULTURE IN THE ANCIENT TAMIL KINGDOMS	EXPLORING CONTINENTS	DEMOCRACY AND WOMEN EMPOWERMENT

I.	Choose the correct answer	6 x 1 = 6
II.	Fill in the blanks	5 x 1 = 5
III.	Match the following	10 x ½ = 5
IV.	Answer in one word	5 x 1 = 5
V.	Differences between	2 x 2 = 4
VI.	Answer the following (any 5)	5 x 3 = 15
VII.	Answer the detail	2 x 5 = 10
		Total = 50

EXPRESSIONS IN ENGLISH

AN IDEAL STUDENT	YOU ARE OLD FATHER WILLIAM	MAUI'S KITE

I.	Write the meanings and opposites of the given words.	6 x ½ = 3
II.	Fill in the blanks with words from the lessons.	4 x ½ = 2
III.	Make sentences using the phrases from the lessons.	3 x 1 = 3
IV.	Write two exclamatory sentences of your own.	2 x 1 = 2
V.	Fill in the blanks with non- modal auxiliary verbs.	10 x ½ = 5
VI.	Fill in the blanks with either the past tense or the past continuous tense of the verbs in the brackets.	4 x 1 = 4
VII.	Write two sentences of your own using the simple present tense and two sentences using the present continuous tense.	4 x 1 = 4
VIII.	Read the lines from the poem and answer the questions.	2 x 1 = 2
IX.	Complete the following sentences.	5 x 1 = 5
X.	Who said this to whom and why was it said.	5 x 1 = 5
XI.	Answer the following.	5 x 3 = 15
		Total = 50

Class: 6 KEY ANSWERS TERM : III

Chapter - 1. NUMBER SYSTEM

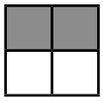
Page No. 13 and 14:

Exercise: 1.1

1. Express the shaped portion as fraction:

a) $\frac{1}{2}$ b) $\frac{1}{3}$ c) $\frac{3}{8}$ d) $\frac{1}{2}$ e) $\frac{1}{2}$

2. Give a pictorial representation of the following fraction by shading:

a)  $\frac{2}{4}$ b)  $\frac{7}{10}$

3. Classify the following: proper fractions:

(i) Proper fractions:

$\frac{3}{7}, \frac{5}{9}, \frac{3}{4}, \frac{9}{16}, \frac{1}{3}, \frac{11}{19}$

(ii) Improper fractions:

$\frac{7}{5}, \frac{13}{4}, \frac{57}{8}, \frac{12}{7}, \frac{11}{8}$

(iii) Mixed fractions:

$2\frac{4}{9}, 7\frac{4}{11}, 3\frac{9}{16}, 5\frac{3}{4}, 4\frac{1}{5}$

4. Change the following mixed fractions into improper fractions:

a. $3\frac{2}{5} = \frac{3 \times 5 + 2}{5} = \frac{15 + 2}{5} = \frac{17}{5}$

b. $5\frac{4}{7} = \frac{7 \times 5 + 4}{7} = \frac{35 + 4}{7} = \frac{39}{7}$

c. $5\frac{1}{8} = \frac{5 \times 8 + 1}{8} = \frac{40 + 1}{8} = \frac{41}{8}$

5. Change the following improper fractions into mixed fractions:

a. $8\overline{)14}$ (1, remainder 6) $\quad \frac{14}{8} = 1\frac{6}{8}$

b. $3\overline{)5}$ (1, remainder 2) $\quad \frac{5}{3} = 1\frac{2}{3}$

c. $5\overline{)27}$ (5, remainder 2) $\quad \frac{27}{5} = 5\frac{2}{5}$

6. a. $\frac{4}{3} = \frac{8}{6} = \frac{12}{9} = \frac{16}{12} = \frac{20}{15} = \frac{24}{18}$

b. $\frac{9}{5} = \frac{18}{10} = \frac{27}{15} = \frac{36}{20} = \frac{45}{25} = \frac{54}{30}$

c. $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10} = \frac{6}{12}$

7. a. $\frac{100}{120}$ (HCF : 20) $\frac{100 \div 20}{120 \div 20} = \frac{5}{6}$

b. $\frac{160}{200}$ (HCF : 40) $\frac{160 \div 40}{200 \div 40} = \frac{4}{5}$

c. $\frac{48}{90}$ (HCF : 6) $\frac{48 \div 6}{90 \div 6} = \frac{8}{15}$

8. a. $\frac{5}{8} \times \frac{7}{7} = \frac{35}{56}$ $\quad \frac{35}{56} > \frac{32}{56}$

$\frac{4}{7} \times \frac{8}{8} = \frac{32}{56}$ $\quad \therefore \frac{5}{8} > \frac{4}{7}$

b. $\frac{3}{7} \times \frac{4}{4} = \frac{12}{28}$ $\quad \frac{12}{28} > \frac{7}{28}$

$\frac{1}{4} \times \frac{7}{7} = \frac{7}{28}$ $\quad \therefore \frac{3}{7} > \frac{1}{4}$

c. $\frac{1}{3} \times \frac{4}{4} = \frac{4}{12}$ $\quad \frac{5}{12} > \frac{4}{12}$

$\frac{5}{12}$ $\quad \therefore \frac{5}{12} > \frac{1}{3}$

9. a) LCM of 10, 15, 12 is 60.

$\frac{8}{15} \times \frac{4}{4} = \frac{32}{60}$

$\frac{9}{10} \times \frac{6}{6} = \frac{54}{60}$ $\quad \frac{32}{60} < \frac{35}{60} < \frac{54}{60}$

$\frac{7}{12} \times \frac{5}{5} = \frac{35}{60}$ $\quad \frac{8}{15} < \frac{7}{12} < \frac{9}{10}$

b) LCM of 10, 4 and 2 is 20.

$\frac{9}{10} \times \frac{2}{2} = \frac{18}{20}$

$\frac{3}{4} \times \frac{5}{5} = \frac{15}{20}$ $\quad \frac{10}{20} < \frac{15}{20} < \frac{18}{20}$

$\frac{1}{2} \times \frac{10}{10} = \frac{10}{20}$ $\quad \frac{1}{2} < \frac{3}{4} < \frac{9}{10}$

c) LCM of 5, 6 and 15 is 30.

$\frac{2}{5} \times \frac{6}{6} = \frac{12}{30}$

$\frac{5}{6} \times \frac{5}{5} = \frac{25}{30}$ $\quad \frac{12}{30} < \frac{22}{30} < \frac{25}{30}$

$\frac{11}{15} \times \frac{2}{2} = \frac{22}{30}$ $\quad \frac{2}{5} < \frac{11}{15} < \frac{5}{6}$

10. a. Beads used on Monday $\frac{2}{3}$

Beads used on Tuesday $\frac{5}{6}$

Comparing $\frac{2}{3}$ and $\frac{5}{6}$

LCM of 2 and 6 is 6

$\frac{2}{3} \times \frac{2}{2} = \frac{4}{6}$ $\quad \frac{5}{6} > \frac{4}{6}$

$\frac{5}{6} = \frac{5}{6}$

$\therefore$ On Tuesday the girl used more beads.

b. Ramu read $\frac{30}{150}$ pages.

Mani read $\frac{3}{4}$.

$\frac{30}{150} = \frac{1}{5}$.

Comparing $\frac{1}{5}$ and $\frac{3}{4}$ LCM of 5 and 4 is 20

$\frac{1}{5} \times \frac{4}{4} = \frac{4}{20}$

$\frac{3}{4} \times \frac{5}{5} = \frac{15}{20}$

$\frac{15}{20} > \frac{4}{20}$

$\frac{3}{4} > \frac{30}{150}$

Hence Mani read more pages than Ramu.

c. Kirthi - $\frac{1}{4}$ Priyanka - $\frac{1}{12}$ Hema - $\frac{1}{6}$

LCM of 4, 12, 6 is 24.

$\frac{1}{4} \times \frac{6}{6} = \frac{6}{24}$;

$\frac{1}{12} \times \frac{2}{2} = \frac{2}{24}$;

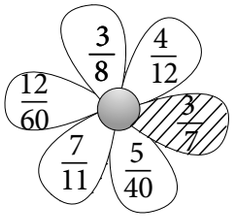
$\frac{1}{6} \times \frac{4}{4} = \frac{4}{24}$; $\quad \frac{2}{24} < \frac{4}{24} < \frac{6}{24}$

Kirthi ate the largest portion.

Page No. 14:

FUN WITH MATH

1.



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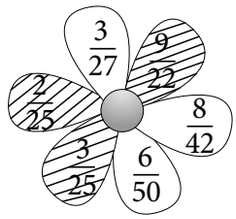

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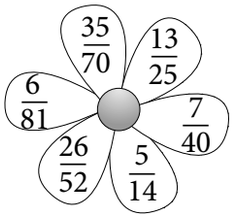

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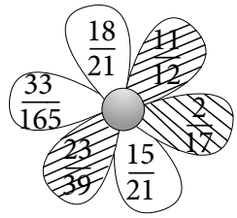
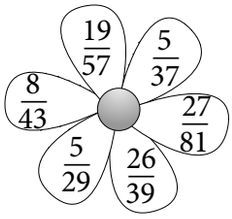


5.



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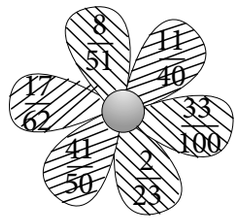


Page No. 22:

Exercise: 1.2

1. a. $\frac{3}{25} + \frac{1}{25} = \frac{3+1}{25} = \frac{4}{25}$

b. $\frac{4}{13} + \frac{2}{13} + \frac{2}{13} = \frac{4+2+2}{13} = \frac{8}{13}$

c. $\frac{17}{30} + \frac{7}{30} + \frac{4}{30} = \frac{17+7+4}{30} = \frac{28}{30}$ or $\frac{14}{15}$

2. a. $\frac{4}{5} - \frac{1}{5} = \frac{4-1}{5} = \frac{3}{5}$

b. $\frac{7}{10} - \frac{1}{10} = \frac{6}{10}$ or $\frac{3}{5}$

c. $\frac{19}{20} - \frac{13}{20} = \frac{19-13}{20} = \frac{6}{20} = \frac{3}{10}$

3. a. $\frac{13}{24} + \frac{5}{12} = \frac{13}{24} + \frac{10}{24} = \frac{13-10}{24} = \frac{23}{24}$

b. $\frac{7}{10} + \frac{11}{12} = \frac{42}{60} + \frac{55}{60} = \frac{42+55}{60} = \frac{97}{60}$

c. $\frac{7}{10} + \frac{13}{15} = \frac{21}{30} + \frac{26}{30} = \frac{21+26}{30} = \frac{47}{30}$

4. a. $\frac{4}{5} - \frac{1}{10} = \frac{8}{10} - \frac{1}{10} = \frac{8-1}{10} = \frac{7}{10}$

b. $\frac{5}{6} - \frac{1}{12} = \frac{10}{12} - \frac{1}{12} = \frac{10-1}{12} = \frac{9}{12} = \frac{3}{4}$

c. $\frac{1}{6} - \frac{1}{18} = \frac{3}{18} - \frac{1}{18} = \frac{3-1}{18} = \frac{2}{18} = \frac{1}{9}$

5. a. $3\frac{1}{6} + 4\frac{7}{12} = \frac{19}{6} + \frac{55}{12} = \frac{38}{12} + \frac{55}{12}$

$= \frac{38+55}{12} = \frac{93}{12} = \frac{31}{4}$

$= 7\frac{3}{4}$

b. $4\frac{1}{5} + 3\frac{7}{15} = \frac{21}{5} + \frac{52}{15}$

$= \frac{63}{15} + \frac{52}{15}$

$= \frac{63+52}{15} = \frac{115}{5} = \frac{23}{3}$

$= 7\frac{2}{3}$

c. $8\frac{3}{20} + 5\frac{7}{15} = \frac{163}{20} + \frac{82}{15}$

$= \frac{489}{60} + \frac{328}{60} = \frac{817}{60}$

$= 13\frac{37}{60}$

6. a. $5\frac{3}{8} - 2\frac{7}{16} = \frac{43}{8} - \frac{39}{16}$

$= \frac{86}{16} - \frac{39}{16} = \frac{47}{16} = 2\frac{15}{16}$

b. $3\frac{1}{2} - 2\frac{3}{4} = \frac{7}{2} - \frac{11}{4}$

$= \frac{14}{4} - \frac{11}{4} = \frac{3}{4}$

c. $7\frac{7}{10} - 2\frac{4}{15} = \frac{77}{10} - \frac{34}{15}$

$= \frac{231}{30} - \frac{68}{30} = \frac{163}{30} = 5\frac{13}{30}$

7. a. $\frac{2}{3} + \frac{2}{5} - \frac{1}{15} + \frac{5}{6}$

$= \frac{20}{30} + \frac{12}{30} - \frac{2}{30} + \frac{25}{30}$

$= \frac{20 + 12 - 2 + 25}{30}$

$= \frac{55}{30} = \frac{11}{6}$

$= 1\frac{5}{6}$

b. $\frac{4}{5} + \frac{7}{10} + \frac{3}{5} - \frac{7}{30}$

$= \frac{24}{30} + \frac{21}{30} + \frac{18}{30} - \frac{7}{30}$

$= \frac{24 + 21 + 18 - 7}{30}$

$= \frac{56}{30}$

$= \frac{28}{15}$

$= 1\frac{13}{15}$

c. $\frac{5}{6} + \frac{7}{8} - \frac{3}{24} + \frac{11}{12}$

$\frac{5}{6} + \frac{7}{8} - \frac{1}{8} + \frac{11}{12}$

$= \frac{20}{24} + \frac{21}{24} - \frac{3}{24} + \frac{22}{24}$

$= \frac{20 + 21 - 3 + 22}{24}$

$= \frac{60}{24}$

$= \frac{5}{2}$

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

8. a. $8\frac{3}{5} + 2\frac{7}{10} + 4\frac{1}{5} - 3\frac{7}{30}$

$= \frac{43}{5} + \frac{27}{10} + \frac{21}{5} - \frac{97}{30}$

$= \frac{258}{30} + \frac{81}{30} + \frac{126}{30} - \frac{97}{30}$

$= \frac{258 + 81 + 126 - 97}{30}$

$= \frac{368}{30}$

$= \frac{184}{15}$

$= 12\frac{4}{15}$

b. $9\frac{5}{8} + 4\frac{1}{6} - 1\frac{5}{24} + 7\frac{7}{12}$

$= \frac{77}{8} + \frac{25}{6} - \frac{29}{24} + \frac{91}{12}$

$= \frac{231}{24} + \frac{100}{24} - \frac{29}{24} + \frac{182}{24}$

$= \frac{231 + 100 - 29 + 182}{24}$

$= \frac{484}{24}$

$= \frac{121}{6} = 20\frac{1}{6}$

c. $8\frac{2}{3} + 7\frac{1}{5} - 3\frac{1}{5} + 1\frac{5}{6}$

$= \frac{26}{3} + \frac{36}{5} - \frac{16}{5} + \frac{11}{6}$

$= \frac{260}{30} + \frac{216}{30} - \frac{96}{30} + \frac{55}{30}$

$= \frac{260 + 216 - 96 + 55}{30}$

$= \frac{435}{30}$

$= \frac{87}{6} = 14\frac{3}{6}$

9. Portion of cake Divya ate $\frac{1}{5}$

Portion of cake Rosy ate $\frac{2}{7}$

a. LCM of 5, 7 is 35

$\frac{1}{5} \times \frac{7}{7} - \frac{7}{35}$;

$\frac{2}{7} \times \frac{5}{5} - \frac{10}{35}$; $\frac{10}{35} > \frac{7}{35}$

$\therefore$ Rosy ate more cake.

Difference: $\frac{10 - 7}{35} = \frac{3}{35}$

Rosy ate $\frac{3}{35}$ of cake more than Divya.

b. Part of cake left $= 1 - (\frac{1}{5} + \frac{2}{7})$

$= 1 - (\frac{7 + 10}{35})$

$= 1 - (\frac{17}{35})$

$= \frac{35 - 17}{35} = \frac{18}{35}$

10. Property left for son $= \frac{1}{3}$

Property left to charity $= \frac{1}{4}$

Total property given to son and charity.

$= \frac{1}{3} + \frac{1}{4} = \frac{4 + 3}{12} = \frac{7}{12}$

a. Part of property wife received,

$= 1 - \frac{7}{12} = \frac{12 - 7}{12} = \frac{5}{12}$

b. LCM of 3, 4, 12 = 36

$\frac{1}{3} \times \frac{12}{12} = \frac{12}{36}$

$\frac{1}{4} \times \frac{9}{9} = \frac{9}{36}$

$\frac{5}{12} \times \frac{3}{3} = \frac{15}{36}$

$\frac{15}{12}$ is more. $\therefore$ The wife received more.

Page No. 35 and 36:

Exercise: 1.3

1. a. $2\frac{3}{10}$

b. $5\frac{203}{1000}$

c. $832\frac{532}{1000}$ or $832\frac{133}{250}$

d. $92\frac{4534}{10000}$ or $92\frac{2267}{5000}$

2. a. 5.7 = 5 + 0.7

b. 483.158 = 400 + 80 + 3 + 0.1 + 0.05 + 0.008

c. 438.9873 = 400 + 30 + 8 + 0.9 + 0.08 + 0.007 + 0.0003

d. 0.87193 = 0.8 + 0.07 + 0.001 + 0.0009 + 0.00003

3. a. 1.25, 38.70

b. 48.7253, 2.2000

c. 0.2500, 0.2525

d. 154.12000, 28.15845

4. a. 5.325 > 5.235

b. 8.435 < 8.489

c. 423.485 > 422.485

d. 45.432 = 45.432

5. a. 1.111, 1.11111, 11.1, 11.11, 11.1111

b. 0.061, 0.6611, 1.6001, 6.001, 16.000

c. 0.7009, 7.009, 70.09, 700.9

d. 13.7893, 13.7908, 13.7938, 13.8693, 13.8963

6. a. 24.8142, 24.4182, 24.2184, 24.1842

b. 88.808, 88.800, 88.088, 88.08

c. 161.4, 161.04, 160.14, 160.41

d. 22.258, 22.5, 22.25, 2.25

7. a. $\frac{3}{25} \times \frac{4}{4} = \frac{12}{100} = 0.12$

b. $\frac{53}{10} = 5.3$

c. $\frac{2}{5} = 0.4$

d. $2\frac{17}{20} = \frac{57}{20} = 2.85$

8. a. $0.45 = \frac{45}{100} = \frac{9}{20}$

b. $0.2 = \frac{2}{10} = \frac{1}{5}$

c. $1.25 = \frac{125}{100} = \frac{5}{4} = 1\frac{1}{4}$

d. $11.5 = \frac{115}{10} = \frac{23}{2} = 11\frac{1}{2}$

Page No. 38:

Exercise: 1.4

1. a.
$$\begin{array}{r} 10.2 \\ +\ 0.5 \\ \hline 10.7 \end{array}$$

b.
$$\begin{array}{r} 0.484 \\ 23.348 \\ +\ 2.250 \\ \hline 26.082 \end{array}$$

c.
$$\begin{array}{r} 12.0200 \\ 21.3480 \\ +\ 5.0379 \\ \hline 38.4059 \end{array}$$

d.
$$\begin{array}{r} 364.800 \\ 536.940 \\ +\ 128.432 \\ \hline 1030.172 \end{array}$$

2. a.
$$\begin{array}{r} 6.3 \\ -\ 3.2 \\ \hline 3.1 \end{array}$$

b.
$$\begin{array}{r} 1.936 \\ -\ 0.521 \\ \hline 1.415 \end{array}$$

c.
$$\begin{array}{r} 6.37 \\ -\ 4.00 \\ \hline 2.37 \end{array}$$

d.
$$\begin{array}{r} 43.001 \\ -\ 28.348 \\ \hline 14.653 \end{array}$$

3. a.
$$\begin{array}{r} 48.93 \\ +\ 10.18 \\ \hline 59.11 \end{array}$$

$$\begin{array}{r} 59.11 \\ -\ 13.75 \\ \hline 45.36 \end{array}$$

b.
$$\begin{array}{r} 101.35 \\ -\ 9.75 \\ \hline 91.60 \end{array}$$

$$\begin{array}{r} 91.60 \\ +\ 3.002 \\ \hline 94.602 \end{array}$$

c.
$$\begin{array}{r} 8.32 \\ 3.95 \\ +\ 15.00 \\ \hline 27.27 \end{array}$$

$$\begin{array}{r} 27.27 \\ -\ 6.71 \\ \hline 20.56 \end{array}$$

d.
$$\begin{array}{r} 6.85 \\ +\ 2.704 \\ \hline 9.554 \end{array}$$

$$\begin{array}{r} 9.554 \\ -\ 2.57 \\ \hline 6.984 \end{array}$$

4.
$$\begin{array}{r} 9.00 \\ +\ 4.73 \\ \hline 4.27 \end{array}$$

5.
$$\begin{array}{r} 14.21 \\ +\ 8.73 \\ \hline 22.94 \end{array}$$

$$\begin{array}{r} 14.21 \\ -\ 8.73 \\ \hline 5.48 \end{array}$$

$$\begin{array}{r} 22.94 \\ -\ 5.48 \\ \hline 17.46 \end{array}$$

The sum is 17.46 greater than their difference.

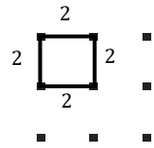
Chapter - 2. MEASUREMENTS

Page No. 42:

Exercise: 2.1

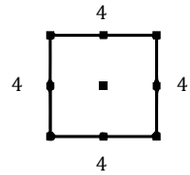
1. Find the perimeter of the following shapes.

a.



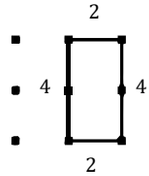
p = 8cm

b.



p = 4 + 4 + 4 + 4 = 16 cm

c.



p = 2 + 2 + 4 + 4 = 12 cm

2. Find the area of the shaded part if each small square represents 1 sq.cm.

1. 4 sq. cm
2. 7 sq. cm
3. 8 sq. cm

3. Find the area of the following figures. Let area of each square be 4 sq. units.

a. 24 sq. units
b. 24 sq. units
c. 20 sq. units
d. 16 sq. units
e. 16 sq. units

Page No. 48 and 49:

Exercise: 2.2

1. Find the area of the following figures.

a. $8 \times 9 = 72$ sq. cm
b. $20 \times 1 = 20$ sq. cm
c. $5 \times 5 = 25$ sq. cm
d. $16 \times 1 = 16$ sq. cm

2. Find the perimeter of the following figures.

a. $22 \times 1 = 22$ cm
b. $24 \times 4 = 96$ cm
c. $2 + 6 + 1 + 4.5 + 4.5 + 1 + 6 = 25$ cm

3. Length of the card = 8 cm
Width of the card = 4 cm
Perimeter = 2 (8 + 4)
p = 2($l + b$)
= 24 cm

4. Length of the rectangle = 3 inches
Breadth = 7 inches
Area = length × breadth
= 3 × 7
= 21 sq. inches

5. Side of the square park = 9 feet
Area = side × side
= 9 × 9 = 81 sq. m

6. Base of right triangle = 20 m
Height of triangle = 15 m
Area = $\frac{1}{2} \times 20 \times 15$
= 150 sq. m

7. Length of the window = 6 feet
Breadth of the window = 4 feet
Area = 6 × 4 = 24 sq. m

8. Perimeter of square = 4 × side
4 × Side = 100 cm
Side = $\frac{100}{4}$ = 25 cm

9. Area of rectangular paper = 190 sq. cm
Width = 10 cm
Length = Area / Width
= $\frac{190}{10}$ = 19 cm

10. Area of square land = 100 sq. m
(i.e $10 \times 10 = 100$)
Side = $\frac{100}{10}$ = 10 sq. m
Perimeter = 4 × side
= 4 × 10
= 40 m
40 m fence is needed

11. Length of wire: 16 cm
Perimeter of square = 4 × side = 16
Side = $\frac{16}{4}$ = 4 cm

12. Perimeter of Rectangle = 586 m

$2 (l + 110) = 586$ m

$2l = 586 - 220 = 366$

$l = 183$ m

13. Length = 2.3 m

Breadth = 6.7 m

Perimeter = $2(l + b)$

$= 2 (2.3 + 6.7)$

$= 2 \times 9 = 18$ m (1 round)

4 rounds = 72m

cost = $72 \times 20 = ₹ 1440$

14. Length of the ground = 350 m

Breadth = 250 m

Area = $350 \times 250 = 87500$ sq. cm

Perimeter = $2 (l + b)$

$2 (350 + 250)$

$= 2 \times 600 = 1200$ m

Page No. 50:

H.O.T.S:

1. Perimeter = $4 \times$ side = 56m

   Side = $\frac{56}{4} = 14$ m

   Area = side $\times$ side = $14 \times 14 = 196$ sq. m

2. Perimeter of house = 5+13+9+5+3+9+3+2 +6+6+6+6+6+3+5+2 3+16+1+2+2+5+2+8 +5

   = 151 m

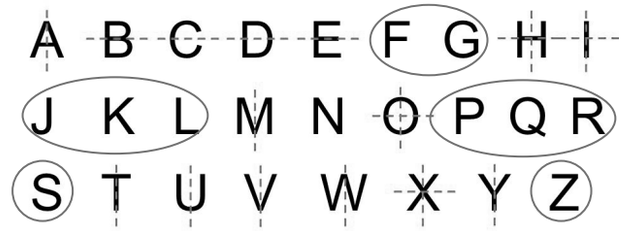
Chapter - 3. SYMMETRY

Page No. 56 to 58:

Exercise: 3.1

1. To be done by the students. Answers may vary.

2.



3.

1 – Vertical and Horizontal Symmetry

2 – Non-Symmetry

3 – Non-Symmetry

4 – Non-Symmetry

5 – Non-Symmetry

6 – Non-Symmetry

7 – Non-Symmetry

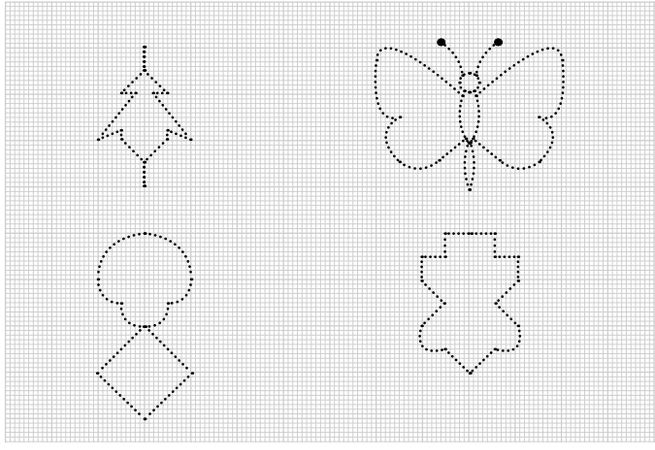
8 – Horizontal Symmetry

9 – Non-Symmetry

4. a) S b) S c) S d) S

e) S f) X g) S h) S

5.

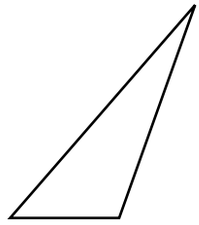


6. Oval – 2

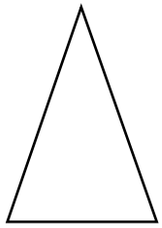
Rectangle – 2

Equilateral triangle –3

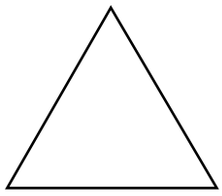
7. a)



b)



c)



8. Students are asked to conclude the answer themselves. Please check the picture in the textbook for hint

Chapter - 4. ALGEBRA

Page No. 60:

Exercise: 4.1

1. Correct the following sentences.

a. I have deposited ₹ 10000000 in several banks. The variable is several.

b. The team P has won *n* matches. The variable is *n*.

c. Raju bought *a* kg of apples, *b* kg of bananas at a shop S. The unknowns are *a*, *b*.

2. Write the following sentences as equations.

a. $2X + 3 = 7$ c. $5X + 1 = 6$ e. $2X - 5 = 8$

b. $X - 2 = 10$ d. $5 + X = 12$

3. Find whether the following sentences are equations or not. Justify your answer.

a. 3 birds flew away from a flock of birds

$X - 3 \Rightarrow$ Not an equation

b. Five plus X is greater than 7

$5 + X > 7 \Rightarrow$ Not an equation

c. The difference of two numbers

$X - Y \Rightarrow$ Not an equation

4. $p = a + b + c$

5. $d = 2r$

Page No. 63 and 64:

Exercise: 4.2

I. Look and say the answer.

1. $x + 1 = 10$
   $x = 9$
2. $y + 2 = 10$
   $y = 8$
3. $a + 3 = 10$
   $a = 7$
4. $b + 4 = 10$
   $b = 6$
5. $z + 5 = 10$
   $z = 5$
6. $x - 6 = 4$
   $x = 10$
7. $y - 7 = 3$
   $y = 10$
8. $z - 8 = 2$
   $z = 10$
9. $t - 9 = 1$
   $t = 10$
10. $a - 10 = 0$
    $a = 10$

11. Condition on a variable which is satisfied for a definite value of the variable is called an equation.

12. The value of the variable which satisfies the equation is called its solutions.

II. Complete the following table.

Expression	x=1	x=3	x=5	x=10	x=50	x=25
$x + 3$	4	6	8	13	53	28
$50 - x$	49	47	45	40	0	25

III. Complete the following table.

Expression	y=5	y=10	y=20	y=50	y=100	y=0
$10 + y$	15	20	30	60	110	10
$100 + y$	105	110	120	150	200	100
$100 - y$	95	90	80	50	0	100

IV. Complete the following table.

Expression	$x = 1$	2	3	–4	–5
$3x$	3	6	9	–12	–15
$2x + 2$	4	6	8	–6	–8

V. Choose the correct values of the unknowns of the following equations.

1. $y + 6 = 16$ (1, 6, <u>10</u>)
2. $x + 17 = 25$ (18, <u>8</u>, 7)
3. $y - 20 = 0$ (<u>20</u>, 0, 200)
4. $z - 12 = -12$ (<u>0</u>, 24, –24)
5. $10 + a = 100$ (10, <u>90</u>, 0)
6. $11 - b = 0$ (0, –11, <u>11</u>)

VI. Find the unknown values which satisfy the following equations.

1. $2(x + 2) = 12$

   $x + 2 = \frac{12}{2} = 6$

   $x = 6 - 2 = 4 \Rightarrow x = 4$

2. $3x - 1 = 8$

   $3x = 8 + 1 = 9$

   $x = \frac{9}{3} = 3 \Rightarrow x = 3$

3. $2x + 3 = 11$

   $2x = 11 - 3 = 8 \Rightarrow x = \frac{8}{2} = 4 \Rightarrow x = 4$

4. $4x - 4 = 0$

   $4x = 4$

   $x = \frac{4}{4} = 1 \Rightarrow x = 1$

5. $7(a - 2) = 0$

   $7a - 14 = 0$

   $7a = 14 \Rightarrow a = \frac{14}{7} = 2 \Rightarrow a = 2$

6. $3(8 - y) = 15$

   $24 - 3y = 15$

   $-3y = 15 - 24 = -9$

   $y = \frac{-9}{-3} = 3 \Rightarrow y = 3$

7. $23 - t = 19$

   $-t = 19 - 23 = -4 \Rightarrow t = 4$

8. $x - \frac{2}{8} + x + \frac{4}{4} = \frac{13}{2}$

   $x - \frac{1}{4} + x + \frac{1}{1} = \frac{13}{2}$

   $2x = \frac{23}{4}$

   $2 \times \frac{1}{2} \times x = \frac{23}{4} \times \frac{1}{2} = \frac{23}{8} \Rightarrow x = \frac{23}{8}$

VII. Write the equations and solve.

1. $t + 3 = 9$

   $t = 9 - 3 = 6$

   I woke up at 6 'o' clock

2. $5 + y = 8$

   $y = 8 - 5 = 3 \Rightarrow y = 3$

3. $25 + x = 40$

   $x = 40 - 25 = 15$

   15 are girls

4. $2 + n = 5$ km

   $n = 5 - 2 \Rightarrow n = 3$ km

5. $2x + 6 = 14$

   $2x = 14 - 6 = 8 \Rightarrow x = \frac{8}{2} = 4$

   My age is 4 years

6. Son's age be x

   $3x + 4 = 49$

   $3x = 49 - 4 = 45 \Rightarrow x = \frac{45}{3} = 45$

   Son's age = 5 years

Page No. 65:

H.O.T.S:

1. $5x + 20 = 300 - 80$

   $5x = 220 - 20 \Rightarrow 5x = 200 \Rightarrow x = \frac{200}{5} = 40$

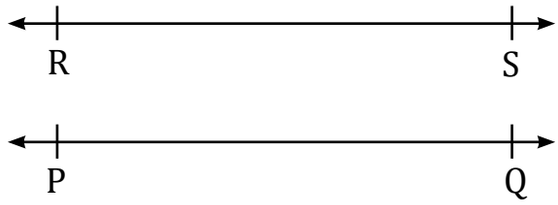
2. $2x + 11 = 59$

   $2x = 59 - 11 \Rightarrow 2x = 48 \Rightarrow x = \frac{48}{2} = 24$

Page No. 73:

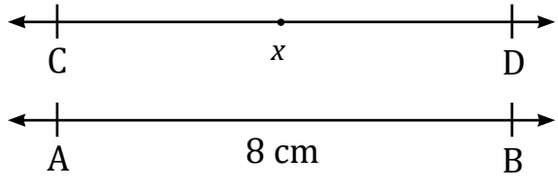
Exercise: 5.1

1.



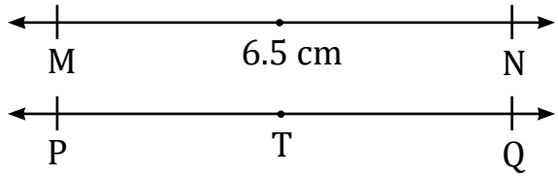
PQ || RS

2.



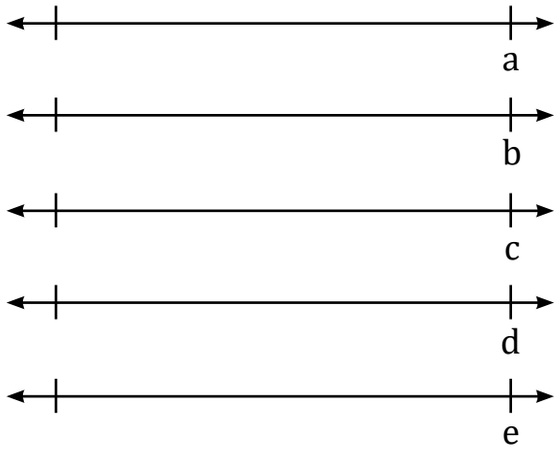
CD || AB
X is a point on CD

3.



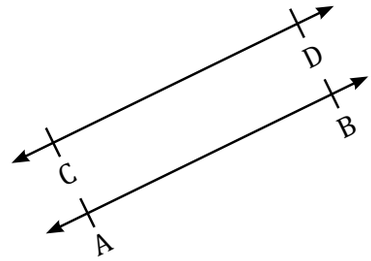
MN = 6.5 cm
PQ || MN
T lies on PQ

4.



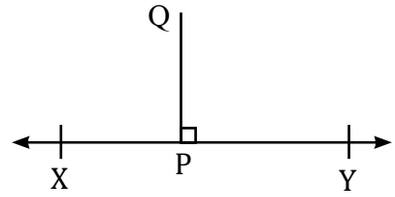
Line a || line b || line c || line d || line || e

5.



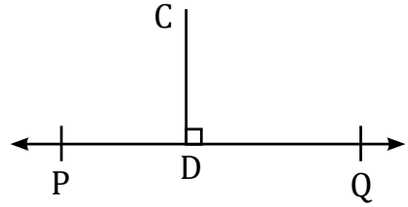
AB || CD

6.



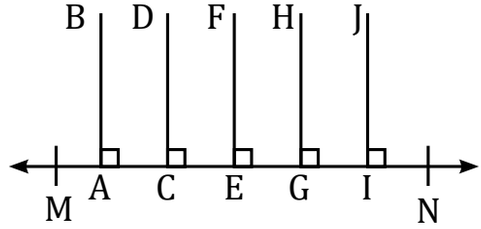
PQ ⊥ XY

7.



CD ⊥ PQ

8.



AB ⊥ MN

CD ⊥ MN

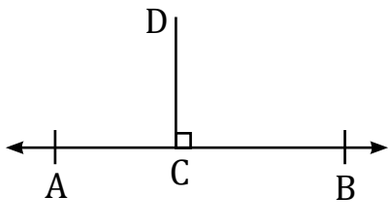
EF ⊥ MN

GH ⊥ MN

IJ ⊥ MN

9.

a.



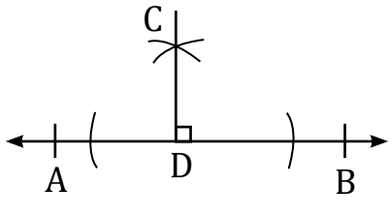
CD ⊥ AB

(Drawn using ruler and protractor)

AC = 4cm

AB = 9cm

b.



AB = 9 cm

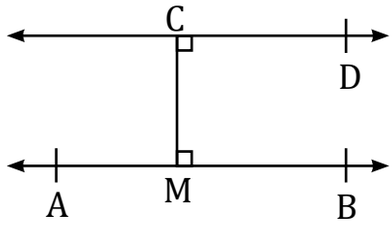
AC = 4 cm

CD ⊥ AB

(Drawn using ruler and compass)

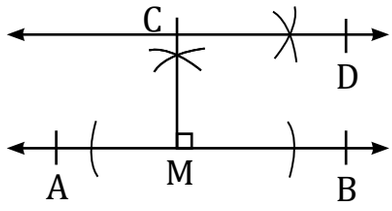
10.

a. **Using a ruler or protractor**



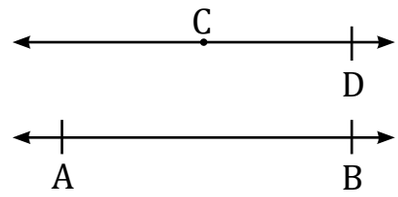
CM ⊥ AB CD ⊥ CM AB || CD

b. **Using a ruler and compass**



CM ⊥ AB CD ⊥ CM AB || CD

c. **Using set-squares**



CD || AB

Chapter - 6. INFORMATION PROCESSING

Page No. 77:

Exercise: 6.1

1.
- to add two numbers
- Input the values of A and B
- A + B

2.
1) Start
2) Accept Number 'a'
3) Accept Number 'b'
4) C = a – b
5) Display the result
6) Stop

3.
1) Start
2) Read two numbers a, b
3) Set n = b, d = a
4) r = a % b (remainder of $\frac{a}{b}$)
5) If r not equal to 0
   5.1) set n = d, d = r
   5.2) r = n % d (remainder of $\frac{a}{b}$)
6) Set GCD = d
7) LCM = $\frac{a \times b}{GCD}$
8) Display LCM
9) Stop

Page No. 78:

Exercise: 6.2

a. a = 254 b = 32

$254 = 32 \times 7 + 30$

$32 = 30 \times 1 + 2$

$30 = 2 \times 15 + 0$

GCD (254, 32) = 2

b. a = 7544 b = 115

$7544 = 115 \times 65 + 69$

$115 = 69 \times 1 + 46$

$69 = 46 \times 1 + 23$

$46 = 23 \times 2 + 0$

GCD (7544, 115) = 23

c. a = 687 b = 24

$687 = 24 \times 28 + 15$

$24 = 15 \times 1 + 9$

$15 = 9 \times 1 + 6$

$9 = 6 \times 1 + 3$

$6 = 3 \times 2 + 6$

GCD (687, 24) = 3

d. a = 47 b = 11

GCD (47, 11) = 1

Class: 6 KEY ANSWERS TERM : III

Chapter - 1. MAGNETISM

Page No. 8 and 9:

EVALUATION:

I. Choose the correct answer:

1. d 2. b 3. d 4. d

II. Match the following:

1. Magnetic material
2. Loss of magnetism
3. Natural magnet
4. Non-magnetic material
5. An alloy

III. Find whether the statement is True or False; correct the statement if it is False:

1. False. They can be of different shapes, like horse shoe magnet, ring magnet, etc.
2. True
3. False. Decreases
4. True
5. False. Aluminium is a non-magnetic material

IV. Supplement suitable words in the following blanks:

1. Self demagnetization
2. Leading stone or lode stone
3. Keepers
4. Horse shoe magnet

V. Circle the odd one and give reason:

1. Rubber band - Non Magnetic material
2. Passing electric current - Magnet is temporary magnet
3. Heat - Not a property of a magnet

VI. Answer the following questions:

1. A magnet is material that produces a magnetic field around it where its attraction is felt by magnetic materials.
2. The region in the magnet where the magnetic field strength is maximum the pole of the magnet. The two poles are north pole and south pole.
3.

Magnetic substance	Non-Magnetic substance
Substances that are attracted by a magnet.	Substances that are not attracted by a magnet.
Eg. Iron, nickel and steel	Eg. Wood, paper, plastic etc.
They can be magnetized.	They can not be magnetized.

4. It is magnetite, an oxide of iron.
5. Magnetic materials - a piece of iron, coin made of steel, sewing needle, pant hook made of steel, soft iron. Others are non magnetic.
6. Mariner's compass is used by sailors to find the direction.
7. *Refer Text Book Page No. 4; Sec. 1.6*

8.

	Ordinary trains	Electromagnetic trains
1.	Run on ordinary metallic track	Run on electromagnetic track
2.	Speed is low	Speed is very high, above 400 km/hrs
3.	Produce greater noise	Noise is very low

9. These stickers contain permanent magnets inside. As wood is a non-magnetic material the sticker doesn't stick. But as the refrigerator door is made of magnetic material, it sticks.

VI. H.O.T.S:

1. Suspend the given magnet freely. Bring another permanent magnet close to the suspended magnet such that north pole is closer. If the end of suspended magnet moves away, then it is north pole and other is south pole.
2. The magnet got demagnetised.

Chapter - 2. WATER

Page No. 21 and 22:

EVALUATION:

I. Choose the most suitable answer:

1. 71
2. 50
3. Glaciers
4. Desalination
5. aquifer
6. Condensation and Evaporation

II. State if the following statements are true or false. Correct the false ones.

1. True
2. False - Lakes from major portion
3. False - Decrease the water level
4. True
5. True
6. False - Can be done-Everywhere

III. Match the following:

1. lakes and rivers
2. aquifer
3. can be harvested
4. salty
5. melt to supply water to rivers

IV. Answer in 1 or 2 sentences:

1. The amount of salt present in water is salinity.
2. Glaciers & icecaps; Rivers; Ground water
3. Rainwater penetrates through the soil and gets collected over the rocky bed to form a reservoir which is called the aquifer.
4.
   - Industrialization, building huge commercial and residential buildings consumes a lot of water.
   - Using deep bore wells for agriculture due to poor rains drains the water table.
   - Pollution of water bodies by industrial and domestic waste has reduced our sources.
5. The process by which vapor turns to liquid upon cooling is condensation.

6. Deforestation results in decrease of rainfall and fewer trees in the catchment area causing floods.
7. It is the conversion of saline sea water into pure water suitable for drinking. Desalination plant at Minjur, near Chennai in Tamilnadu is applying this process.
8. Industries and factories must have sewage treatment facilities to avoid pollution as well as recycle the water for other purposes.

V. Answer in detail:

1. *Refer textbook Page No. 15 - 17, Section 2.4.1 with diagram.*
2. *Refer textbook - P. No. 13-15, Section 2.2.*
3. • Rainwater must be effectively harvested using the right techniques. Collecting the rainwater falling on rooftops in a trench below the ground or in small tanks in houses is called rainwater harvesting.
   • Collection of water in trenches seeps into the ground replenishing the water table; collection of water in small tanks can be used directly for washing or gardening.
   • Rainwater harvesting also arrests salt water intrusion reduces flooding and improves top soil and plant growth.
4. *Refer textbook Page No. 18-19, Section 2.6.1 - any four points.*
5. *Refer textbook - Page No. 17, Section 2.5.*

VI. Higher Order Thinking Skills:

1. Polluted air has smoke, poisonous gas, unwanted dust etc., These mix with water in lake, rivers and contaminate them.
2. At my school rain water from the terrace is collected in an underground covered pit from where it goes through several layers of sand and gets collected in the well.

Chapter-3. CHEMISTRY IN EVERYDAY LIFE

Page No. 36 and 37:

EVALUATION:

I. Match the following:

1. natural plant fibers
2. thermoplastics
3. thermosetting plastics
4. natural animal fibers
5. soda lime glass
6. reinforced cement concrete
7. synthetic fibers

II. Who am I? What am I used for?

1. Cement
2. Concrete
3. Glass
4. Soap
5. Mirror
6. Thermoplastic

III. Give two examples for each of the following:

1. Cotton, jute
2. Nylon, Rayon
3. PVC, Polythene
4. Bakelite, Melamine

IV. Mention two uses for each of the following:

1. Floor tiles, Pipes, Toys
2. Bags, Buckets, Toys
3. Soda bottles, Window glass
4. Beakers, Heating vessels
5. Socks, Bristles, Parachutes
6. Sweaters, Socks, Carpets

7. Fabrics, Seat belts
8. Switches, Combs, Handles

V. Answer in 1 or 2 sentences:

1. Fiber is converted into long threads called yarn by spinning. Yarn is made into fabric by weaving, knitting, knotting or felting.

2. If different fibres are blended together, the fibre will have the combined property of component fibres. It helps in improving the appearance, comfort, performance and durability of fabric.

   Examples:

   Polyester/cotton blend: Clothes are easy to take care of and are crease -resistant.

   Cotton/lycra blend: Jeans are more comfortable, stretchy and fit better than cotton jeans

3. Plastics are a wide variety of synthetic solids, with a general property of being molded or shaped into many things. The raw materials needed to make most plastics are petrochemicals, which come from petroleum and natural gas
4. Mugs, Buckets, Curtains, Containers, Pipes, Taps
5. Thermoplastic can be melted and remoulded.

   Thermosetting plastics cannot be remoulded
6. When thrown into soil, they prevent seepage of rain water. When burnt, they produce toxic gases which pollute air.
7. They are separated into recyclable and non recyclable plastics. Recyclable plastics are sent to recycling centres. Non recyclable plastics are crushed into small pieces, used for land filling and road laying.
8. Sand, Sodium carbonate and Lime stone
9. By coating one side of plain glass sheet with silver or mercury.
10. Cement is a mixture of chemical substances such as clay, limestone and gypsum mixed in a particular proportion. Cement when mixed with water followed by drying, sets into a very hard mass.
11. It is a mixture of cement, gravel, water and sand in right proportions along with a frame work of steel rods. It is used for making pillars, beams, roofs etc.,

12. Soap when mixed with water forms lather. Lather has the ability to dissolve the dirt particles and kill germs in your hand and they are removed when you rinse your hand in water.

VI. Answer in detail:

1. Plastics prevent rain water from seeping into the soil.

   - They accumulate in water bodies, killing the animals living there.
   - They are harmful to animals who can choke on plastic when consumed.
   - Marine animals get entangled in plastic nets and die.
   - They block drains and cause flooding during rains.
   - They give out poisonous gases when they are burnt.

2. **Natural fibres:**

   Natural fibres are obtained from plants and animals. They usually have short fibres, with the exception of silk, whose continuous filaments are up to one kilometre in length.

Sources of natural fibres:

Natural fibres from animals

- Wool is used for warm clothing.
- Cashmere, the hair of the Indian cashmere goat, is famous for its softness.

Natural fibres from plants:

- Grass, hemp, coir (coconut fibre) are used in making rope.
- Straw (a dried form of grass) and bamboo are used to make hats.
- Fibres from pulpwood tress, cotton, rice, hemp etc. are used in making paper.
- Cotton, flax, jute, hemp and bamboo fibre are used in clothing.

Synthetic fibres:

Synthetic textiles are man-made, usually from chemical sources.

Sources of synthetic fibres:

- Polyester fibre is used in clothing like rain coats, medical textiles, etc. It is blended with fibres such as cotton for other types of clothing.
- Acrylic is a fibre used to imitate wools.
- Nylon is a fibre used to imitate silk. Thicker nylon fibres are used in rope and outdoor clothing.
- Spandex (also known as Lycra) is used to make tight-fitting clothing like swimsuits, as it doesn't restrict movement.

Fibre blends:

If different fibres are blended together, the fibre will have the combined property of component fibres. It helps in improving the appearance, comfort, performance and durability of fabric. Let us look at some examples.

- Polyester/cotton blend: Clothes are easy to take care of and are crease-resistant.
- Cotton/lycra blend: Jeans are more comfortable, stretchy and fit better than cotton jeans.
- Acrylic/wool blend: less expensive

3. Soaps are cleaning products which effectively remove dirt, soil, germs and other contaminants. They help us stay healthy.

   Take 35 ml of water in a beaker and add 10g of sodium hydroxide to it. Dissolve by stirring with a glass rod.

   After it dissolves completely, add 50 g of coconut oil very slowly and stir the mixture with the glass rod continuously. Heat the mixture using a low flame on a sand bath, with constant stirring, until it becomes thick like a paste. Fill it up in a match box and let it cool and set. Thus soap is made.

4.

Natural fiber	Synthetic fiber
1. It is obtained from plants and animals.	1. It is man made using chemicals
2. It has natural colour and can be dyed as desired.	2. It is coloured using chemicals.
3. Comfortable to wear and is environment friendly.	3. Uncomfortable to wear and harmful to environment
4. When burnt it turns to ash and does not harm the environment.	4. When burnt gives out toxic substances that pollute environment.

VII. Higher Order Thinking Skills:

1. **Soaps**: Made from vegetable oils or animal fats. They are biodegradable. Soaps cannot be used with hard water as they do not wash away easily and tend to stick on clothes.

Detergents: Made from petrochemicals. Some detergents are non-biodegradable. They can be used with any kind of water.

2. We can avoid using plastics and replace them with degradable material like jute, paper, cloth, recyclable plastics and wood. We should start with our home and control our contribution towards environmental pollution.

- Thermoplastics can be recycled and reused.
- Thermosetting plastics can be broken into coarse powder and used as landfills, fuel in industries and in laying new roads.
- We can also find methods to make degradable plastics.

3. Coloured glass is made by adding specific chemicals to molten glass. For example, copper oxide gives peacock blue colour and manganese oxide gives purple colour.

Chapter - 4. ENVIRONMENTAL SCIENCE - RESOURCE USE AND MANAGEMENT

Page No. 50:

EVALUATION:

I. Fill in the blanks:

1. biotic, abiotic
2. biomes
3. food web
4. first
5. recycled
6. earthworms
7. human beings
8. Oil spills

II. Match the following:

1. green plants
2. herbivores
3. carnivores and omnivores
4. top predators
5. bacteria
6. soil and water

III. Pick out the biodegradable waste from the following items found in a garbage bin:

straw, egg shells, groundnut shells, old clothes (cotton), rotten fruits, cardboard cartons, old books, fruit peels, tea leaves

IV. Answer the following questions in one or two lines:

1. Plants are called primary producers because they produce food for themselves by utilizing abiotic components through the process of photosynthesis. Primary consumers, such as herbivores, then eat the plants that contain energy.

2. A food chain is the linear sequence through which matter and energy pass on from one living organism to another. Arrows indicate the direction in which energy is transferred & increasing order of tropic levels.

3. Merit: The ash obtained can be used as manure. Demerit: Toxic gases released cause air pollution and respiratory diseases.

4. Industrial waste let out into water bodies will contaminate water. Oil spills contaminate water and endanger marine life.

V. Answer the following questions:

1. The poisonous gases let out by industries, vehicles using petroleum-based fuels (man-made cause of air pollution), forest fires and volcanic eruptions are natural causes of pollution. If the air we breathe is contaminated, it results in various health problems like allergies, cough and lung diseases.

2. A land fill is the most common method of waste disposal in which waste is filled into low-lying areas or unused pits.

Clay generates foul smell and affects our health. Some toxic substances like battery acid may leak into the ground and contaminate soil and water.

3. When small ecosystems are put together they form vast geographical areas which are characterized by their own climate, rainfall, soil, water sources, flora and fauna. Such vast geographical areas are called biomes.
4. We need to reduce the amount of waste generated in homes and schools. In this way fewer amounts go to the landfill. Avoid using disposable plates, cups etc. Carry your shopping bag with you instead of taking a plastic bag from the store. By printing on both sides of paper you also reduce paper wastage.

Chapter - 5. ECONOMIC BIOLOGY

Page No. 63 and 64:

EVALUATION:

I. Fill in the blanks:

1. Botany
2. herbs
3. Cotton, jute, (or any two)
4. Cardamom, clove (or any two)
5. Timber

II. Choose the correct answer from the given options:

1. Neem
2. Clove
3. Potato
4. Jasmine
5. Wheat

III. Match the following:

1. spice
2. timber
3. food
4. medicine
5. fibre

IV. Say true or false. If false correct the statement:

1. False - Commercial purpose for making furnitures
2. True
3. True
4. False - Ecology

V. Analogy:

1. Root 2. Malaria 3. Fiber

VI. Answer the following questions in one or two lines:

1. Potato, carrot, wheat, rice, apple are some of the food yielding plants.

//Note to the teachers: this answer may be varied- the teacher will have to decide//

2. Cotton, jute, flax, hemp, coconut are fibre yielding plants.
3. Clove, cinnamon, cardamom, pepper, cumin are some of the examples of spices.

//Note to the teachers: this answer may be varied- the teacher will have to decide//

4.
   - Animals help plants to disperse their seeds.
   - Insects like bees and butterflies help to pollinate flowers.
   - Small animals and earth worms aerate the soil, providing the roots of plants with oxygen.
   - When animals respire they release carbon dioxide into the air which is used by plants to prepare their food.
   - When animals die their bodies decompose and become natural fertilizer that enriches the soil for plants and trees to grow in.

//Note to the teachers: students can mention any 1 from the above//

VII. Answer in detail:

1. Plants are useful to us in numerous ways. Some of the uses of plants are:
   - Plants give out oxygen which we breathe
   - Plants provide us food to eat and be healthy eg. rice, wheat, potato, banana
   - They provide us medicines to treat illness eg. basil, eucalyptus
   - They give us fibre for making clothes eg. cotton, jute
   - They yield timber which is used to make furniture and houses. Eg. teak, ebony
   - They are also used for making perfumes and cosmetics
   - They protect our environment by preventing soil erosion and maintaining water cycle.

2. Plants form an important part of earth's ecosystem, called producers, and thereby help in maintaining ecological balance. Trees prevent soil erosion. Plants help in maintaining the water cycle.

3. Plants are grown for their beauty. An area of land in which both flowering and non-flowering plants are grown in an organised manner, is called a garden. The art of beautifying land with plants and trees is called landscaping. Plants that are used for gardening purposes are called ornamental plants. Examples of ornamental -flowering plants are rose, lily, jasmine, chrysanthemum, tulips, shoe-flower, and non-flowering plants such as asparagus, and money plant. Even water lily and lotus are used as ornamental plants, in small man-made ponds.

4. Plants are an important source of food for humans, animals and other living organisms. They release oxygen into the air which is important for animals to respire. Plants provide many animals with shade, shelter and homes. In forests, trees, plants and grass help protect the animals from their predators.

Class: 6 KEY ANSWERS TERM : III

HISTORY

Chapter - 1.

SOCIETY AND CULTURE IN THE ANCIENT TAMIL KINGDOMS

Page No. 80:

I. Fill in the blanks:

1. South of India
2. Pandyas
3. Chera
4. Muziri

II. Match the following:

1. Chola - Brihadeswara Temple
2. Chera - Vanchi
3. Pandya - Fish

III. Write a short notes on:

1. During the Sangam age, the region known as Tamilakam (the Tamil country) extended from Tirupati in the north to Kanyakumari in the south
2. The word 'sangam' means 'association' and refers to the assembly of poets who were patronised by successive generations of Pandya kings. Sangam literature provides evidence about the Chola, Chera and Pandya kingdoms in the south, and hence this period is called the Sangam Age.

IV. Answer the following:

1. The Cheras, Cholas and the Pandyas, collectively known as the Muvendars (the three crowned kings in Tamil). Together they ruled over this land with a unique culture and language, contributing to the growth of some of the oldest extant literature in the world.

2. The major specialities of :

Chera: The Cheras were known for its trade with West Asia, Greece and Rome.

Chola: The Cholas were the longest ruling dynasty in the Southern India. They were great patrons of the arts, literature and poetry. During their period, Grand anaicut or Kallanai and Brihadeeswara temples were built.

Pandya: They were the earliest of the Muvendars. The legendary Sangams were held under their patronage.

3. They had two Centres of power: one inland city (the Capital city) - to promote art and literature. One coastal city (port city)- to promote trade.

4. The Kalabharas, possibly Jain in origin. They invade Tamilakam during the period of Muvendars.

V. Answer the following in detail:

1. **Impact of contact with foreign land**:
   - Trade was flourished.
   - Goods were exchanged
   - The major ports were established.
   - Important harbour towns such as Puhar had light houses, warehouses for goods and custom houses were developed.

- Exports were increased.
- A wide variety of goods were bought and sold.
- Many of these goods were brought in India for trade and export.
- Archaeological findings have confirmed trading relations between the Tamil country and places such as
- Rome, Greece, Egypt, China, Sri Lanka and parts of Southeast Asia.

2. Women were treated on an equal status withmen. Sons and daughters had an equal sharein property. Education was not prohibitedto women, and there were many wise andlearned women, as is shown by the poeticalworks of over forty women poets. While karpu (chastity) was considered a womanly ideal, the decision to marry was a personal choice

3. Inscriptions in the archaeological site help us to understand the Sangam age.

Examples:

Ashoka (273 – 232 BCE)of the Mauryan dynasty made reference to the three kingdoms in his 2nd and 13th rock edict.

a. The Hathigumpha inscription of the Kalinga king Kharavela around 150 BCE refers to a Pandyan king, and also talksabout the Tamil kingdoms that werepresent 113 years before him.

b. The Mangulam cave inscriptions, near Madurai.

c. References to the Chera dynasty are found on rocks in Edakal Hill in Wyanad in present-day Kerala.

d. Another set of inscriptions from the 2nd century CE, found at Pugalur village near Karur, document the constructionof a rock shelter by a Chera king of the Irumporai line for a Jain monk.

Inscriptions on pottery, burial urns (jars),beds carved into the rock in caves, seals andrings written in the Tamil-Brahmi script (a variation of Ashokan Brahmi) have been found from various archaeological sites inTamil Nadu, as well as in places as distant aspresent-day Andhra, Sri Lanka, Thailand andthe Egyptian Red Sea coast.

The Tamilakam sites include Jambai, Mangulam, Kodumanal, Puhar, Samanarmalai, Uraiyur and, most recently and significantly, Keezhadi, which we read about earlier.

Chapter - 2.

POST-MAURYAN INDIA

Page No. 88:

I. Fill in the blanks:

1. Pataliputra
2. Telangana, Maharashtra and Andhra Pradesh
3. Northwest China
4. Statues of Buddha
5. King Vasudeva

II. Answer the following questions:

1. Assassination is the killing of a prominent person, either for political or religious reasons for payment.

   Example in Modern History: The assassination of Rajiv Gandhi, former Prime Minister of India, occurred as a result of a suicide bombing in Sriperumbudur.

2. The major Contributions of the Kushan Empire are: They spread Buddhism across his empire. They also constructed many monuments of Buddhism. The Gandhara school of arts was flourished during this time.

3. The disciples of Buddha are Buddhists. Some kings considered Buddhism as an Un-islamic religion and some believed them to be a danger to the Vedic way of Life. Hence they started persecuting Buddhism.

4. Many tribes from central Asia invaded north and north-western India. Many of them were able to establish their own territories. When Alexander, the king of Macedonia, attacked and conquered parts of north-western India, he left behind the administration of these areas to provincial governors. Later, these provinces, especially Bactria and Parthia in particular, started attacking more kingdoms to expand their territory during the post-Mauryan period, and this led to the formation of many Indo-Greek colonies. Thus Indo-Greek became part of India.

5. The Chinese began trading in silk and the route that was used to transport silk from China through Central Asia, Afghanistan and west Asia is known as the Silk Route. This route created a platform in helping the exchange of Chinese and western countries.

6. A stupa is a mound-like or hemispherical structure containing relics that is used as a place of meditation. The stupas preserve Buddha's remains, relics of the Buddha as well as valuable Buddhist antiques.

III. State if the following statements are true or false:

1. False
2. False
3. False
4. True
5. True
6. False
7. False

Chapter - 3. GUPTA EMPIRE

Page No. 97:

I. Fill in the blanks:

1. Kumara Gupta I
2. Veena
3. Ratnavali, Priyadarshika and Nagananda
4. Playwright
5. Banabhatta

II. Answer the following questions:

1. They kept northern India politically united for more than 200 art, literature and sciences flourishing under the patronage of the Gupta kings. Hence the Gupta period is often referred to as the Golden Age of India.

2. Navratna sere group of nine accomplished poets and artists in the court of Chandragupta II. Navaratna (the nine gems) were in his court at Ujjain. They were Kalidasa, Ghatakarpara, Kshapanaka, Vararuchi, Varahamihira, Vetalbhata, Dhanvantari, Amarasimha and Sanku.

3. **Contributions of the Gupta Empire**:

ART AND ARCHITECTURE:

Art, music and poetry flourished during the rule of Samudragupta. He was a great patron of art and an accomplished poet and musician as well. Gold coins issued during his rule depict him playing the veena.

Kalidasa, the great playwright who wrote plays such as Shakuntala.

Chandragupta II was the patron of a group of nine accomplished poets and artists known as the Navaratna (the nine gems) in his court at Ujjain.

EDUCATION:

The Gupta period was also one of great learning and advancement in science and medicine. Famous scholars in this period include Varahamihira and Aryabhata, the famous mathematician-astronomer who is believed to be the first to come up with the concept of zero.

Aryabhata is also believed to have suggested the theory that the Earth moves round the Sun, and studied solar and lunar eclipses.

The concept of surgeries first became popular during the Gupta period. Doctors developed surgical instruments for the first time in human history while the Sushruta Samhita, the first written work on Ayurveda and concepts of surgery, dates to the Gupta Period.

4. **Decline of the Gupta Empire:**

   The successors of Chandragupta II were weak and could not face invasions from Central Asia and neither could they quell internal rebellions.

   There are many reasons for the fall of the Gupta Empire.

   Constant fighting arose within the imperial family, weak administrative structure of the empire, decline of trade with other countries, growing practice of donating land for religious purposes etc. contributed towards the disintegration of the Gupta Empire by the end of 5th century CE. The decline of the Gupta Empire also saw the rise of another power in the subcontinent.

5. A formal agreement establishing based on marriage is known as matrimonial alliance. Chandragupta II extended the limits of the empire by marriage alliances and conquests. He married princess Kuberanaga of the Naga family. The Nagas were a powerful ruling clan and this matrimonial alliance helped the Gupta ruler in expanding his empire.

6. **Fall of Harsha's Empire**:

   Harsha died in 647 AD, and the empire died with him. It is believed that he was married to Durgavati and had two sons named Vagyavardhana and Kalyanvardhana who were supposedly killed by a minister in his court, even before the death of Harsha himself. Therefore, Harsha died without any heir. As a result, Arjuna, one of the chief ministers, took up the thrones. Later in 648 CE, Arjuna was captured and held prisoner in an attack by the Tibetians. This is the last documented ruler of the Vardhana Empire.

III. State if the following statements are true or false:

1. True
2. False
3. False
4. False
5. False
6. False
7. False

Chapter - 4.

PALLAVAS CHALUKYAS RASHTRAKUTA DYNASTY

Page No. 112:

I. Fill in the blanks:

1. Simhavishnu
2. Hieun Tsang
3. Aparatjita I
4. Ghatika
5. Dantidurga

II. Match the following:

1. Founder of Pallava kingdom
2. Rajamalla
3. Vaikunta Perumal temple

4. Konkan Coast
5. Ruled for 13 years

III. Answer the following:

1. NarasimhaVarman I was known as Vatapikonda. Because he avenged the Chalukyas for the defeat of his father, and killed Pulakesin II in the year 642 CE and captured the capital Vatapi.

2. Decline of Chalukyas:
   Kirtivarman II was the last king of the Chalukyas of Badami and was defeated by the Rashtrakutas in 753 AD.

   Vijayaditya VII was the last king to rule the Eastern Chalukyas and lost his kingdom to a Chedi king in 1073 AD.

   Somesvara IV was the last king to rule the Western Chalukyas and he was attacked by the Hoysalas and Yadavas, and with this defeat the Chalukyas dynasty came to an end in about 1189 AD.

3. The three phases of Chalukyan temples are:

   Cave temples - Eg: Durga temple, Naganatha temple, Jambulingeswara temple

   Structural temples - UNESCO world heritage site at Pattadakkal

4. Simhavishnu, Mahendravarman I, Narasimhavarman I, Mahendravarman II, Parameswaravarman I, Narasimhavarman II are the kings of Middle pallavan dynasty

5. Dantidurga established the Rastrakuta Dynasty by overthrowing Kirtivarman II. He had his capital in Gulabarg.

IV. Answer in detail:

1. <u>Pallavan Architecture</u>:

   The Pallava architecture is symbolic of the typical Dravidian art form. It mainly features the following sub-divisions

   A. The 'Mahendra' group of monuments consisted of
      a. Cave temples made entirely out of rocks.
      b. Pillared halls cut out from mountains. These monuments were based on the Jain temples built during that period. Some of the famous examples are the cave temples at Mandagapattu, Pallavaram, Thalavanur and Tiruchirapalli.

   B. The 'Mamalla' group of monuments consisted of individual and monolithic (made out of single stone) shrines that were called 'Rathas'.

      These Rathas were built along huge pillared halls. These monuments also housed open-air galleries with miniature sculptures. Examples of these types of monuments are Panchapandavar Rathas, Arjuna's Penace, Mahishasuramardini mandapam, Thirumoorthimandapam and Varahamandapam.

   C. The 'Rajasimha' group of monuments consisted of individual shrines constructed using stone blocks. Some examples are the Shore temple at Mahabalipuram and the Kanchipuram Kailasanathar temple.

   D. The 'Nandivarman' group of monuments also consisted of structural temples that proved to be great models for some of the

other monuments built later on by the Cholas. The Vaikunta Perumal temple at Kanchipuram is an example of this type of monument.

2. Language and literature:

The Rashtrakuta used both Kannada and Sanskrit in their empires. Kannadawas increasingly the court language but Sanskrit was also taught extensively. All the recordings and inscriptions were in Kannada. Kavirajamarga by Amoghavarsha I is a guide to poets attempting to standardise the different style of Kannada language.

Adikavi Pampa was another celebrated poet who was famous for his works on Adipurana (life of the first Jain thirtankara Rishabhadeva) and Vikramarjuna Vijaya (a different rendition of Mahabharatha). Not only literary works but even science and maths flourished in the Rashtrakuta period. Ganitasarasangraha, a treatise of mathematics, was postulated by Mahaviracharya who was patronized by Amoghavarsha I.

3. I consider Mahendravarman-I (son of Simhavishnu) as a great king.

Mahendravarman-I ruled the Pallava kingdom between 600 CE and 630 CE. He was a follower of Jain principles but was converted to Saivism by the saint Appar (thirunavakarasar). He extended his kingdom all the way to the Kaveri delta.

He was a great patron of arts and it was in his period that Thirunavakarasar composed many songs that form a collection of Tevaram. He himself wrote plays in his style referred to as the 'Mahendra Style'. Mattavilasa Prahasana is one of his famous plays.

Mahendravarman-I was also a visionary builder. He initiated the construction of the cave temple in Mahabalipuram. He was a pioneer of rock cut temples, and an inscription Mandagapattu rock-cut temple hails him as Vichitrachitta.

GEOGRAPHY

Chapter - 1.

EXPLORING CONTINENTS

Page No. 142 to 145:

I. Choose the correct answer:

1. Belgium
2. Russia
3. Caspian Sea
4. Alps
5. Hwang Ho

II. Answer in a word:

1. Sobriquets
2. A Strait
3. An Isthmus
4. Peninsula
5. Indented Coastline
6. Autumn
7. An Archipelago
8. Continental climate
9. Maritime Climate
10. Bio-diversity

III. Give the sobriquets for the following:

1. The playground of Europe
2. Peninsula of Peninsulas
3. Emerald Island

4. Land of the Midnight Sun
5. Land of the Rising Sun
6. Pearl of the Indian Ocean
7. Land of the Golden Pagoda
8. Forbidden City
9. Lighthouse of Mediterranean
10. Land of Thousand Lakes
11. Netherlands
12. Netherlands
13. Finland

IV. Study the following map and answer the questions:

A. a. Choose the statement most appropriate:

ii. Only Europe lies entirely in the northern hemisphere.

b.

i. The Arctic circle runs through both continents.

B. Choose the statement that it false:

iii. Asia and Europe have the International Date line running through them

C. Fill in the blanks:

i. Singapore

ii. Moscow

iii. Madrid

iv. Madrid

V. Find the names of six climatic and vegetation types mentioned in the chapter from the grid given below:

f	h	s	i	a	b	q	r	l	m	n	t	p
q	r	t	m	u	u	w	k	j	a	e	c	b
a	h	e	s	o	o	t	i	v	r	x	n	a
b	p	p	e	r	m	a	f	r	o	s	t	w
r	r	p	y	k	e	i	a	d	f	g	u	p
s	o	e	v	e	r	g	r	e	e	n	n	s
z	f	g	m	y	t	a	u	j	t	t	d	e
r	a	d	e	c	i	d	u	o	u	s	r	o
m	e	d	i	t	e	r	r	a	n	e	a	n

VI. Answer the following briefly:

1. The broken coast of Europe gives it a lot of peninsulas. While Europe itself is a peninsula, it has many smaller peninsulas in it. For example the Scandinavian Peninsula, Iberian Peninsula and the Balkan Peninsula. It is therefore rightly called 'a peninsula of peninsulas.'

2. Asia is bounded by the following oceans:

   Caspian Sea and the Black Sea in the west, the Arctic Ocean in the north, the Indian Ocean in the south and the Pacific Ocean in the east.

   Europe is bound by the Arctic Ocean in the north, the Atlantic Ocean in the west and the Mediterranean Sea in the south.

3. The Himalayas, Tien Shan, Karakoram, Hindu Kush and Zagros are the mountains of Asia. The mountain ranges of Europe are the Carpathians, the Caucasus, the Scandinavian mountains, Alps, Apennines.

4. River Volga – Longest river of Asia
   Hwang ho – Longest river of Europe

5. Europe is far from the tropics, it is entirely in the zone of the cool climate.

We call this the 'temperate zone'. The climate of the Europe is cool in most of its areas and through most of the year. Hence we say that Europe lies entirely in the temperate zone.

6. The influence of the Sea is felt in most parts of Europe particularly in the west and north. Warm winds blow from the Mediterranean and Africa. Wet winds blow from the Atlantic and the north sea while cold winds blow from the Arctic. These winds meet in parts of Europe making the weather very uncertain.

7. The variety of plants and animals wildlife of Asia. There is great variety in Asia as the continent is very large. Animals, plants, birds, insects and other living creatures of every kind about in Asia like in no other.

8. Tropical climates: Ex: South Asian countries of india, Srilanka , Malaysia and Indonesia.

   Subtropical climates: Ex: Southern China, Iran, Iraq, Southern Japan.

   Temperate climates: Ex: Northern China, Northern Japan, Mongolia, Southern Russia, Kyrgyzstan and Armenia.

   Polar climates: Ex: Northern Russia.

   Highland climates: Ex: Tibet, Mongolia, Himalayas, Karakoram, Tien Shan, Zagros, Iran are some highland areas.

VII. Answer in detail:

1. Agriculture is the main occupation in Asia.

Reason:

All the long rivers of Asia have water throughout the year and other rivers are fed by the monsoons. Rice is the staple food crop in Asia.

Examples:

China	Leading producers of rice
Thailand	Rice bowl of South East Asia
India, Srilanka	Tea and Coffee
Plantains, pineapples and dates	Tropical region

2. Germany, Britain, France, Belgium, Sweden, Switzerland, United Kingdom and Italy.

Germany, Britain, France, Belgium, Sweden	Steel
Germany	Automobiles and electronic goods
United Kingdom	Cotton textiles
France and Italy	Food
Switzerland	Dairy products

CIVICS

Chapter - 1.

DEMOCRACY AND WOMEN EMPOWERMENT

Page No. 165:

I. Choose the correct answer:

1. b. Democracy
2. a. 6
3. d. 17
4. c. 27%
5. b. Polygamy

II. Say True or False:

1. True
2. False
3. True
4. True
5. True

III. Answer the following in one or two lines:

1. Democracy has been defined as "A Government of the people, for the people and by the people."

2. Untouchability is the practice of socially rejecting a minority group by segregating them from the mainstream by social custom or legal mandate. The 1950 national constitution of India legally abolished the practice of untouchability and provided measures for positive discrimination.

3. Page No. 160 – Section: 1.3 //Note to the teachers: students can refer to the text and mention any two features//

4. The 6 Fundamental Rights are:
   - Right to equality
   - Right to freedom
   - Right against exploitation
   - Right to freedom of religion
   - Cultural and educational rights
   - Right to constitutional remedies

IV. Answer the following questions:

1. The two main forms of Democracy are Direct Democracy and Representative Democracy.

   Direct Democracy:

   In a Direct Democracy, the people vote on all important decisions and have the power to make laws. Any changes must be approved by the people. This type of Democracy is possible in countries with a small population of people. Athens, in Greece, was one of the first direct democracies in the world. One country that has a successful history of Direct Democracy is Switzerland.

   Representative Democracy:

   In a Representative Democracy, the people of the country elect representatives to run the Government, on a daily basis. These representatives, make all the laws and take all the decisions on behalf of the people. Elections are held to select these representatives, and those who gain the maximum votes are given the posts. India, USA and the United Kingdom.

2. Socially and educationally backward classes are categorized as 'OBC'. Article 340 directs the Government to promote the welfare of the OBCs and Article 340(1) empowers the President to appoint a commission to review the condition of the OBCs.

   27% of Government jobs are reserved for OBCs.

   Other schemes, launched for their upliftment, are free coaching centres to prepare OBC candidates for various competitive exams, interest - free loans, scholarships, etc for higher education.

3. Dr. Muthulakshmi Reddy (30 July 1886 – 22 July 1968, Madras) was an eminent medical practitioner, social reformer and Padma Bhushan awardee in India.

   Muthulakshmi Reddy was appointed to the Madras Legislative Council, in 1927. For her, this nomination marked the beginning of her lifelong effort, to 'correct the balance' for women, by removing social abuses and working for equality in moral standards.

   She was one of the female pioneers who stood for the cause of liberating India from the British. She was a women activist and a social reformer too.

She was the first female student to be admitted into a Men's College, the first female House Surgeon in the Government Maternity and Ophthalmic Hospital, the first female legislator in British India, the first Chairperson of the State Social Welfare Advisory Board, and the first female Deputy President of the Legislative Council and the first Alderwoman of the Madras

4. A SHG is a small, economically homogeneous affinity group, of the rural poor, voluntarily coming together to save small amounts regularly.

   SHG is a medium for the development of saving habits among women. It enhances the equality of the status of women as participants, decision-makers and beneficiaries in the democratic, economic, social and cultural spheres of life.

Chapter - 2.

THE LOCAL GOVERNMENT

Page No. 174:

I. Choose the correct answer:

1. a. Zila Parishad
2. d. Women
3. c. Wards
4. c. 6

II. Match the columns:

1. Elects Gram Panchayat members
2. Commissioner
3. Speedy justice
4. Chairperson

III. Answer the following in one or two lines:

1. At the block level, there is a team of experts, to help the entire block in each and every field, such as agriculture, medicine, veterinary medicine, industries, education, etc.,

2. The Gram Panchayat gets income from:
   - Taxes on property and cattle
   - Grants from State Government

3. The population in urban areas has increased rapidly. To meet the demands of the urban population and to provide them with proper civic amenities, we need Local Government in urban areas

4. An aldermen is a member of a municipal assembly or council in many jurisdictions founded upon English law. Nathaniel Higginson was the first Mayor, and he appointed representatives from the English, Scottish, French, Portuguese and Indian mercantile communities as Aldermen.

IV. Answer the following questions:

1. **ZilaParishad**:

   This is the highest body in the system of the Panchayati Raj. It coordinates the working of Block samitis in the districts.

   Functions:

   The main functions of the ZilaParishad are:

   - Preparing plans for the development of the district.
   - Guiding and supporting the Gram Panchayats and Block Samitis.
   - Constructing and running secondary and vocational schools in districts.
   - Distributing funds received from the Government among the Panchayat Samitis.
   - Improvement in agricultural production, health and sanitation, maintenance of roads.

- Overseeing the implementation of the Community Development Programme.

Sources of Income:

The main sources of income are State Government grants, taxes on water, pilgrimage and markets and rents from shops and houses that its own.

2. The Nyaya Panchayat settles minor disputes and provides speedy justice. There is one Nyaya Panchayat, provided for a group of 4 or 5 villages. It can pass judgement on civil and criminal cases. However, it can only impose fines and cannot send people to prison.

3. Elections to the Municipality are based on Universal Adult Franchise. To stand for elections, the candidate should be 21 years of age or above. The number of members in a Municipality depends upon the population of the town or city. The entire town / city is divided into a number of wards. Each ward elects its representative or ward member. Seats are reserved for Scheduled Castes and Scheduled Tribes, and 1/3rd of the seats are reserved for women. MLAs and MPs elected from that area, are also a part of the Municipal Committee or Municipal Council. This committee is elected for a term of 5 years.

4. **Some of the main functions of the municipal bodies are:**

- Public health (maintaining dispensaries and hospitals, arranging for vaccinations, preventing adulteration of food stuff)
- Garbage disposal
- Provision of fresh and clean drinking water
    - Street lighting
    - Provision and maintenance of public conveniences like fruit and vegetable markets, food grain markets, etc.
    - Registration of births and deaths
    - Maintenance of public places like parks, museums and zoos
    - Maintenance of roads and bridges within corporation limits
    - Education
    - Maintenance of graveyards and crematoriums

5. Sources of Income:

Some of the sources from which the Municipal Corporation gets funds are:

- Taxes on property
- Taxes on occupations
- Water tax
- Motor vehicle tax
- Toll tax
- Fees for issuance of birth and death certificates
- Education tax Apart from some of the above-mentioned taxes, they receive grants from the State Government and also borrow money from the State Government, if approved.