SOLO SEMESTER BOOK-5 SEM-II
ENGLISH

1. The Clever Priest

A. 1. a 2. b 3. b 4. b 5. a

B. 1. F 2. T 3. T 4. F 5. T

C. 1. In a small town of Devpura 2. Stranger 3. In the opposite direction. 4. The sack of gold coins. 5. The sack of gold coins.

D. 1. To hang himself in the forest. 2. After seeing that the stranger had feet in the opposite direction. 3. To catch his son (hare) in a race. 4. The priest mounted ..... hill thrice. 5. The devil fell on the ground and wounded. 6. The priest took up ..... and was wounded 7. The devil jumped on the hare ..... was out of breath.

E. 1. The priest reads a prayer. 2. Never talk to a stranger in the bus. 3. He jumped over a wall. 4. Rabbit hides in the bushes. 5. Hemant whistled for his dog.

F. 1. Do children visit the zoo during holidays? 2. Does the servant clean the house? 3. Does the peon ring the bell? 4. Does Mr. Singh go for a walk daily? 5. Do they sell computer at the shop? 6. Does Mohan play football? 7. Is Sakshi a courageous girl? 8. Do we have a new project?

2. It's Mine

A. 1. b 2. a 3. b 4. c 5. c

B. 1. sister's 2. friend 3. house 4.king, Gopal 5. many

C. 1.Gopal 2.Umesh 3.Gopal 4.Gopal 5.Umesh 6.King

D. 1.After his sister's ..... worried man. 2.He approached one of his friend Umesh who was a rich man and he gave five thousand rupees to Gopal. 3. A saddled horse, clothes, turban, shoes and waist belt. 4. "It's mine." 5. In instal-ments over a period of a few months.

E. 1. unhealthy 2. unrest 3. disrespect 4. discontinue 5. inexperienced 6. undecided

I. 1. I can not hear somebody knock at the door. 2.The bird has not made a nest for itself. 3. She is not knitting a sweater for her daughter. 4. The teacher did not forgive him for his mistake.

3. Kalidasa

A. 1. c 2. b 3. a 4. c 5. a

B. 1. princess 2. open 3. branch 4. gestures 5. chaste

C. 1. T 2. T 3. F 4. T

D. 1. Only the person who would defeat her in an open debate. 2. How to defeat Princess Vidyavati at her own game. 3. By means of gestures. 4. After the marriage ceremony ..... learned man. 5. Because of his works. Many of his ..... the world.

E. 1. She blinded him of one eye. 2. He would blind her of both eyes. 3. She wanted to hit him with a slap. 4. He would hit her with his fist.

F. 1. plenty 2. to explain 3. innocent

4. promise 5. poetry 6. superiority

G. 2.It was biting cold outside. 3. You should not laugh at anyone. 4.She received her letter at the doorstep from a postman. 5. The tiger saw a lamb and ran after it. 6. You can shoot animals with a camera only.

4. My Heaven

A. 1. c 2. a 3. c 4. c

B. 1. Rabindranath Tagore
2. The countrymen 3. The God

C. 1. To broken up into fragments and narrow domestic walls. 2. Truth, knowledge and get rid of narrow domestic walls. 3. To awake his countrymen towards truth. 4. The poet means that his countrymen lead towards the path of truth and always held their head high.

D. 1. illegal 2. illiterate 3. lazy
4. injustice 5. cruel 6. demerit
7. artificial 8. ignoble

E. 1. e 2. f 3. g 4. c 5. a 6. h 7. b 8. d

5. The Innocent Potter

A. 1. c 2. c 3. c 4. c 5. c

B. 1. The potter 2. beast 3. the potter
4. fed up 5. unsolved 6. returned

C. 1. Beautiful pots 2. Because of his beautiful pottery. 3. The two cunning boys.

D. 1. His donkey did not …… short tempered. 2. The next morning ……. tempered donkey. 3. The two boys were chasing the potter because they wanted to steal the new donkey. 4. The boy told to the potter, "I have been ……. into a donkey." 5. He saw the same ……. as before.

E. 1. c 2. d 3. a 4. b 5. e

F. 1. sleepy 2. thought 3. shameful
4. parents 5. disobey 6. innocent
7. problem 8. understand

G. 1. He is playing cricket very well. 2. Ram and Shyam are learning their lessons. 3. The cat is licking its kitten. 4. You are looking very handsome.

6. Work While You Work

A. 1. b 2. a 3. c

B. 1. F 2. T 3. T

C. 1. Work while working and play while playing. 2. Things which are halves done. 3. Doing one thing at a time. 4. Moments

D. 1. Sad 2. Always 3. Wrong
4. Unwell 5. Bad 6. Few

E. 1. mine 2. theirs 3. yours 4. his
5. yours 6. mine

7. Tenali Rama's Wit

A. 1. b 2. c 3. b 4. b

B. 1. he was very pleased with the paintings. 2. his painting was not as worthy. 3. they knew that Tenali Rama cannot paint. 4. they knew that Tenali Rama will lose the bet. 5. Tenali Rama showed his true wisdom to him.

C. 1. A painting 2. Tenali Rama
3. One month

D. 1. He is a very talented artist. 2. Because he thinks that the artist was making fool of the king. 3. Because the king knew that Tenali Rama is very clever. 4. See what a beautiful …… like that? 5. Because Tenali Rama proved himself clever than the other one.

E. 1. Tenali Rama 2. Tenali Rama
3. Tenali Rama 4. Tenali Rama
5. King

F. 1. excite, disappoint 2. happy, sad
3. keen, uninterested
4. bluster, modest 5. blank, full

G. 1. impressed 2. displeased
3. talented 4. promise 5. boast
6. lush

H. 1. hero 2. brother 3. authoress
4. cow, horse, bitch 5. princess
6. mother, grandfather

MATH

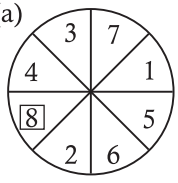
Number Pattern

Exercise-1

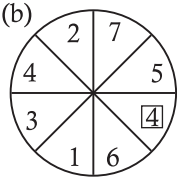
1. (a) 1, 2, 4, 6, — **8, 10, 12**
(b) 5, 11, 17, 23 — **29, 35, 41**
(c) 100, 91, 82, 73 — **64, 55, 46**
(d) 11, 21, 31, 41 — **51, 61, 71**

2. (a) 1, 3, 5, **7, 9, 11**
(b) 2, 9, 16, **23, 30, 37**
(c) 50, 42, 34, **26, 18, 10**
(d) 91, 81, 71, **61, 51, 41**

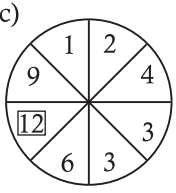
3. (a)



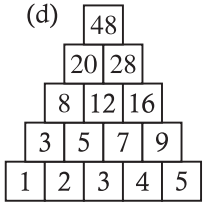
(b)



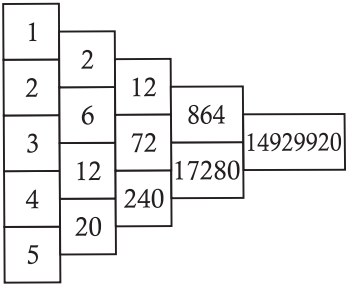
(c)



(d)



(e)



4.

9	10	5
4	8	(12)
11	(6)	7

5. $1 \times 11 = 11$
$11 \times 11 = 121$
$111 \times 11 = 1221$
(a) $1111 \times 11 = 12221$
(b) $11111 \times 11 = 122221$
(c) $111111 \times 11 = 1222221$

Multiple Choice Questions :

1. (c) **16** **2.** (b) **81**
3. (a) **48** **4.** (b) **36**

Time, Speed and Distance

Exercise- 2.1

1. (a)

	20 Sec
+	40 Sec
	60 Sec

= 1 Min.

(b)

	55 Sec
+	20 Sec
	75 Sec

= 1 Min. 15 sec.

(c)

	Min	Sec
	20	40
+	15	20
	36	00

(d)

	Hr	Min	Sec
	1	20	45
+	2	15	30
	3	36	15

(e)

	Hr	Min	Sec
	14	15	15
+	25	15	25
	39	30	40

(f)

	Hr	Min	Sec
	25	25	10
+	15	25	20
	40	50	30

2. (a)

	Hr	Min	Sec
		14	20
–		7	10
		07	10

(b)

	Hr	Min	Sec
	1	20	19
–		15	12
	1	05	07

(c)

	Hr	Min	Sec
	2	40	10
–	1	20	15
	1	19	55

(d)

	Hr	Min	Sec
	15	20	15
–	12	30	10
	2	50	05

(e)

	Hr	Min	Sec
	10	30	20
–	8	35	25
	1	54	55

Exercise- 2.2

1. (a)

Hr	Min
5	20
×	4
20	80 → Min = (60 + 20)

= 1 hour + 20 min

20 + 1 = 21 hours 20 minutes

(b)

Hr	Min	Sec
10	35	20
	×	4
40	140	80 → = (60 + 20) sec

→ 2 hr+20 min+1 min

= 1 min + 20 min

42 hours 21 minutes 20 seconds

(c)

Hr	Min	Sec
10	40	10
	×	8
80	320	80 → = (60 + 20)

=1 min + 20 sec

→ 5 hr + 20 min

→ 85 hours 21 minutes 20 seconds

(d)

Hr	Min	Sec
2	40	15
	×	7
14	280	105 → = (60 + 45)

= 1 min + 45 sec

→ 4 hr + 40 min

18 hours 41 minutes 41 seconds

2. (a)

Min	Sec
2 ⟌ 40	20 ⟍ 20 min 10 sec
4	
0	
0	
	2
	2
	0
	0
	×

(b)

Hr	Min
4 ⟌ 13	20 ⟍ 3 hours 20 min
12	
1 ⇒ 60 + 20	4 ⟌ 80 ⟍ 20
	80
	×

(c)

Hr	Min	Sec
	3	6	2
5 ⟌	15	30	10
	15		
	×		
	5 ⟌ 30 ⟍		5 ⟌ 10 ⟍
	30		10
	×		×

(d)

Hr	Min	Sec
	3	16	2
6 ⟌	19	36	12
	18		
	1 ⇒ 60 + 36		
	6 ⟌ 96 ⟍ 16		6 ⟌ 12 ⟍ 2
	6		12
	36		×
	36		
	×		

Exercise- 2.3

1. (a) $15\ \text{km/h} = \frac{15\ \text{km/h}}{1\ \text{h}}$

$= \frac{(15 \times 1000)\,\text{m}}{(1 \times 60 \times 60)\,\text{sec}} = \frac{50}{12} = \frac{25}{6}$

$= 4\frac{1}{6}\ \text{m/sec}$

(b) $1000\ \text{m}/3\ \text{min} = \frac{1000\ \text{m}}{3\ \text{min}}$

$= \frac{1000}{3 \times 60} = \frac{1000}{180} = \frac{50}{9} = 5\frac{5}{9}\ \text{m/sec}$

$= 5.55\ \text{m/sec}$

2. Distance covered in 2 hrs = 17 km

Distance covered in 1 hr $= \frac{17}{2}$

$= 8.5\text{km}$

$= \frac{8.5\ \text{km}}{\text{h}} = \frac{(8.5 \times 1000)\ \text{m}}{(60 \times 60)\ \text{sec}} = \frac{85}{36}$

$= 2.361\ \text{m/sec}$

3. Distance = speed × time

$= 400 \times 40 = 16000\ \text{m} = 16\ \text{km}$

4. Time $= \frac{\text{Distance}}{\text{Speed}} = \frac{480}{60} = 8$ hours

5. Speed = 45 km/h

Time = 32 minutes $= \frac{32}{60}$

Distance = Speed × Time

$= 45 \times \frac{32}{60} = \frac{1440}{60} = 24\ \text{km}$

6. Distance = 70 km

Time $= 2\frac{1}{2}\ \text{hr} = \frac{5}{2}\ \text{hr}$

Speed $= \frac{\text{Distance}}{\text{Time}} = \frac{70 \times 2}{5} = \frac{140}{5}$

$= 28\ \text{km/hr}$

7. Time $= \frac{\text{Distance}}{\text{Time}} = \frac{115.5\ \text{km}}{60\ \text{hr}}$

$= \frac{115.5}{60} = 1\ \text{hr}\ 55\ \text{min}\ 30\ \text{sec}$

8. Time taken to cover 20 km = 3 hrs

Time taken to cover 1 km $= \frac{3}{20}\ \text{h}$

Time taken to cover 15 km $= \frac{3}{20} \times 15$

$= \frac{9}{4} = 2\ \frac{1}{4}\text{hr} = 2\text{hr} + \frac{1}{4} \times 60\ \text{min}.$

$= 2\ \text{hr}\ 15\ \text{min}.$

Exercise- 2.4

1. (a) Speed = 45 km/hr

Time = 3 hours

Distance = Speed × Time

$= 45 \times 3 = 135\ \text{km}$

(b) Speed = 60 km/hr, D = 180 km

Time $= \frac{\text{Distance}}{\text{Speed}} = \frac{180}{60} = 3\text{hrs}$

(c) Speed = 18 km/hr

Time = 6 hrs

Distance $= 18 \times 6 = 108\ \text{km}$

(d) Speed = 36 km/hr

Distance = 720 km

Time $= \frac{\text{Distance}}{\text{Speed}} = \frac{720}{36} = 20$ hrs

2. Cycle speed = 24 km/hr

Distance = 120 km

Time $= \frac{\text{Distance}}{\text{Speed}} = \frac{120}{24} = 5$ hrs

3. Distance = 280 km

Speed = 40 km/hr

Time $= \frac{\text{Distance}}{\text{Speed}} = \frac{280}{40} = 7$ hrs

4. Speed of car = 70 km/hr

Time = 4 hrs

Distance = Speed × Time = 70×4

$= 280\ \text{km}$

5. Distance = Speed × Time

$= 60 \times 2\ \frac{1}{2} = 60 \times \frac{5}{2} = 150\ \text{km}$

Multiple Choice Questions :

1. (b) **2.** (d) **3.** (c) **4.** (a) **5.** (c)

Exercise- 3

1. (a) Average $= \frac{\text{Sum of Numbers}}{\text{Total number of item}}$

$= \frac{15+20+16+18+11}{5} = \frac{80}{5} = 16$

(b) $A = \frac{5+10+6+8+6}{5} = \frac{35}{5} = 7$

(c) $A = \frac{25+50+75+100+125}{5}$

$= \frac{375}{5} = 75$

(d) $A = \frac{6.3+5.2+4.8+4.5+6.7}{5}$

$= \frac{27.5}{5} = 5.5$

(e) $A = \frac{100+200+300+400}{4}$

$= \frac{1000}{4} = 250$

(f) $A = \frac{12+15+18+31}{4} = \frac{76}{4} = 19$

2. Average runs per inning

$= \frac{45+25+70+32+43+85}{6} = \frac{300}{6}$

$= 50$

3. Average price of books

$= \frac{25+30+32+43+55}{5} = \frac{185}{5} = ₹37$

4. Average age of 5 boys

$= \frac{15+20+23+12+10}{5} = \frac{80}{5}$

$= 16$ years

5. Average marks

$= \frac{49+56+64+66}{4} = \frac{235}{4} = 58.75$

6. Let the fourth number be x.

Average 4 numbers = 24

$\Rightarrow \frac{12+26+34+x}{4} = 24$

$\Rightarrow x+72 = 4\times 24 \Rightarrow x = 96-72$

$\therefore x = 24$ Hence, fourth no. is 24.

7. 15 student's height = 124 cm

Total = $15\times124 = 1860$ cm

15 students height = $15 \times 120 = 1800$ cm

Average $= \frac{1860+1800}{30} = \frac{3660}{30}$

$= 122$ cm

8. Average weight of 6 bags= 48

Total weight = $48 \times 6 = 288$ kg

9. Average of first five multiples of 3

$= \frac{3+6+9+12+15}{3} = \frac{45}{5} = 9$

10. Average

$= \frac{7+77+777+7777+77777}{5}$

$= \frac{86415}{5} = 17283$

11. Average area $= \frac{150+144+126\ m^2}{3}$

$= \frac{420}{3} = 140\ m^2$

12. Average of even numbers

$= \frac{2+4+6+8+10+12+14+16+18+20}{10}$

$= \frac{110}{10} = 11$

13. Average of 3 numbers = 25

Sum = $25\times3 = 75$

Sum of 2 numbers = $24+26 = 50$

Third number = $75 - 50 = 25$

14. Average of 10 numbers = 13

Sum of 10 numbers = $13\times10 = 130$

Sum of nine numbers =122

Tenth number = $130 - 122 = 8$

15. (a) $\frac{1}{4}+\frac{1}{3}+\frac{1}{6}+\frac{1}{2}$

$= \frac{3+4+2+6}{12}$

Avg. $= \frac{15}{12} \div 4$

2	4, 3, 6, 2
2	2, 3, 3, 1
3	1, 3, 3, 1
	1, 1, 1, 1

$2\times2\times3=12$

Avg. $= \frac{15}{12} \times \frac{1}{4} = \frac{15}{48} = \frac{5}{16}$

(b) Avg. $= \frac{3.1+2.8+3.4+2.5}{4} = \frac{11.8}{4}$
$= 2.95$

(c) $\frac{1}{5} + \frac{2}{5} + \frac{3}{5} + \frac{4}{5} = \frac{1+2+3+4}{5}$
$= \frac{10}{5} \div 4 = \frac{10}{5} \times \frac{1}{4} = \frac{10}{20} = \frac{1}{2}$

(d) Avg. $= \frac{2.1+2.2+2.3+2.4+2.5}{5}$
$= \frac{11.5}{5} = 2.3$

16. (a) Avg. $= \frac{60 + 72 + 92 + 88 + 78}{5}$
$= \frac{390}{5} = 78$

(b) In Maths and Science the marks are higher than the average marks.

17. Total distance = 10+ 10 = 20 km
Total time taken = 1.5+2 = 3.5 h
Average speed of tonga
$= \frac{\text{Distance}}{\text{Time}} = \frac{20}{3.5} = 5.714$ km/h

Multiple Choice Questions :
1. (b) **2.** (a) **3.** (c) **4.** (a) **5.** (d)

Exercise- 4.1

1. (a) 50 to175 = 50 : 175 = 2 : 7
(b) 2 m to 10 cm = 200 cm to 10 cm
= 200 : 10 = 20 : 1
(c) 250 g to 1 kg = 250 : 1000 = 1 : 4
(d) 25 P to ₹ 2 = 25 : 200 = 1 : 8
(e) 25 days to 2 years = 25 : 730
= 5 : 146
(f) 50 ml to 5 l = 50 : 5000 = 1 : 100
(g) 20 seconds to 3 minutes = 20 : 180 = 1 : 9
(h) 4 hours to 55 minutes = 240 : 55 = 48 : 11
(i) 4 days to 1 week = 4 : 7
(j) 2 km to 500 m = 2000 : 500 = 4 : 1

2. 15 girls and 45 boys
(a) 15 : 45 = 1 : 3 (b) 45 : 15 = 3 : 1
(c) 15 : 60 = 1 : 4

3. $\frac{4.98}{7.68} = \frac{498}{768} = \frac{249}{384} = \frac{83}{128}$
=83 : 128

4. 15 : 20 = 3 : 4

5. Cost of pen = 25.50
Cost of pencil = 15.50
(a) $\frac{15.50}{25.50} = \frac{31}{51} = 31 : 51$
(b) $\frac{25.50}{15.50} = \frac{51}{31} = 51 : 31$
(c) $\frac{15.50}{41} = \frac{31}{82} = 31 : 82$

6. Total students = 2500
No. of boys = – 1900
No. of girls = 600
(a) Boys to Girls = 1900 : 600
= 19 : 6
(b) Girls to Boys = 600 : 1900
$= \frac{600}{1900} = 6 : 19$
(c) 600 : 2500 $= \frac{600}{2500} = 6 : 25$

7. Cement and sand mixture = 276 kg
Weight of cement = – 52 kg
Weight of sand = 224 kg
Ratio of cement to sand = 52 : 224
= 13 : 56

8. Ratio of milk and water = 5 : 6
Sum = 5+6 = 11
Quantity of mixture = 550 ml
Quantity of water $= \frac{6}{\cancel{11}} \times \overset{50}{\cancel{550}}$
= 300 ml

9. Total books in library = 3600
Ratio of bound and unbound books = 5 : 13
Sum = 5+13 = 18
Total number of bound books

$= \frac{5}{18} \times \cancel{3600}^{200} = 1000$

10. Total fruits in basket = 440

Ratio of apples to mangoes = 5:6

Sum = 5+6 = 11

Number of mangoes in basket $= \frac{6}{\cancel{11}} \times \cancel{440}^{40} = 240$

11. Ratio of cost of pens and pencils = 31 : 51

Sum = 31+51 = 82

Total cost of pens and pencils = ₹41

Cost of pen only $= \frac{31}{\cancel{82}_2} \times \cancel{41}$

= ₹15.50

12. Ratio of milk and water = 5 : 2

Sum = 5+2 = 7

Total weight of mixture = 28 kg

Weight of water $= \frac{2}{\cancel{7}} \times \cancel{28}^{4} = 8$ kg

Exercise- 4.2

1. (a) 2 : 3 = 6 : 9

2 : 3 = 2 : 3

Yes, they are in proportion.

(b) 4 : 5 = 8 : 10

4 : 5 = 4 : 5

Yes, they are in proportion.

(c) 7 : 8 = 28 : 32

7 : 8 = 7 : 8

Yes, they are in proportion.

(d) 1 : 5 = 5 : 20

$1 : 5 \neq 1 : 4$

Not in proportion

(e) 7 : 9 = 21 : 27

7 : 9 = 7 : 9

Yes, they are in proportion.

(f) 2 : 7 = 10 : 20

$2 : 7 \neq 2 : 4$

Not in proportion

(g) 3 : 4 = 10 : 12

$3 : 4 \neq 5 : 6$

Not in proportion

(h) 2 : 3 = 8 : 16

$2 : 3 \neq 1 : 2$

Not in proportion

2. (a) 1 : 2 = 3 : 6

Extreme L = 1 P = 6

(b) 2 : 3 = 8 : 12 ⇒ L = 2 P = 12

(c) 4 : 5 = 12 : 15 ⇒ L = 4 P = 15

(d) 2 : 7 = 8 : 28 ⇒ L = 2 P = 28

(e) 20 : 30 : : 40 : 60 ⇒ L = 20 P = 60

3. (a) $3 : x = 12 : 4 \Rightarrow x \times 12 = 3 \times 4$

$\therefore x = \frac{3 \times 4}{12} = \frac{12}{12} = 1$

(b) $x : 6 = 3 : 9 \Rightarrow x \times 9 = 6 \times 3$

$\therefore x = \frac{6 \times 3}{9} = \frac{18}{9} = 2 \Rightarrow x = 2$

(c) $7 : x = 49 : 56 \Rightarrow 49 \times x = 7 \times 56$

$\therefore x = \frac{\cancel{7} \times \cancel{56}^{8}}{\cancel{49}_{7}} \Rightarrow x = 8$

(d) $72 : 9 = x : 5 \Rightarrow 9 \times x = 72 \times 5$

$\therefore x = \frac{\cancel{72}^{8} \times 5}{\cancel{9}} \Rightarrow x = 40$

(e) $x : 4.5 = 1.08 : 3.6$

$x \times 3.6 = 4.5 \times 1.08$

$\therefore x = \frac{4.5 \times 1.08}{3.6} = 1.35$

4. Ratio of lady teacher and male teacher = 3 : 5

Male teacher = 30

Lady teacher = x

Now, $3 : 5 = x : 30 = 5 \times x = 3 \times 30$

$\therefore x = \frac{3 \times \cancel{30}^{6}}{5} = 18$

5. Ratio of two numbers = 2 : 3

Now, 2 : 3 = 16 : x

$\Rightarrow 2 \times x = 3 \times 16$

$\therefore x = \frac{3 \times \cancel{16}^{8}}{2} = 24$

6. Ratio of male and female = 4 : 3

Number of females = 1200
Number of males = x
Now, 4 : 3 = x : 1200
$\Rightarrow 3x = 4 \times 1200$
$\therefore \quad x = \frac{4 \times 1200^{400}}{\cancel{3}}$ $x = 1600$

7. Ratio of length and width = 5 : 4
Length of ground = 15 metres
Width of ground = x
Now, 5 : 4 = 15 : x
$\Rightarrow 5 \times x = 4 \times 15$
$\therefore x = \frac{4 \times \cancel{15}^{3}}{\cancel{5}} = 12$ metres

8. Ratio of milk and water = 18 : 7
Quantity of milk = 180 ml
Quantity of water = x
Now, 18 : 7 = 180 : x
$\Rightarrow 18 \times x = 7 \times 180$
$\therefore x = \frac{7 \times \cancel{180}^{10}}{\cancel{18}}$ $x = 70$

Multiple Choice Questions :
1. (b) **2.** (c) **3.** (a) **4.** (c)

Percentage
Exercise- 5.1

1. (a) $.4\% = \frac{.4}{100} = 0.004$

(b) $.025\% = \frac{.025}{100} = .00025$

(c) $.45\% = \frac{45}{100} = .0045$

(d) $14.5\% = \frac{14.5}{100} = 0.145$

(e) $35.5\% = \frac{35.5}{100} = .355$

(f) $\frac{9}{5}\% = \frac{35.5}{100} = 0.018$

(g) $4\frac{1}{3}\% = \frac{13}{300} = 0.04333$

(h) $15\frac{1}{2}\% = \frac{31}{2\times100} = 0.155$

(i) $12\frac{4}{7}\% = \frac{88}{700} = 0.12571$

(j) $33\frac{1}{3}\% = \frac{100}{300} = \frac{1}{3} = .333$

(k) $50\% = \frac{50}{100} = \frac{1}{2} = 0.5$

(l) $75\% = \frac{75}{100} = \frac{3}{4} = .75$

2. (a) $\frac{0.03}{100} = \frac{3}{\cancel{100}} \times \cancel{100} = 3\%$

(b) $0.4 = \frac{4}{\cancel{10}} \times \cancel{100}^{10} = 40\%$

(c) $1.02 = \frac{102}{100} = \frac{102}{\cancel{100}} \times \cancel{100}$
$= 102\%$

(d) $12.49 = \frac{1249}{\cancel{100}} \times \cancel{100} = 1249\%$

(e) $10.8 = \frac{108}{1\cancel{0}} \times 10\cancel{0} = 1080\%$

(f) $.005 = \frac{5}{1000} \times 100 = 0.5\%$

(g) $1.73 = \frac{173}{\cancel{100}} \times \cancel{100} = 173\%$

(h) $120.65 = \frac{12065}{\cancel{100}} \times \cancel{100}$
$= 12065\%$

(i) $7.25 = \frac{725}{\cancel{100}} \times \cancel{100} = 725\%$

(j) $40.8 = \frac{408}{\cancel{10}} \times 10\cancel{0} = 4080\%$

(k) $225 = 225 \times 100 = 22500\%$

(l) $75 = 7500\ \%$

3. (a) $40\% = \frac{40}{100} = \frac{2}{5}$

(b) $15\% = \frac{15}{100} = \frac{3}{20}$

(c) $25\% = \frac{25}{100} = \frac{1}{4}$

(d) $1.50\% = \frac{150}{10000} = \frac{15}{1000} = \frac{3}{200}$

(e) $33\frac{1}{3}\% = \frac{100}{300} = \frac{1}{3}$

(f) $101\% = \frac{101}{100}$

(g) $\frac{6}{5}\% = \frac{6}{500} = \frac{3}{250}$

(h) $125\% = \frac{125}{100} = \frac{5}{4} = 1\frac{1}{4}$

(i) $5\frac{1}{2}\% = \frac{11}{200} = \frac{11}{200}$

(j) $2\% = \frac{2}{100} = \frac{1}{50}$

(k) $250\% = \frac{250}{100} = \frac{5}{2} = 2\frac{1}{2}$

(l) $\frac{3}{4}\% = \frac{3}{400}$

4. (a) $\frac{9}{10\cancel{0}} \times 10\cancel{0} = 90\%$

(b) $\frac{1}{\cancel{5}} \times \cancel{100}^{20} = 20\%$

(c) $\frac{3}{7} \times 100 = \frac{300}{7} = 42\frac{6}{7}\%$

(d) $1\frac{1}{2} = \frac{3}{2} \times 100 = 150\%$

(e) $2\frac{1}{4} = \frac{9}{\cancel{4}} \times \cancel{100}^{25} = 225\%$

(f) $33\frac{1}{3} = \frac{100}{3} \times 100 = 3333.3\%$

(g) $1\frac{9}{20} = \frac{29}{\cancel{20}} \times \cancel{100}^{5} = 145\%$

(h) $5\frac{1}{7} = \frac{36}{7} \times 100 = 514.285\%$

(i) $3\frac{2}{\cancel{4}} = \frac{14}{\cancel{4}} \times \cancel{100}^{25} = 350\%$

Exercise- 5.2

1. (a) $540 \times \frac{30}{100} = 162$

(b) $700 \times \frac{45}{100} = 315$

(c) $900 \times \frac{75}{100} = 675$

(d) $750 \times \frac{25}{100} = 187.5\text{g}$

(e) $540 \times \frac{20}{100} = 108$

(f) $520 \times \frac{50}{100} = 260$ m

(g) $780 \times \frac{10}{100} = 78$ km

(h) $1250 \times \frac{25}{100} = 312.5$

(i) $4 \times \frac{90}{100} = 3.6$ kg

(j) $400 \times \frac{30}{100} = 120$ marks

(k) $500 \times \frac{5}{100} = 25$

(l) $101 \times \frac{2}{100} = 2.02$

2. (a) 2 days of a week $= 28\frac{4}{7}\% = 28.57\%$

(b) 25 paise a rupee = 25%

(c) 25 cm of 1 m = 25%

(d) ₹450 of ₹1250 = 36%

(e) $\frac{4}{3}$ kg of 50 kg $= 2\frac{2}{3}\%$

(f) 6 days of a month = 20%

3. Income of man = ₹5650

His savings $= \frac{5650 \times \cancel{25}}{\cancel{100}\ 4}$

$= ₹1412.5$

4. Increase in pop. $= \frac{3500 \times 10}{100}$

$= 350$

Pop. of Jan. 2002 = 3500

$+\ 350$

Total pop. in Jan. 2003 = 3850

5. $500 \times \frac{40}{100} = 200$

$300 \times \frac{50}{100} = 150$

Hence, 40% of 500 is more.

6. Total oranges = 300

Oranges sold = 60% of 300

$= 300 \times \frac{60}{100} = 180$

Orange left = 300 – 180 = 120

% of ranges left $= \frac{120}{300} \times 100 = 40\%$

7. Required percentage $= \frac{780}{1000} \times 100$

$= 78\%$

8. 1 kg = 1000 g

Required percentage $= 1\frac{1}{1000} \times 100$

$= 0.1\%$

9. $\frac{0.05 \times 100}{5} = 1\%$

10. $x \times \frac{75}{2}\% + x = 44 \Rightarrow x \times \frac{75}{200} + x = 44 \Rightarrow \frac{3x}{8} + x = 44$

$\Rightarrow 11x = 44 \times 8$

$\Rightarrow x = 4 \times 8 = 32$

11. (a) $\frac{75.5}{100} \times 16 = \boxed{12.08}$

(b) $\boxed{300}\%$ of 3 = 9

(c) 25% of 16 = $\boxed{4}$

(d) 30% of $\boxed{150}$ = 45

(e) 250% of 200 = $\boxed{500}$

(f) 20% of $\boxed{35}$ = 7

12. $x \times \frac{22}{100} = 1980 \Rightarrow 22x = 1980 \times 100$

$\Rightarrow x = 1980 \times \frac{100}{22} \therefore x = ₹9000$

Multiple Choice Questions :

1. (a) **2.** (d) **3.** (b)

Profit and Loss

Exercise- 6.1

1. (a) C. P. = ₹450, S. P. = ₹220

Loss = C. P. – S. P.

= ₹(450 – 220) = ₹230

(b) C. P. = ₹12000, S. P. = ₹10000

Loss = C. P. – S. P.

= ₹12000 – ₹10000 = ₹2000

(c) C. P. = ₹15.50, S. P. = ₹22.50

Profit = S. P. – C. P.

= ₹22.50 – ₹15.50 = ₹7.00

2. C.P. of oranges = ₹540

S.P. of oranges = ₹600

Porfit = ₹600 – ₹540 = ₹60

3.

C.P. of horse =	₹ 80000
S.P. of horse =	– ₹ 75000
Loss =	₹ 5000

4.

C.P. of car =	₹ 275000
Profit =	+ ₹ 5000
S.P. of car =	₹ 280000

5. No. of mangoes bought = 200

C. P. of mangoes = ₹150

S.P. of mangoes = ₹200

Profit = ₹200 – ₹150 = ₹50

6.

C.P. of house =	₹ 882500
S.P. of house =	– ₹ 780000
Loss =	₹ 102500

7. S.P. of table = ₹800

Profit = ₹100

C.P. of table = S. P. – Profit

= ₹800 – ₹100 = ₹700

8. C.P. of 400 oranges = ₹250

S.P. of 400 oranges = ₹(400 × 0.80)

= ₹320.00

	320
	– 250
Profit =	₹ 70

Exercise- 6.2

1.

Price at which cycle is bought =	₹ 750
Repair cost =	+ ₹ 50
Cost price of cycle =	₹ 800

S.P. of cycle = ₹850

Profit% $= \frac{850 - 800}{800} \times 100$

$= \frac{50 \times 100}{800} = \frac{50}{8} = 6\frac{2}{8}\%$

2. Cost price of 5 quintals or 500 kg rice = ₹ 10500

Selling price of 500 kg/5quintals rice = ₹ (22 × 500) = ₹11000

Profit = S. P. – C. P.

= ₹11000 – ₹10500 = ₹500

Profit % $= \frac{\text{Profit} \times 100}{\text{C. P.}}$

$= \frac{500 \times 100}{10500} = \frac{100}{21} = 4.7619\%$

3. Cost price = ₹15000

Selling price = ₹14000

$$\text{Loss percent} = \frac{₹15000 - ₹14000}{15000} \times 100$$

$$= \frac{1000}{15000} \times 100 = \frac{100}{15} = \frac{20}{3} = 6.67\%$$

4. $\text{Loss} = ₹\left(45000 \times \frac{15}{100}\right) = ₹\ 6750$

Selling price = ₹45000 – ₹6750

= ₹38250

5. $\text{Cost price} = \frac{\text{S. P.} \times 100}{100 + \text{Profit}}$

$$= \frac{545 \times 100}{100 + 25} = \frac{545 \times 100}{125} = ₹436$$

6. $\text{C. P.} = \frac{18 \times 100}{120} = ₹15$ per litre

7. $\text{Profit} = \frac{2.50 \times 20}{100} = \frac{5.00}{10} = ₹\ .5$

Selling price = ₹2.50 + ₹0.5

= ₹3.00 per kg

8. $\text{Profit} = \frac{450000 \times 10}{100} = ₹\ 45000$

C.P. = 450000

Profit = + 45000

S.P. = 495000

Multiple Choice Questions :

1. (c) **2.** (a) **3.** (a) **4.** (a)

Simple Interest

Exercise- 7

1. (a) Interest = Amount – Principal

= ₹250 – ₹200 = ₹50

(b) Interest = Amount – Principal

= ₹800 – ₹700 = ₹100

(c) Interest = Amount – Principal

= ₹2000 – ₹1900 = ₹100

(d) Interest = Amount – Principal

= ₹2500 – ₹2000 = ₹500

2. (a) $\text{Simple Interest} = \frac{P \times R \times T}{100}$

$$= \frac{900 \times 2 \times 3}{100} = ₹\ 54$$

(b) $\text{Simple Interest} = \frac{P \times R \times T}{100}$

$$= \frac{700 \times 4 \times 2}{100} = ₹56$$

(c) $\text{Simple Interest} = \frac{450 \times 7 \times 1}{100 \times 3}$

$$= \frac{105}{10} = ₹10.5$$

(d) $\text{Simple Interest} = \frac{200 \times 11 \times 2}{2 \times 100}$

= ₹ 22

(e) $\text{Simple Interest} = \frac{1200 \times 2.5 \times 3}{100}$

= 30.00 × 3 = ₹90.00

3. (a) $\text{S.I.} = \frac{400 \times 3 \times 2}{100} = ₹24$

Amt. = ₹400 + ₹24 = ₹424

(b) $\text{S.I.} = \frac{2500 \times 4 \times 3}{100 \times 12} = ₹75$

Amt. = ₹2500 + ₹75 = ₹2575

(c) $\text{S.I.} = \frac{1500 \times 2 \times 1}{100 \times 12} = ₹30$

Amt. = ₹1500 + ₹30 = ₹1530

(d) $\text{S.I.} = \frac{1000 \times 7 \times 6}{100 \times 12} = ₹35$

Amt. = ₹1000 + ₹35 = ₹1035

(e) $\text{S.I.} = \frac{450 \times 7 \times 4}{100 \times 3} = \frac{60 \times 7}{10}$

= ₹42

Amt. = ₹450 + ₹42 = ₹492

4. $\text{S.I.} = \frac{45000 \times 2 \times 7}{100 \times 3}$

= 300 × 7 = ₹2100

Principal = 45000

Interest = + 2100

Amount = ₹ 47100

5. $\text{Simple Interest} = \frac{18000 \times 19 \times 3}{100 \times 12}$

= ₹855

Amt. = ₹18000 + ₹855 = ₹18855

6. Simple Interest $= \frac{19000 \times 5.5 \times 1}{100}$

$= ₹1045$

Amt. = ₹(19000 + 1045) = ₹20045

7. ₹(45000 – 25000) = 20000

S.I. $= \frac{\overset{10}{\cancel{20000}} \times \overset{1}{\cancel{20}} \times \cancel{6}}{\cancel{100} \times \cancel{12}_{2}}$

$= ₹2000$

Amt. = ₹(20000 + 2000) = ₹22000

8. Simple Interest $= \frac{\overset{6}{\cancel{1800}} \times \cancel{10}^{5} \times 7}{\cancel{100} \times \cancel{3} \times \cancel{2}}$

$= ₹42 \times 5 = ₹210$

Amt. = ₹1800 + ₹210 = ₹2010

Multiple Choice Questions :

1. (c) **2.** (b) **3.** (a) **4.** (c) **5.** (b)

Unitary Method

Exercise- 8

1. Price of $\frac{1}{2}$ kg Apple = ₹12

Price of 1 kg Apple = ₹(12×2) = ₹24

2. Cost of 7 chairs = ₹1050

Cost of 1 chair $= \frac{1050}{7} = ₹150$

3. Cost of 3 litres milk = ₹45

Cost of 1 litre milk = ₹ $\frac{45}{3}$

Cost of 7 litres milk $= \frac{\overset{15}{\cancel{45}}}{\cancel{3}} \times 7$

$= ₹105$

4. Distance travelled in 60 min = 60km

Distance travelled in 1 min $= \frac{60}{60}$ km

Distance travelled in 30 min $= \frac{\cancel{60}}{\cancel{60}} \times 30 = 30$ km

5. Cost of 1kg onion = ₹60

Cost of $\frac{3}{4}$ kg onion $= \overset{15}{\cancel{60}} \times \frac{3}{\cancel{4}}$

$= ₹45$

6. Distance travelled in 6 hrs = 186 km

Distance travelled in 1 hr $= \frac{186}{6}$ km

Distance travelled in 5 hrs $= \frac{186}{6} \times 5$

$= 31 \times 5 = 155$ km

7. Cost of 12 oranges = ₹3

Cost of 1 oranges = ₹ $\frac{3}{12}$

Cost of 15 oranges = ₹ $\frac{3}{\cancel{12}_{4}} \times \cancel{15}^{5} = \frac{15}{4}$

$= ₹3.75$

8. Cost of 7 notebooks = ₹73.50

Cost of 1 notebook = ₹ $\frac{73.50}{7}$

Cost of 10 notebooks = ₹ $\frac{73.50}{7} \times 10$

$= ₹10.50 \times 10 = ₹105.00$

9. Cost of 5 bats = ₹1005

Cost of 1 bat = ₹ $\frac{1005}{5}$

Cost of 6 bats $= \frac{\overset{201}{\cancel{1005}}}{\cancel{5}} \times 6$

$= ₹1206$

10. Cloth used to make 10 shirts = 22.5m

Cloth used to 1 shirt $= \frac{22.5}{10}$ m

Cloth used to make 15 shirts

$= \frac{22.5}{10} \times 15 = 33.75$ m

11. Weight of 12 bananas = 1.5 kg

Weight of 1 banana $= \frac{1.5}{12}$ kg

Weight of 6 bananas $= \frac{1.5}{\cancel{12}_{2}} \times \cancel{6}$

$= 0.75$ kg

12. No. of toys made in 6 days = 246

No. of toys made in 1 day $= \frac{246}{6}$

No. of toys made in 8 days

$= \frac{\overset{41}{\cancel{246}}}{\cancel{6}} \times 8 = 328$

13. Bus fare for 3 persons = ₹67.50

Bus fare for 1 person = ₹ $\frac{67.50}{3}$

Bus fare for 8 persons = ₹$\left(\frac{67.50}{3} \times 8\right)$

= ₹(22.50 × 8) = ₹180.00

14. Amt. saved in 3 months = ₹360

Amount saved in 1 month = ₹ $\frac{360}{3}$

Amount saved in 12 months

= ₹ $\frac{\cancel{360}^{120}}{\cancel{3}} \times \cancel{12} =$ ₹1440

15. Cost of 10 pencils = ₹15

Cost of 1 pencil = ₹ $\frac{15}{10}$

Cost of 24 pencils = ₹$\left(\frac{\cancel{15}^{3}}{\cancel{10}_{2}} \times \cancel{24}^{12}\right)$ = ₹36

16. Rent for 5 months = ₹1500

Rent for 1 month = ₹ $\frac{1500}{5}$

Rent of 12 months = ₹ $\frac{\cancel{1500}^{300}}{\cancel{5}} \times 12$

= ₹3600

17. Distance covered in 5 sec = 150m

Distance covered in 1 sec = $\frac{150}{5}$ m

Distance covered in3.5 sec

= $\frac{\cancel{150}^{30}}{\cancel{5}} \times 3.5 = 105.0$ m

18. (a) ₹4000 (b) ₹75000

(c) ₹11500 (d) 750

(e) ₹375 Loss (f) ₹375 Profit

Multiple Choice Questions :

1. (b) **2.** (a) **3.** (d) **4.** (c) **5.** (b)

Geometrical Shapes

Exercise-9.1

Do yourself

Exercise-9.2

Do yourself

Multiple Choice Questions :

1. (b) **2.** (b) **3.** (b) **4.** (c) **5.** (a)

Triangles and Quadrilaterals

Exercise-10.1

Do yourself

Exercise-10.2

Do yourself

Exercise-10.3

1. (a) T (b) F (c) F (d) T (e) T (f) F (g) F

2. (a) $x + 65° + 55° = 180°$

$\Rightarrow x + 120° = 180°$

$\Rightarrow x = 180° - 120° \Rightarrow x = 60°$

(b) $x + 140° + 20° = 180°$

$\Rightarrow x + 160° = 180°$

$\Rightarrow x = 180° - 160° \Rightarrow x = 20°$

(c) $x + 30° + 90° = 180°$

$\Rightarrow x + 120° = 180°$

$\Rightarrow x = 180° - 120° \Rightarrow x = 60°$

(d) $x + 60° + 90° = 180°$

$\Rightarrow x + 150° = 180°$

$\Rightarrow x = 180° - 150° \Rightarrow x = 30°$

(e) $x + 45° + 80° = 180°$

$\Rightarrow x + 125° = 180°$

$\Rightarrow x = 180° - 125° \Rightarrow x = 55°$

(f) $x + 60° + 50° = 180°$

$\Rightarrow x + 110° = 180°$

$\Rightarrow x = 180° - 110° \Rightarrow x = 70°$

3. Do yourself

4. (a) Square (b) Rectangle

(c) Parallelogram

Multiple Choice Questions:

1. (b) **2.** (a) **3.** (c) **4.** (c) **5.** (d)

Circles

Exercise - 11

Do yourself

Area and Volume

Exercise - 12.1

1. (a) length = 20 m, breadth = 10m

Area of rectangle = $l \times b$

= $20 \times 10 = 200$ m^2

(b) - (c) : Do same as above part.

2. (a) 3.5m

Area of square = $(side)^2$

$= (3.5)^2 = 3.5 \times 3.5$

$= 12.25\ m^2$

Perimeter of square = 4 × side

$= 4 \times 3.5 = 14\ m^2$

(b) to (c) do same as above part.

3. Length of carpet = 25 m

Breadth of carpet = 15 m

Area of carpet = 25 × 15

$= 375\ m^2$

4. Do yourself

5. Area of field = $50 \times 45 = 2250\ m^2$

Cost of ploughing the field = 2250 × 3.50 = ₹7875

6. Do it yourself.

7. Area of square plot = $(Side)^2$

$= (50\ m)^2 = 50 \times 50$

$= 2500\ m^2$

Cost of levelling the plot

$= 2500 \times 1.50$ = ₹ 3750

8. Area of I rectangle = L × B

$= 5 \times 1 = 5\ cm^2$

Area of II rectangle = L × B

$= 4 \times 1 = 4\ cm^2$

Area of the figure = $(5 + 4)\ cm^2$

$= 9\ cm^2$

(b) Do same as above part.

9. - 10. Do yourself

Exercise - 12.2

1. (a) L = 10 cm, B = 8 cm, H = 7 cm

Volume = L × B × H

$= (10 \times 8 \times 7)\ cm^3$

$= 560\ cm^3$

(b) - (c) : Do same as above

2. (a) Side = 1.5 m

Volume = $(Side)^3$

$= (1.5)^3 = 1.5 \times 1.5 \times 1.5$

$= 3.375\ m^3$

3. Volume of room = $(5 \times 3.5 \times 4)\ m^3$

$= 70 m^3$

4.& 5. Do yourself

6. Volume of 1 brick = $(2.4 \times 10.2 \times 7.5)\ cm^3 = 183.6\ cm^3$

Space occupied by 1200 bricks = $183.6 \times 1200 = 220320\ cm^3$

7. Volume of wall = $(7.5 \times 3.6 \times 0.45)\ cm^3 = 12.15\ m^3$ or $12150000\ cm^3$

Volume of 1 brick = $(25 \times 12.5 \times 6)\ cm^3 = 1875\ m^3$

Number of bricks = 12150000/ 1875 = 6480

8. - 9. Do yourself

10. Volume of rectangular box

$= (10 \times 6 \times 4)\ m^3$

$= 240\ m^3$

No. of cubes that can be placed in the box = 240/15 = 16

Multiple Choice Questions :

1. (b) **2.** (a) **3.** (c) **4.** (a)

Representation of Data

Exercise - 13

Do yourself

SCIENCE

1. Force and Energy

A. 1. b 2. b 3. b 4. a

B. 1. lawn mower 2. effort 3. force 4. Energy 5. Pulley

C. 1. Sun, Coal 2. Pliers, Scissors 3. Screwdriver, Bottle opener 4. Magnetic force, Gravitational force

D. 1. A lever consists of a rigid ..... heavy load. First class second class and third class levers. 2. A pulley is a simple machine ..... move a load. A fixed pulley is used to draw water from a well. 3. The

ability to do work is called energy. Four kinds of energy – heat energy, light energy, sound energy, electric energy. 4. A movable pulley …….. pull the load. 5. The force acting …… gravitational force.

Reasoning Time

1. Tyres have grooves to create a surface that is not smooth. This improves traction.

2. Due to gravitational force.

2. Solid, Liquid and Gas

A. 1. b 2. b 3. c 4. c 5. c

B. 1. b 2. e 3. a 4. c 5. d

C. 1. Volume 2. less 3. buoyant 4. Density 5. Physical

D. 1. Tiny particles of matter. 2. In liquids, the molecules …… liquid flows. 3. A physical change is a temporary ……..... thing with another. A chemical change is a …… combustion or burning. 4. Some liquids like alcohol …… immiscible liquid. 5. The upward push of water on a floating object.

Reasoning Time

1. In solids, the molecules are compact. They cannot move around.

2. Do yourself

3. Heat

A. 1. b 2. b 3. a 4. b

B. 1. molecules 2. thermocouple 3. temperature 4. boil 5. state

C. 1. c 2. d 3. a 4. b

D. 1. Heat is a form …… up matter. 2. Heat is a form …… make up matter. Temperature is …… contains. 3. When we heat an object, its temperature increases. 4. Solids can melt on heating. 5. The substances which allow …….. good conductors of heat. The substances which do not …… bad conductors.

Reasoning Time

1. In solar cells, solar water heaters, solar furnaces, solar power electricity, etc. 2. It changes the temperature of an object. If heat is transferred from an object to the surroundings, then the object can cool down and the surroundings can warm up. When heat is transferred to an object by its surroundings, then the object can warm up and the surroundings can cool down.

4. Air and Water

A. 1. b 2. b 3. b 4. a

B. 1. Carbon–dioxide 2. humidity 3. Neon 4. Rainwater 5. Barometer

C. 1. boiling 2. Oxygen 3. Chlorine 4. impurities

D. 1. c 2. a 3. d 4. e 5. b

E. 1.To stay alive. 2. By sedimentation and decantation 3.Because impure water can be harmful and make us sick. 4. Air occupies space, air has weight, air exerts pressure. 5. Insoluble impurities like mud …… sedimentation. The process of removing ……. called filtration.

Reasoning Time

1. People, plants and animals.
2. To make water fit for drinking.

5. Soil Erosion and Conservation

A. 1. b 2. a 3. b 4. b

B. 1. Topsoil 2. Running water 3. Strong wind 4. Deforestation 5. Conserve

C. 1. The soil is formed by weathering

of rocks. 2. Soil is important ……. them grow. 3. Soil erosion is the process …….. worn away. 4. Water, wind and deforestation. 5. The protection of soil against erosion.

Reasoning Time

1. The degradation of organic matter within the soil produces a substance called humus, which has a complex chemical structure and is composed of carbon-rich compounds that impart the dark colour. 2. To prevent overgrazing. If he takes his cattle at the same place the danger of soil erosion will be increased.

6. Rocks and Minerals

A. 1. a 2. b 3. b 4. b 5. a

B. 1. Large rocks
2. calcium carbonate 3. lava
4. Granite 5. Pumice

C. 1. b 2. c 3. d 4. a 5. e

D. 1. Rocks are hard …….. minerals. Different types of rocks are igneous, sedimentary, metamorphic. 2. Flowing water and changing in weather. 3. Igneous means made …….. known as igneous rocks. 4. Minerals in general are …….. non-metallic. Metallic minerals are iron, copper, lead, and aluminum. Non-metallic minerals are diamond. 5. Coal and petroleum are mineral fuels. These are fossil fuels derived from rocks. These are non-renewable resources.

Reasoning Time

1. Pumice heals up tough, dry skin and dead skin cells, usually from the feet. 2. A distillate fuel, commonly called jet fuel.

SOCIAL SCIENCE

1. Prairies: The Treeless Grasslands

A. 1. a 2. a 3. b 4. b

B. 1. ✓ 2. ✓ 3. ✓ 4. ✗ 5. ✓

C. 1. c 2. e 3. d 4. b 5. a

D. 1. Some places where do not ……. or grassland. 2. The Mississippi and Missouri rivers. 3. Wheat, corn, barley, rye, oats …….. called 'Wheat Basket of the World'. 4. All the farming operations ..... help of machines. 5. Large farms where cattle are reared, called ranches.

IQ Questions

1. Chicago is world famous for slaughtering cattle. Beef is produced on a large scale which is a staple food of America. 2. Because wheat, corn, barley, rye, ……..... called 'Wheat basket of the World'.

2. Conquering Distances

A. 1. b 2. b 3. b 4. a

B. 1. 400 2. France 3. Europe 4. 1869 5. Flyer 6. Swiss Alps

C. 1. ✗ 2. ✓ 3. ✗ 4. ✗ 5. ✓

D. 1. b 2. e 3. d 4. a 5. c

E. 1.Smooth roads having 4 to 5 lanes on each side called high-ways. 2. The Atlantic Ocean and the Pacific Ocean. 3. Some canals are the Suez Canal and the Panama Canal and rivers are the Rhine and the Volga 4. Air transport is the fastest means of …….. without any difficulty. 5. Mineral oil (Petroleum) is carried in special ships called oil-tankers.

IQ Questions

1. It connects industrial production centres with markets and with sources

of raw materials and facilitates industrial development and link agricultural production centres with distant markets. 2. Transportation is one of our most basic needs. It gives us the luxury of going anywhere without the worry of time.

3. Sending and Receiving Messages

A. 1. a 2. b 3. a 4. a

B. 1. Postal system 2. Pigeons 3. 1837 4. Telephone 5. Rome 6. Information Technology

C. 1. ✗ 2. ✗ 3. ✗ 4. ✗ 5. ✓

D. 1. Through sound signals, symbols and pictures. 2. Communication is a process that allows us to exchange information by several methods. 3. Books, magazines, newspapers, radio, television, etc. 4. We can watch a variety of programmes on television, both recorded and live in our homes. 5. Cinema is an audio–visual equipment. 6. A new technique developed to make contact with the masses. It is very useful in times of emergency. It has a powerful impact.

IQ Questions

1. Newspaper 2. Do yourself.

4. The Age of Machines

A. 1. a 2. a 3. b

B. 1. copper 2. stronger 3. James Watt, 1769 4. electricity

C. 1. Agricultural implements were made ..... and ironsmith. 2. To make various parts with the help of dies and moulds called mass production. 3. He made a paper kite and tied a ..... were the same thing. 4. The sun and wind are the other sources of energy ..... being ever lasting.

IQ Questions

1. Electricity is an essential part of our life, from the doors of our power supply line to the light in our bedroom, everything is based on electricity. 2. Because these resources are limited and consuming at a rapid speed.

5. Some People Never Die

A. 1. a 2. c 3. a 4. b

B. 1. Plato 2. Northern, Southern 3. Karl Marx 4. Satyagraha 5. Peace, 1964

C. 1. ✓ 2. ✓ 3. ✗ 4. ✓ 5. ✓

D. 1. b 2. c 3. e 4. a 5. d

E. 1. Socratic method of arriving at the truth was by asking questions. 2. To revolt against in America on the question of slavery. 3. Karl Marx was the founder of communism and propagated socialism. 4. Because Gandhiji served many noble causes for the Indian society. 5. Martin Luther King was a black American who led the Civil Rights Movement in the United States. He got Noble Prize for Peace in 1964.

IQ Questions

1. Because he believed that means of production belonged to the society and not to the individuals. 2. Do yourself

6. The Birth of the United Nations

A. 1. b 2. a 3. b 4. c

B. 1. 192 2. Franklin Roosevelt 3. League of Nations 4. 24 October 5. 1919

C. 1. ✓ 2. ✓ 3. ✗ 4. ✓ 5. ✗

D. 1. For gaining more colonies and expanding their empires. 2. For

gaining more colonies and expanding their empires resulted in two world wars. 3. After the First world war ..... was disbanded. 4. To maintain peace, security ..... of all people.

IQ Questions

1. 24 October has been celebrated as United Nations Day since 1948. In 1971, the United Nations General Assembly recommended that the day be observed by Member States as a public holiday. 2. On 18 December 1973

7. The Revolt of 1857

A. 1. a 2. b 3. a 4. a 5. c

B. 1. ✗ 2. ✗ 3. ✓ 4. ✗ 5. ✓ 6. ✗

C. 1. India 2. The Company's rule in India was based on exploitation of people and resources of the country. 3. British Rule brought drastic ..... scale employment . 4. It was the first war for Indian independence.

IQ Questions

1. The Revolt of 1857 marked a turning point in the history of India. It was the indication of a new age. It crowned the dawn of India's independence from the fetters of foreign rule that had bound her. It laid the foundation of Indian nationalism. 2. The Revolt of 1857 came to an end because the revolt was suffered from weak leadership and was hardly organised.

GENERAL KNOWLEDGE

1. Famous Players

- 1. Leander Paes, Mahesh Bhupathi 2.Venus Williams, Serena Williams 3. Karanam Malleswari, Weightlifting 4. Kapil Dev 5. Dhyan Chand

2. The Branches of Science

- 1. Astrology 2. Cartography 3. Biology 4. Psychology 5. Astronomy 6. Horticulture 7. Chemistry 8. Oceanography 9. Numerology 10. Physices

3. The Study of Elements

- 1. Hydrogen 2. Calcium 3. Mercury 4. Chlorine 5. Arsenic 6. Iron 7. Uranium 8. Phosphorus 9. Aluminium 10. Oxygen

4. Parts of the Body

- 1. Kidneys 2. Veins 3. Hart 4. Oxygen, Carbon dioxide 5. Liver 6. 4 to 5 litres 7. 206 8. Lungs 9. Blood 10. Nervous system

5. Rocks and Weathering

- 1. Fossil 2. Coal 3. Magma 4. Lava 5. Igneous 6. Sedimentary rocks 7. Wind, Water 8. Limestone

6. Food Items

- FATS– Paneer, Pastry
  VITAMINS– Orange, Carrot, Tomato
  MINERAL SALTS– Spinach, Cauliflower
  CARBOHYDRATE– Rice, Potato, Bread
  PROTEINS– Fish, Meat, Egg, Pulses, Milk

7. Famous Women

- 1. Indira Gandhi 2. Kalpana

Chawla 3. Mary Kom
4. Kiran Bedi 5. Arundhati Roy
6. Sarojini Naidu

8. Indian States

- 1. Leh Airport, Ladakh
2. Marina Beach, Chennai 3. Rasthtrapati Bhawan, New Delhi
4. Mumbai, Maharashtra
5. Thar Desert, Rajasthan
6. Golden Temple, Amritsar
7. Jama Masjid, Delhi
8. Rajasthan
9. Gol Gumbaz, Bijapur
10. Indian Museum, Kolkata

9. Political Parties

- 1. President 2. Vice President
3. Prime Minister 4. Chief Justic
5. Attorney General

10. Ancient India

- 1. Indus Valley Civilisation
2. Ramayana and Mahabharata
3. Alexander the Great
4. Kalinga War 5. Dhamek Stupa, Sarnath, King Ashoka
6. Qutb-ud-Din Aibak
7. Harappa, Mohenjo-Daro
8. Aryans

11. Stick Quiz

- 1. Walking stick 2. Soup stick
3. Gear stick 4. Lipstick
5. Matchstick 6. Glue stick
7. Hockey stick 8. Broomstick

12. Advertisement Quiz

- 1. Pepsi 2. Amul 3. Cadbury
4. Lay's 5. Coca-Cola
- 1. (c) 2. (e) 3. (a) 4. (b) 5. (f) 6. (d)

13. Computer Knowledge

- 1. Information Technology
2. Compact Disc - Read Only Memory 3. Digital Versatile Disc
4. Random Access Memory
5. Central Processing Unit
6. Local Area Network
7. World Wide Web
8. Hypertext Markup Language
9. Arithmetic and Logical Unit
10. Control Unit

14. Memory Test

- 1. (b) 2. (b) 3. (c) 4. (c) 5. (c) 6. (b)

MORAL

1. Telling Line

A. 1. (c) 2. (a) 3. (e) 4. (b) 5. (d)

B. 1. sacrifice 2. eager 3. interval
4. naughty 5. country

C. 1. Yes 2. Panna Dhai lied to save the prince who was the hair of throne. 3. Rani lied to save Susan. 4. Rohan lied in front of the teacher that Mary pushed Roshni. Mary was scolded and punished by the teacher. 5. The soldiers lied to save their checkpost and the lives of ten brave soldiers.

D. 1. Truth 2. Useful
3. Cruelty 4. Friend
5. Fantasy 6. Love
7. Cowardly 8. Wickedness

E. Do yourself.

2. Honesty is a Great Quality

A. 1. ✗ 2. ✓ 3. ✗ 4. ✗ 5. ✓

B. 1. poor 2. grains 3. patiently
4. fish 5. belly

C. 1. The rich man helped the poor and needy people. 2. The rich man sold the grains at low prices during the drought. 3. The sons did not

agree with their father because they wanted to sell wheat and other grains at a higher price to earn more money. 4. The rich man threw the gold brick in the sea water. 5. The rich man got the brick from the belly of the fish.

D. Do yourself.

E. Do yourself

COMPUTER

1. Managing Files and Folders

A. 1. logical 2. files 3. Windows Explorer 4. folders

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

C. 1. Open the Windows Explorer ..... save the file in it.

2. To print a file choose the related file from the Menu bar and select Print or press Ctrl+P option.

3. To install any software ..... your program is ready.

4. To delete any file ..... erase the file.

5. If you want to rename a file ..... new name to a folder.

2. Drawing and Colouring

A. 1. select the picture
2. semi-circle, Oval
3. Tools
4. Polygon
5. Rotate

B. 1. (d) 2. (a) 3. (b) 4. (c)

C. 1. Paint program is used to make freehand drawings and colour them using different tools.

2. There are 20 colours in Colors Palette.

3. Special filling style polygon shapes can be made with Polygon.

4. Eraser can erase any part of the picture.

5. Thumbnail is a small window located in the main part of file. When we draw a picture, the thumbnail informs us about the position of the cursor.

3. MS Word

A. 1. Redo 2. Ctrl + C 3. Ctrl + V 4. Ctrl + B

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

C. 1. Formatting the text means to change the appearance of text by using different font size, fonts & line spacing.

2. You can check any spelling in MS Word. It helps to make our text error-free.

3. Bring the cursor to the left ..... are not deleted.

4. Internet

A. 1. Internet
2. Chatting
3. E-mail ID

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

C. 1. Internet is a medium which connects the computers with each other.

2. The process of communicating, interacting and exchanging messages over the Internet is called chat.

3. The process of sending letters to any corner of the world through Internet is called electronic mail.

हिन्दी

1. न्याय

(क) 1. हंस को तीर देवदत्त ने मारा था। 2. तीर लगते ही पक्षी ..... शरीर से रक्त बहने लगा। 3. 'कोई भी व्यक्ति जिसके ..... बेजुबान पक्षी की जान क्यों लेगा। 4. 'शिकार करना मनुष्य का ..... उसका शिकार कर सकता है। 5. अंत में मंत्री ने सिद्धार्थ को हंस ..... इस प्रकार हंस सिद्धार्थ को मिला।

(ख) 1. उतावली 2. भूख 3. निर्दयी 4. धर्म 5. धौंस

(ग) 1. सिद्धार्थ 2. सखा 3. देवदत्ता 4. महाराज 5. सिद्धार्थ

भाषा-बोध

(क) स्वयं कीजिए।

(ख) प्रेम, छूना, निरपराध, दरबान, कठिन, मंजिल

(ग) स्वयं कीजिए।

2. रहस्यमय संसार की यात्रा

(क) 1. गौरव को विज्ञान ..... की पुस्तकें पढ़ने का शौक था। 2. गौरव की माँ ने .... सो जाने के लिए कहा। 3. विचित्र प्राणी की आकृति ..... आँखें उसके सिर पर थी। 4. आँखें खोलने के बाद उसने .. .. प्राणी नजर नहीं आया।

(ख) 1. विज्ञान 2. कुर्सी 3. अँधेरा 4. चेहरे 5. तेज

(ग) 1. ✗ 2. ✓ 3. ✓ 4. ✓

भाषा-बोध

स्वयं कीजिए।

3. दोहा दशक

(क) 1. ज्ञानी लोग दूसरों के हित के हेतु संपत्ति का संचय करते हैं। 2. सज्जन लोगों पर कुसंगति का प्रभाव नहीं पड़ता। 3. स्वजनों व भाई-बंधुओं के प्रति प्रेम का भाव रखना चाहिए। 4. संकट के समय को चाहे वह थोड़े ही दिन का हो, कवि ने उचित इसलिए बताया है क्योंकि संकट के समय हमें हित-अनित और जगत में कौन अपना है और कौन पराया संकट के समय में हमें यह पता चल जाता है। 5. कविवर रहीम के अनुसार मन की व्यथा मन में ही रखने के लिए कह रहे हैं क्योंकि लोग किसी की व्यथा सुनकर बस हंसी उड़ाते है।

(ख) 1. दिए गए दोहे में कहा गया है कि अगर आप से कोई नाराज हो जाए या रूठ जाए तो उसे मनाने का बार-बार प्रयास करके टूटे हुए मोती हुई माला को जैसे जोड़ते है जैसे रूठे हुए व्यक्ति को मनाना चाहिए। 2. दिए गए दोहे में रहिमन कहते हैं कि हमें अपने मन की बात मन में ही रखनी चाहिए। मन की जो व्यथा है, जो परेशानी वह किसी को नहीं व्यक्त करनी चाहिए क्योंकि अक्सर लोग सुनकर केवल मजाक ही उड़ाते हैं।

(ग) स्वयं कीजिए।

4. मेरी कहानी

(क) 1. राजेन्द्र बाबू का जन्म ..... ग्राम में हुआ था। 2. राजेन्द्र बाबू को आरंभ ..... एम.ए. की परीक्षा उत्तीर्ण की। 3. बाल्यकाल से ही राजेन्द्र बाबू ..... जीवन पर गहरा प्रभाव पड़ा। 4. कोलकाता विश्वविद्यालय

के एक परीक्षक ..... परीक्षार्थी परीक्षक से भी बेहतर है। 5. सन् 1942 ई. में भारत छोड़ो आंदोलन। 6. भारत के राष्ट्रपति का।

(ख) 1. य 2. र 3. अ 4. ब 5. स 6. द

(ग) 1. ✗ 2. ✓ 3. ✗ 4. ✗ 5. ✓ 6. ✓

भाषा-बोध

(क), (ख) तथा **(ग)** स्वयं कीजिए।

5. सुदामा-सत्कार

(क) 1. सुदामा एक ब्राह्मण थे। वे श्रीकृष्ण के परम मित्र थे। 2. भिक्षा से जो कुछ मिलता था, उसी से अपने परिवार का गुजर-बसर करते थे। 3. जब सुदामा की पत्नी ने उनसे कई बार द्वारिका जाने की प्रार्थना की, तब उन्होंने सोचा, ''धन की तो कोई बात नहीं है'' परंतु भगवान श्रीकृष्ण का दर्शन हो जाएगा। इसी बहाने जीवन का यह सर्वोत्तम लाभ प्राप्त होगा। सुदामा इस विचार के साथ द्वारिका रवाना हुए। 4. सुदामा श्रीकृष्ण को भेंट देने के लिए चार मुट्ठी चावल ले गए थे। 5. श्रीकृष्ण ने सुदामा का स्वागत सत्कार कुछ इस प्रकार किया- भगवान श्रीकृष्ण ने सुदामा को ले जाकर अपने सिंहासन पर बैठाया। उनके पैरों को धोकर चरणामृत लिया तथा उन्हें स्नान कराकर रेशमी वस्त्र पहनने के लिए दिए। रुकमणी जी स्वयं उन्हें पंखा झलने लगीं और भगवान ने उन्हें नाना प्रकार का स्वादिष्ट भोजन करने के लिए दिया।

(ख) 1. ब्राह्मण 2. धरती 3. नंगे 4. चावल 5. पतिव्रता

(ग) 1. ✗ 2. ✗ 3. ✓ 4. ✗ 5. ✗

भाषा-बोध

(क) 1. वे, हमारी 2. आप 3. तुम 4. तू 5. मैं

(ख) स्त्रीलिंग, स्त्रीलिंग, पुल्लिग, पुल्लिग, पुल्लिग, स्त्रीलिंग, पुल्लिग, पुल्लिग, पुल्लिग, स्त्रीलिंग, स्त्रीलिंग, पुल्लिग

6. महाकवि कालिदास

(क) 1. कालिदास एक निपट गँवार ..... अपनी आजीविका चलाते थे। 2. लोग उसकी मूर्खता की बातें करके हँसा करते थे। 3. जिस राज्य में कालिदास का ..... का नाम विद्योत्तमा था। 4. वह उसे व्यक्ति से विवाह ..... का लोहा वह मान लेगी। 5. राजकुमारी विद्योत्तमा को नीचा ..... महामूर्ख से करवाने की ठानी। 6. कालिदास ने देवी काली की ..... वे प्रकांड पंडित बनकर लौटे।

(ख) 1. मूर्खता 2. योग्यता 3. मात 4. पेड़ 5. कुमुद

(ग) 1. द 2. य 3. अ 4. ब 5. स

(घ) 1. ✗ 2. ✓ 3. ✗ 4. ✗ 5. ✓

भाषा-बोध

(क) बिल्कुल, अशिक्षित, साफ-साफ, नजर, सलाह, माफी, आराम, चुप, देर

(ख) स्वयं कीजिए।

(ग) स्वयं कीजिए।

7. दो दीप

(क) 1. बिन तेल न बिन बाती का दिन भर जलने वाला दीप सूरज है। 2. भारत माँ के आँगन में ज्ञान दीप जलता है। 3. ज्ञान दीप प्रकाशित होकर समाज के प्रत्येक अंग में प्रकाश भरता है।

(ख) 1. दी गई पक्तियों में कवि कहना चाहता है कि जो आकाश में सूरज चमक रहा है वो धरती के हर करण को उज्ज्वल करता है। सूरज किसी भी प्रकार का भेंद-भाव ना करके पूरी धरती का अंधकार मिटाकर, उसे उज्ज्वल करता है। 2. दी गई पक्तियों में कवि कहना चाहता है कि वह एक मात्र शिक्षा का ही एक दीप है जो दिन और रात दोनों समय जला करता है। सूरज की तरह नहीं केवल दिन के समय प्रकाश दें। ज्ञान-दीप ऐसा दीप है जो समाज के, प्रत्येक अंग को प्रकाश से भरता है।