

ENGLISH

Unit I Sec - 2 Packing

I. Synonyms:

- | | | |
|-----------------|---|---------------------------------------|
| 1. mess | - | disorder |
| 2. contribution | - | offering |
| 3. frustration | - | the feeling of being upset or annoyed |
| 4. pretend | - | behave so as to make it appear |
| 5. squashed | - | squeezed |
| 6. slammed | - | shut/close with force |
| 7. wrapped | - | cover or enclose |
| 8. nuisance | - | causing inconvenience |
| 9. mysterious | - | impossible to understand |
| 10. stumble | - | to trip over. |

II. Opposites:

- | | | | | | |
|------------|---|----------|--------------|---|--------|
| 1. pack | x | unpack | 2. energetic | x | lazy |
| 3. trivial | x | precious | 4. uncanny | x | normal |

III. Answer the following with reference to context:

1. "I didn't encourage him. A dog like that doesn't want any encouragement. It's the natural, original sin that is born in him that makes him do things like that"

a. What is referred as natural sin that is born with the dog?

It refers to the natural instinct of the dog which is born along with him

b. Give the synonym for the word "Encourage"

Encourage means to motivate.

2. "This was hardly what I intend. I should boss the job."

a. Who does "I" refer to here?

"I" refers to the author Jerome K Jerome

b. What did the author desire to do?

The author desired to boss over George and Harris while packing.

IV. Answer in paragraph:

1. Of the three friends, Jerome, George and Harris, who in your opinion is the worst packer?

Jerome desired to boss over Harris and George but finally he began to pack. Harris and George were lazy to pack. Jerome spent a long time to pack and strap the bag. When Jerome finished packing, Harris reminded him of boots. Jerome realized that he had forgotten about it. So he opened the bag to pack the boots. When he was about to close, Jerome was constantly disturbed by the thoughts of forgetting his tooth brush. He went to the extent of dreaming that he

had not packed it. He rummaged the bag in search of the tooth brush but he could find only George's and Harris's.

From the above described event, we know that Jerome is the worst packer of all.

2. The whole story revolved around packing. Give reasons.

This story is about the three friends who are to go travelling and trying to pack their bag for it. The list they made was a pretty lengthy one. They got them all together and piled everything in a heap. They started to pack with much frustration that they made a mess. They made foolish and funny things while packing such as breaking a cup, squashing tomatoes and trod on the butter. They prolonged their packing time to 12.50 and became very tired. In this way the whole story revolved around packing.

V. Answer in Detail:

1. Do you find the story interesting? List three episodes in order of your preference that you enjoyed reading.

Yes, this story is funny and interesting to read. Jerome's awful dream of forgetting the toothbrush, hunting for it and after having found, finally wrapping it in a pocket-handkerchief depicts Jerome to be funny and crazy while packing.

George and Harris's contributions towards packing turned out to be a mess. Harris broke the cup. He packed the strawberry jam on top of tomatoes and squashed it. George walked on a pack of butter. Harris sat on it and it got stuck to him. They were unaware of it and were looking for it all over the room.

Montmorency pretended lemons were rats. He chased the lemons and tried to kill it. He put his legs into the jam and hopped all around the room creating endless chaos.

These episodes describe how funny the whole packing experience was for the author and his friends.

2. List the characteristics of three friends.

George and Harris always irritated the narrator; they sat about doing nothing when the narrator was working hours together. Harris packed the strawberry jam on top of tomatoes and squashed it. Jerome thought himself a best packer. He thought to boss both George and Harris and they would work according to his instructions. He put in great deal of effort in packing things at last realized that many things had been left out. He was sure of what was packed and repacked it again. All the three friends made a complete mess in packing. This shows that they were not delighted and had great frustration.

UNIT - 2 SEC: 1 THE DIARY OF ANNE FRANK

I. Synonyms:

- | | | |
|-------------------|---|-----------------------------------|
| 1. brooding | - | worrying |
| 2. adorable | - | lovable |
| 3. incorrigible | - | hopeless, irreformable |
| 4. ramble | - | wander |
| 5. curiosity | - | a strong desire to know something |
| 6. bouquet | - | bunch of flowers |
| 7. terrific | - | huge |
| 8. prompted | - | resulted in |
| 9. quaking | - | shaking |
| 10. unpredictable | - | uncertain |
| 11. convincing | - | causing some one to believe |
| 12. assigned | - | allocated |
| 13. plunge | - | jump or dive quickly |
| 14. ridiculous | - | silly |

II. Antonyms:

- | | | | | | |
|----------------|---|---------------|--------------|---|-----------|
| 1. witty | x | boring | 2. extrovert | x | introvert |
| 3. fortunate | x | unfortunate | 4. emigrate | x | immigrate |
| 5. predictable | x | unpredictable | | | |

III. Explain with reference to the context:

1. "I don't want to jot down facts in this diary the way most people would do, but I want the diary to be my friend and I'm going to call this friend kitty"

a. What did Anne Frank not want to write in her diary?

Anne did not want to mention facts as many people do the same.

b. What's the name of her new friend?

Anne's diary's name is kitty. She imagined her diary to be her friend & started to write her feelings of everyday life.

2. "This time it was supposed to be on 'An Incorrigible Chatterbox.'"

a) Who gave a punishment of writing an essay to Anne Frank?

Mr. Keesing punished Anne Frank to write an essay.

b) Give another word which means the same as chatterbox.

Another word for 'Chatterbox' is 'talkative person'.

IV. Answer in Paragraph:

1. Write about the nature and character of Anne Frank.

Anne felt herself completely alone in the world because she did not have a true friend. Though she had loving parents and a sixteen year old sister, she did not confide with them. She was 'An incorrigible chatter box' and got several warnings from Mr. Keesing, who teaches

Maths. Anne was always thoughtful and never expressed her thoughts to anyone. She argued with Mr. Keesing that talking is a female trait. She wrote an essay entitled 'Quack, Quack, Quack' and impressed Mr. Keesing. He gave his own comments and allowed Anne to talk thereafter.

V. Answer in Detail:

1. Give a brief account on Annie Frank's experiences both at home and in school.

Anne had a loving family, loving aunts, a good home and also at least thirty people whom she could call 'friends'. She was thoughtful and did not confide things to anyone. She wanted to share her thoughts and chose a diary to be her best friend. She named it 'kitty'.

Annie got along well with her teachers in school. Her Maths teacher 'Mr. Keesing' gave her several warnings for talking in the class. He assigned her to write an essay as a punishment, whenever she talked. She played a great effort and impressed Mr. Keesing by her creative writing.

2. Give a brief account of how Anne managed to impress Mr. Keesing and get away with her extra assignments?

It was Sunday 21 June, 1942, Mr. Keesing was teaching Maths. He had given many warnings to Anne as she talked too much and assigned to write an essay on 'A Chatterbox'. After putting much thought into it, she came out with a convincing argument that talking is a female trait. Mr. Keesing had a hearty laugh after reading it and gave her an essay to write for the second time on 'An Incurable Chatterbox'. But then for the third time he assigned to write on the topic entitled 'Quack, Quack, Quack mistress Chatterback'. This time Anne wrote a witty poem which impressed Mr. Keesing. In fact, the poem was taken positively by Mr. Keesing and thus Anne got away with writing extra assignments. On the contrary, Mr. Keesing began to make funny jokes from then on.

UNIT:2 SEC:2 SCHOOL BREAKS UP

I. Synonyms:

- | | | |
|---------------|---|-----------------------|
| 1. woes | - | great sorrows |
| 2. albeit | - | though |
| 3. strode out | - | walked out |
| 4. gazing | - | looking continuously |
| 5. declined | - | rejected |
| 6. wistfully | - | longing for, yearning |
| 7. exhaustion | - | extreme tiredness |

8. hailed	-	dropped
9. precise	-	accurate
10. elaborate	-	detailed
11. wailing	-	howling
12. winking	-	closing and opening eyes quickly
13. parched	-	dry
14. abstracted	-	lost in thought
15. blockhead	-	a very stupid person
16. absolutely	-	completely

II. Antonyms:

1. protest	x	accept
2. abstract	x	concrete
3. preceding	x	succeeding
4. remember	x	forget
5. comfortable	x	uncomfortable

III. Explain with reference to context:

1. "I too wrote about that length, about half a page".

a) Who is the speaker?

The speaker is a small boy called Swaminathan.

b) Did Swami speak the truth or not? Why?

No, Swami lied that he had written half a page of an answer. He said so because he didn't want others to know that he didn't know the answer..

2. "There would have been roars of laughter at anything; the mood was such?"

a) Why there would be roars of laughter at anything?

There would be roars of laughter on that particular day because it was the last day of the school and students were happy about the vacation.

b) What do you mean by the phrase 'roars of laughter'?

The phrase 'roars of laughter' means students were happy and elated.

IV. Answer in paragraph:

1. Swaminathan is a playful boy and not interested in studies. Support your answer.

Swaminathan was extremely playful and loved to be in the company of his friends. He was not interested much in studies. He wistfully looked out of the window at the Verandah outside. He waited eagerly to handover the paper wishing that he need not write the exam for a long time hence forth. He also wished that he could do whatever he pleased during the vacation. He would roam about the

town the entire day – throw away the books and command granny to tell endless tales.

He was not serious about exams too. He felt extremely bored to write the answers that he began to draw complicated drawing patterns on the paper.

V. Answer in detail:

1. Do you like Swami? Why or why not? Give reasons.

Yes, I like Swami. Swami is an intelligent boy though he is not very serious about his studies and exams. He wrote answers which were to the point. Swami finished writing his paper much before the end of the exams. He started to revise. He read the first few lines and felt bored. He kept gazing at the moral of the tiger story till it lost all its meaning to him. He began improving the little dash in the last line of the question paper into a complicated drawing pattern. He is intelligent because he grasped the moral of the story of 'The Brahmin and the tiger' correctly and did not write more than what was needed. He like every other boy was day dreaming about the upcoming vacation and was planning to spend it on his own terms. He also liked listening to the stories that Granny could tell; he was eagerly waiting to hear some soon.

UNIT-2 SEC-3 THE FLOWER SCHOOL [POEM]

Summary:

The poet describes the happiness of flowers when the rain drops shower on them. The east wind blows heavily on the vast area which sounds like a bag pipe. When the climate is rainy, the flowers appear to dance gleefully. It rains on its head and flutters its petals as if the flowers go to school underground.

During rainy weather, the poet describes the flowers to be enjoying the holiday. Due to the heavy cool breeze, the branches of the forest dash to one another and the rustling noise of dry leaves and branches can be heard. When there is a heavy thunder and cool breeze blows, the flowers open up in beautiful and bright colours of pink, yellow and white.

The poet describes that flowers stretch out their petals towards their mother which is the sky. He compares flowers to a child who stretches his arms towards his mother out of affection and love.

UNIT-3 SEC-1 THE SUMMIT WITHIN

I. Synonyms:

- | | | |
|---------------|---|----------------------|
| 1. expedition | - | a Journey to explore |
| 2. obstacles | - | hurdles |
| 3. endurance | - | stamina |

4. communion	-	feeling of close relationship
5. defied	-	frustrated
6. determination	-	resolution
7. aloof	-	reserved
8. inspiration	-	motivation
9. glimpse	-	catch sight of
10. urge	-	stimulate
11. immense	-	huge
12. exhilaration	-	happiness
13. life at stake	-	life at risk
14. jubilant	-	delighted
15. acclaimed	-	acknowledged

II. Antonyms:

1. fade	x	brighten
2. spiritual	x	material
3. worthwhile	x	worthless
4. rugged	x	smooth
5. overcome	x	subdue

III. Explain with reference to the context:

1. "Why do people climb mountains? It is not easy to answer the question.

The simplest answer would be 'Because it is there'. It presents great difficulties.

a) Why according to the author people climb mountains?

According to the author, when many great personalities are questioned about their interest to climb mountains, they would just reply that it presents great challenge to the mountaineers.

b) Give synonyms for the word 'difficulties'.

The synonyms for the word 'difficulties' are challenges or risks.

2. "I venture I think that my experience as an Everester has provided me with the inspiration to face life's ordeal resolutely."

a) What has been a great inspiration for the author to face the challenges of life?

The author's experience of climbing the summit and overcoming the obstacles has motivated him to face all the challenges of life.

b) Give a synonym for the word 'resolutely'.

Resolutely means with determination.

IV. Answer in a Paragraph:

1. Each man carries within himself his own mountain peak. What does the narrator mean? How can one conquer it?

Each man carries within himself his own mountain peak. By this the narrator means that each man carries within himself a mountain

peak of doubts and worries. It is fearful and almost unscalable. One can conquer it only by oneself. No one can help one to do that. A huge summit can be climbed up successfully by a team's effort but the summits which are present in our minds have to be climbed upon or conquered only by an individual.

V. Answer in Detail:

1. Describe the narrator's experience of climbing the huge summit. What did the narrator learn?

According to the narrator the experience of climbing changed him completely. He faced two paradoxical emotions as he conquered the Everest. He learnt to be humble after having climbed the mightiest and at the same time he felt sad that there was no higher summit to climb. By seeing its loftiness, ruggedness and aloofness of the summit, he learnt how small he is in this vast universe. After having conquered the Everest, the narrator's view transformed philosophical divine.

The narrator remarks that climbing the mightiest peak is easy and possible by a team's effort, but the particular climb within one's own mind is difficult and fearful. Human beings encounter various summits physically, emotionally and spiritually. It's the individual's determination which could give inner strength to climb it.

2. 'Climbing the mountain with in' Is the narrator trying to speak about Mt. Everest? Give reason if not.

No, the narrator does not speak about Mt. Everest. Here 'Climbing the mountain with in' actually refers to one's own mind. The impact of both the climb are same physically, emotionally and spiritually.

Climbing the Everest helped the narrator to gain full knowledge about himself. The narrator considers that it was not much difficult to climb Mt. Everest than climbing within the mind, which seems to be fearful. Now climbing Mt. Everest has given the biggest learning experiences in life.

LITERATURE READER SUMMARY: 2

THE HAPPY PRINCE

This story brings out an appreciation to the two kind hearts, which were weary on earth and precious in heaven. The author highlights the attitudes of men. "One who is rich and has a good out look is appreciated and kept on the top, but one who is poor and shabby is thrown on dust.

When the prince was alive, he did not know unhappiness and he led a luxurious life, hence his courtiers called him the happy prince. After his death, he was put on a high pedestal from where he could see all the miseries of the city and felt unhappy.

One day, as the swallow came to take rest at the feet of the statue, it felt that happy prince was crying and stated the plight of his citizen to the swallow. He requested the swallow to do him a favour without refusing. He first asked the swallow to pluck out the ruby in the hilt of his sword and give it to the poor seamstress for her sick boy. Next he asked to pull out a sapphire from one of his eyes to favour a poor student struggling to write a play. Next day he commanded to pull out one more sapphire without refusing to help the poor girl who dropped her matches into the gutter. This made her cry out of fear.

This act of the happy prince made the swallow to stay with him always and finally died at the prince's feet. At the same time the leaden heart of the prince snapped into two. Next morning the mayor looked up at the statue and thought to melt the shabby statue in a furnace.

The broken lead heart was thrown into the dust heap where the swallow lay dead as it did not melt in the furnace.

God who is always monitoring everything orders the angels to bring the two most precious things in the city they brought him the leaden heart and the dead bird which was lying unseen in dust. God made the bird to sing for ever in the paradise and the heart of the happy prince shall always praise the lord.

SUMMARY 3: THE UMBRELLA MAN

The narrator of the umbrella man describes the ruffled behaviour of his mother as she has been cheated. She felt restless and moved to find out what intended him to do that and came to know that he was a trickster, who very often steals umbrellas from pubs on rainy days and sells them to strangers without umbrellas. With the money thus obtained, he would buy himself a mug full of alcohol.

In this story, it shows an own unique way of dealing with suspicions, such as she followed the golden rule: "The nicer the man is, the more suspicious one should become". She initially reacted more suspicious when the old man asked a favour of one pound for taxi fare But her suspicions were laid to rest as the old man refused to get any money and instead, insisted to buy him umbrella.

Here the narrator brings out two conflicts, whether the umbrella man is likeable or dislikeable? In this case, he is more likeable because of his intelligence and resourcefulness in the manner he dupes unsuspecting strangers and he is dislikeable because of his habit of selling umbrellas and selling them to people stranded in the rain for having a drink for himself.

UNIT-3 SEC-2

SOMETHING WONDERFUL HAPPENS WHEN YOU PLANT A SEED

I. Synonyms:

- | | | | |
|---------------------|---|------------------|--------------------------|
| 1. applause | - | appreciation | |
| 2. environmentalist | - | a nature-lover | |
| 3. equanimity | - | composure | |
| 4. reverberated | - | resounded | |
| 5. abuse | - | misuse | 6. astonishing - amazing |
| 7. malnutrition | - | undernourishment | 8. nuisance - annoyance |
| 9. acknowledged | - | recognised | 10. sustain - undergo |
| 11. conflict | - | dispute | 12. aesthetic - elegant |
| 13. empowered | - | authorized | 14. typical - particular |
| 15. degrade | - | disgrace | |

II. Antonyms:

- | | | | | | |
|----------------|---|------------|--------------|---|---------|
| 1. embrace | x | reject | 2. earlier | x | later |
| 3. harassed | x | carefree | 4. exclaimed | x | whisper |
| 5. opportunity | x | misfortune | | | |

III. Explain with reference to context:

1. 'First environmentalist and first American woman to be so honoured'

a) To whom do these words refer?

Ans: These words refer to Wangari Maathai.

b) What was the honour given to her?

Ans: She won the Nobel Prize for her work in promoting the environment.

2. 'You've seen tough times over the years, but you never gave up.'

a) Who spoke these words to whom?

Ans: These words were spoken by the journalist of Sierra Magazine to Wangari Maathai.

b) What does this line mean?

Ans: This line depicts the confidence of Wangari and the difficulties she faced in eradicating poverty and disempowerment in Kenyan Woman's life.

IV. Answer in paragraph:

1. What were the problems of the rural women in Kenya? How did Wangari Maathai arrive at solution?

Ans: The rural women in Kenya faced the problem of not having enough energy to run the house. They used firewood from forested mountains. Hence they were facing the problem of drinking water due to lack of rain. The farmers stopped growing food crops and started planting cash crops like coffee and tea. This led to malnutrition in communities.

Wangari thought that planting trees would solve much of the problem. It was easy for anyone to plant a tree, so she thought planting a seed will lead to something wonderful. She started the Green Belt Movement with rural women of Kenya and afforested the mountain areas.

2. What are the two major achievements that got Wangari Maathai world wide recognition?

Ans: The two major events that have earned Wangari Maathai world-wide recognition are – her Green Belt Movement and had been appointed as the deputy government minister.

1) Green Belt Movement since 1977, contributed herself to the development and prosperity in Kenyan women. She formed a rural network of women for planting 30 million trees. This solved much of the problem such as basic needs of Kenyan women and environmental degradation and hence in 2004 she got Nobel Peace Prize for her work.

2) After being appointed as the deputy government minister, she won her respect and appreciation despite being beaten, harassed and jailed for her good work. This helped her to change the government system and assist in healing the wounds of the society.

V. Answer in detail:

1. Wangari Mathai's efforts solved various problems – environmental degradation, human health, good governance and peace. How were all these related?

Ans: Wangari Mathai established the basic link by discussing the problems of her country people. She found that environmental degradation was responsible for the needs of the communities which were not met. She spread the awareness among 'the people that saving the environment was actually saving their own rights. Thus she started afforestation not only for planting trees, but also to explain how trees disappear.

Good governance and protecting the environment should go hand in hand. But Wangari found out that the people blamed the government for all their problems. She decided to enter the parliament because she felt that there were things which should be changed from the inside. A clean and healthy environment can be attained only by having a democratic government. It is the right of every citizen to acknowledge their rights and assume their responsibilities. This will eradicate conflicts and peace will prevail.

BIOGRAPHICAL SKETCH SAMPLE

VALUE POINTS

Name	: RABINDRANATH TAGORE
Born	: 7 th May, 1861 in Bengal
Education	: University College, London
Occupation	: Writer, painter, poet and philosopher.
Notable works	: Gitanjali Jana Gana Mana, (National Anthem) Rabindra Sangeet
Achievement	: First Asian to win the Noble Prize in Literature in 1913.
Died	: 7 th August, 1941 in Calcutta.

BIOGRAPHICAL SKETCH

Rabindranath Tagore was born on 7th May, 1861 in Bengal. He was educated in the University College of London. He was a writer, painter, poet and philosopher. Some of his notable works are Gitanjali, Jana Gana Mana and Rabindra Sangeet. He was the first Asian to win the Nobel Prize in Literature in 1913. He died on 7th August, 1941 in Calcutta.

FORMAL LETTER (Format)

Write a letter of complaint to the shop owner seeking immediate replacement of the faulty watch you bought a week ago from perfect time watches.

X X X X
23, Garden street,
Ambattur,
Chennai.

24 August 20XX

The Perfect times watches
King's Market,
Chennai.

Sub: Replacement of faulty watch I bought.

Dear Sir,

I purchased a wrist watch on 22/8/16 [Model No.HPQ 47] from your shop. Unfortunately the watch stopped working two days back. It had a year warranty over it.

I would appreciate, if you replace the faulty watch with a new one of the same model. In case of absence of any action from your side, I will seek help of a consumer protection agency.

I hope this will be resolved soon. I've enclosed a copy of the receipt of my purchase.

Thanking you.

Yours faithfully / sincerely / truly

X X X X

NOTICE WRITING (Format)

You are Vimal / Suman, Write a notice to inform the students about a seminar on the importance of sports in the school auditorium the coming Saturday. The seminar is to be attended by all students of class 6 to class 8.

SACRED HEART ACADEMY NOTICE

SEMINAR ON IMPORTANCE OF SPORTS

26 Aug 2017,

This is to inform all the students of class 6 to class 8 that a seminar on the importance of sports will be held in the school auditorium on the coming Saturday, 26 Aug 2017 from 10 a.m to 12 p.m. All the students are requested to be there on time.

Vimal Suman
SCHOOL PUPIL LEADER



Chapter - 1 - INTEGERS

Integers are a bigger collection of numbers which is formed by whole numbers and their negatives.

Property	Addition	Subtraction	Multication	Division
Closure Property	$a+b=c$ $(-2)+5=3$ Holds good	$a-b = c$ $(-4)-3 = (-7)$ Holds good	$a \times b = c$ $3 \times 4 = 12$ Holds good	$a \div b = c$ $1 \div (-2) = -\frac{1}{2}$ does not hold good
Commutative Property	$a + b = b+a$ $3+(-7) = (-7) +3$ $(-4) = (-4)$ Holds good	$a - b \neq b - a$ $3-4 \neq 4-3$ $-1 \neq 1$ Does not hold good	$a \times b = b \times a$ $3 \times (-4) = (-4) \times 3$ Holds good	$a \div b \neq b \div a$ $1 \div 3 \neq 3 \div 1$ $\frac{1}{3} \neq 3$ Does not hold good
Associative Property	$(a+b)+c = a+(b+c)$ $(-3+4)+6 =$ $(-3)+(4+6)$ $1+6 = (-3)+10$ Holds good	$(a-b)-c \neq a-(b-c)$ $(3-4)-6 \neq 3-(4-6)$ $-1-6 \neq 3-(-2)$ $-7 \neq 5$ Does not hold good	$ax(bxc) = (axb)xc$ $(-2) \times [3 \times (-4)] =$ $[(-2) \times 3] \times (-4)$ $-2 \times -12 = -6 \times -4$ Holds good.	$(a \div b) \div c \neq a \div (b \div c)$ $(1 \div 2) \div 3 \neq$ $1 \div (2 \div 3)$ $\frac{1}{2} \times \frac{1}{3} \neq \frac{2}{3}$ $\frac{1}{6} \neq 1 \times \frac{3}{2}$ $\frac{1}{6} \neq \frac{3}{2}$ Does not hold good
Property of Zero	$a + 0 = a$ $3 + 0 = 0 + 3 = 3$ Holds good	$a - 0 = a$ $4 - 0 = 4$ does not hold good	$a \times 0 = 0$ $4 \times 0 = 0$ Holds good	$0 \div a = 0$ But $a \div 0 =$ not defined
Property of one	$a + 1$ gives the successor of a Ex: $3+1=4$	$a - 1$ gives the predecessor of a $(-4)-1 = -5$	$ax1 = a$ $(-3) \times 1 = -3$ gives the same integer	$a \div 1 = a$ $3 \div 1 = 3$ gives the same integer
Identity Property	Zero is the additive identity $a+0 = a = 0+a$ $3+0 = 3 = 0+3$	-	One is the multiplicative identity. $a \times 1 = a = 1 \times a$ $3 \times 1 = 3 = 1 \times 3$	-

- * Product of a +ve and a -ve integer is a negative integer.
- * Product of two negative integers is a positive integer.
- * Product of even number of -ve integers is +ve.
- * Product of odd number of -ve integer is -ve.
- * When a +ve integer is divided by a -ve integer, the quotient obtained is a -ve integer and vice-versa.
- * Division of a -ve integer by another -ve integer gives a +ve integer as quotient.
- * Under addition and multiplication, integers show a property called distributive property. That is $a \times (b+c) = a \times b + a \times c$ for any three integers a, b and c.

CH -1 INTEGER EXTRA QUESTIONS

- 1) Where are integers used in real-life situations?
- 2) 'All subtraction statements have an equivalent addition statement' explain with two examples.
- 3) What will be the sign of the product if we multiply together 15 negative integers and 4 positive integers?
- 4) An integer divided by (-7) gives 9. Find the integer.

CH- 9 RATIONAL NUMBERS

Definition:

A number that can be expressed in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$, is called a rational number.

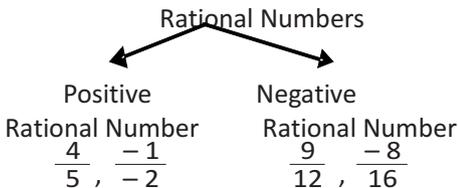
Eg: $\frac{-2}{7}$, $\frac{3}{8}$, 3

Standard Form:

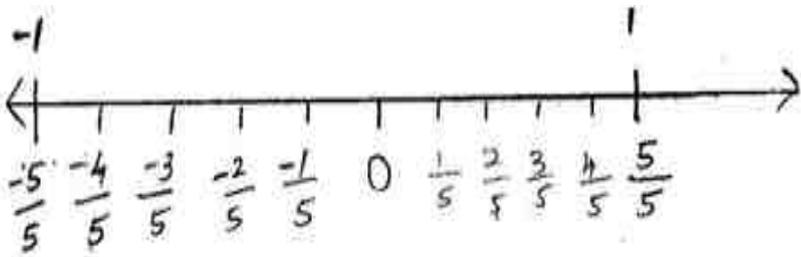
A rational number is said to be in the standard form if its denominator is a positive integer and the numerator and denominator have no common factor other than 1 (Co primes)

Eg: $\frac{-1}{3}$, $\frac{2}{7}$

Classification of Rational Numbers



Rational Numbers on a number line:



Operation of Rational Numbers:

Addition and Subtraction:

Two rational numbers with the same denominator can be added/subtracted by adding/subtracting numerators, keeping the denominator same.

Two rational numbers with different denominators are added/subtracted by first taking the LCM of the two denominators and then converting both the rational numbers to their equivalent forms having the LCM as the denominator.

Multiplication of Rational numbers:

$$\begin{aligned} &\text{If } \frac{p}{q} \text{ and } \frac{r}{s} \text{ are two rational numbers, then} \\ &\frac{p}{q} \times \frac{r}{s} = \frac{p \times r}{q \times s} \\ &= \frac{\text{Product of numerators}}{\text{product of denominators}} \end{aligned}$$

Division of Rational Numbers:

$$\begin{aligned} &\text{If } \frac{p}{q} \text{ and } \frac{r}{s} \text{ are two rational numbers, then} \\ &\frac{p}{q} \div \frac{r}{s} = \frac{p}{q} \times \frac{s}{r} \quad \left[\frac{r}{s} \neq 0 \right] \\ &= \frac{p \times s}{q \times r} \end{aligned}$$

Extra Questions:

- Write down the smallest and greatest rational numbers.
- Is zero a rational number?
- Simplify: I) $\left(\frac{7}{3} \times \frac{11}{3} \right) \div \frac{1}{3}$

4. In a basket, there are 27 apples, of which $\frac{2}{3}$ are rotten. How many apples are good?
5. If $\frac{63}{4}$ lit of milk was equally poured into 7 small containers, how much milk will be there in each container?
6. Express ($-\frac{3}{7}$) as a rational number with
 a) denominator (-35) b) numerator (63)

CHAPTER-12

ALGEBRAIC EXPRESSIONS

- * Constant has a fixed numerical value.
- * A variable takes various numerical values in different situations.
- * Various parts of an algebraic expression separated by (+) or (-) are called terms of the expression.
- * Algebraic expressions are formed from variables and constants.
- * A term is a product of factors.
- * The coefficient is the numerical factor in the term.
- * Terms which have the same algebraic factors are like terms.
- * Terms which have different algebraic factors are unlike terms.

Classification

- Monomial - Have only one term
 Binomial - Have two terms
 Trinomial - Have 3 terms
 Polynomial - Any expression with one or more terms.

Like terms of an algebraic expression can be added or subtracted.

The term with the highest power in a polynomial decides the degree of the polynomial.

$$4x^2+3y+z \quad \text{degree}=2$$

Rules and Formula in mathematics are written in a concise and general form using algebraic expressions.

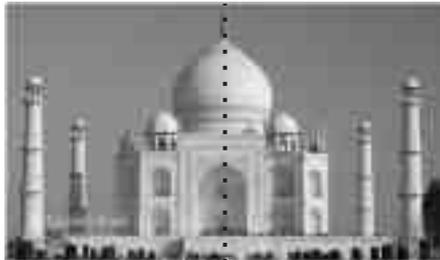
Extra questions:

1. The length of a rectangle is 4 more than twice its width. The perimeter is 28units. Write an expression to find the length of the length of the rectangle.
2. An ant climbs a tree. It moves 'p' cm upwards, slips down 'q' cm, and then again moves 'r' cm upwards. Write an expression to express the above situation.

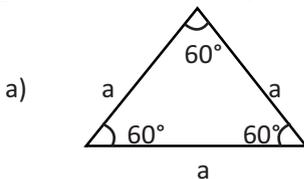
3. If $P=6x^3-8x^2+4x-2$ and $Q=5-4x+6x^2-8x^3$. Find $P+2Q$
4. One side of an equilateral triangle is $(3a+4b)$ metres. Find its perimeter.

CHAPTER 14 SYMMETRY

- Symmetry is an important geometrical concept, commonly, exhibited in nature and is used almost in every field of activity.
- Artists, professionals, designers of clothing or jewellery, car manufactures, architects and many others make use of the idea of symmetry.
- A figure has a line symmetry, if there is a line about which the figure may be folded so that the two parts of the figure will coincide.



- A polygon is said to be regular if all its sides are of equal length and all its angles are of equal measure.
- An equilateral triangle is regular because each of its sides has same length and each of its angles measures 60°



- A square is also regular because all its sides are of equal length and each of its angles is a right angle.
- A regular pentagon has all its sides equal & each of its angles measures 108°
- A regular hexagon has all its sides equal & each of its angles measures 120°

Rotational Symmetry:

- The hands of a clock rotate in only one direction, about a fixed point, the centre of the clock-face.
- Rotation, like movement of the hands of a clock, is called a clockwise rotation, otherwise it is said to be anticlockwise.
- When an object rotates, its shape and size do not change. The rotation turns an object about a fixed point, is called as centre of rotation.
- The angle of turning during rotation is called the angle of rotation. A full turn means a rotation of 360°
- A half turn means rotation by 180° , a quarter-turn means rotation by 90°

CHAPTER -4

SIMPLE EQUATIONS

An equation is a condition on a variable such that two expressions in the variable should have equal value.

The value of the variable for which the equation is satisfied is called the solution of the equation.

An equation remains the same if the LHS and the RHS are interchanged.

The value of the LHS remains equal to the value of the RHS in the following cases:

If we i) add the same number to both the sides (or)

ii) Subtract the same number from both the sides (or)

iii) Multiply both sides by the same number. (or)

iv) Divide both sides by the same number,

the balance remains undisturbed.

The process of shifting a number from one side of the equation to the other by changing the sign called transposition.

The following steps should be taken to solve a word problem of linear equations:

- 1) Read the problem carefully and note down what is given & what is required.
- 2) Analyse and understand the relationship between different quantities given.
- 3) Represent the required quantity by x, y, z etc.
- 4) State the relationship as an algebraic equation.
- 5) Solve the equation for the unknown quantity (variable).

CH -4 SIMPLE EQUATIONS - EXTRA QUESTIONS

- 1) The sum of two consecutive numbers is 13 find the numbers.
- 2) Find the three consecutive even numbers whose sum is 96.
- 3) In a class of 48 students, the number of boys is $\frac{3}{5}$ of the number of girls. Find the number of boys and girls in the class.
- 4) If $\frac{1}{2}$ is subtracted from a number and the difference is multiplied by 4, the result is 5. What is the number?
- 5) The length of a rectangle is 6m less than 3 times its breadth. If its perimeter is 148m, find the dimensions of the rectangle.

CHAPTER-5 LINES AND ANGLES

Complementary Angles:

When the sum of the measures of two angles is 90° , the angles are called complementary angles.

Supplementary Angles:

When the sum of the measures of two angles is 180° , the angles are called Supplementary Angles.

Adjacent Angles:

Adjacent angles are pairs of angles such that

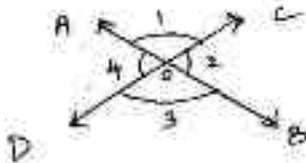
- (i) They have a common vertex
- (ii) They have a common 'arm' and
- (iii) The non-common arms are on either side of common arm.

Linear Pair:

Two adjacent supplementary angles form a linear pair.

Vertically opposite angles:

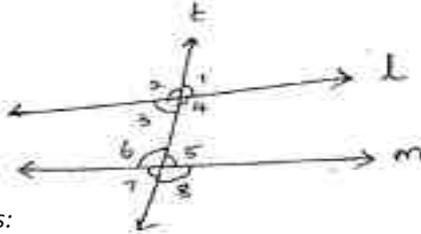
When two lines intersect each other at a point, the two pairs of angles formed without any common arm are called vertically opposite angles.



$\angle 1$ & $\angle 3$ are vertically opposite angles. $\angle 2$ & $\angle 4$ are vertically opposite angles. Vertically opposite angles are equal $\angle 1 = \angle 3$; $\angle 2 = \angle 4$

Transversal:

In a given plane, a line which intersects two or more given lines at different points is called a transversal.

**Exterior Angles:**

$\angle 1$, $\angle 2$, $\angle 7$ and $\angle 8$ are lying outside lines l and m and are called exterior angles.

Interior angles:

$\angle 3$, $\angle 4$, $\angle 5$ and $\angle 6$ and are lying between lines l and m and are called Interior angles.

Corresponding angles:

The angles on the same side of a transversal, one of which is an exterior angle and the other is an interior angle and both of them do not form a linear pair, are known as corresponding angles.

$\angle 1$ and $\angle 5$, $\angle 3$ and $\angle 7$

$\angle 2$ and $\angle 6$, $\angle 4$ and $\angle 8$

Alternate Angles:

The angles which are on the opposite sides of the transversal and do not form a linear pair are called alternate angles.

$\angle 1$ and $\angle 7$, $\angle 3$ and $\angle 5$

$\angle 2$ and $\angle 8$, $\angle 4$ and $\angle 6$

Alternate Interior Angles: $\angle 3$ and $\angle 5$, $\angle 4$ and $\angle 6$

Alternate Exterior Angles: $\angle 1$ and $\angle 7$, $\angle 2$ and $\angle 8$

Checking for Parallel Lines:

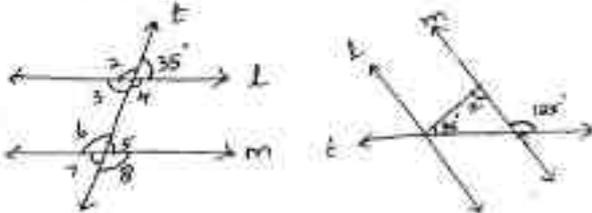
If any of the 3 conditions are satisfied when two lines are intersected by a transversal, then the two lines are said to be parallel.

1. The pair of alternate angles is equal
2. The pair of corresponding angles is equal.
3. The interior angles on the same side of the transversal are supplementary. ie) Their sum is 180°

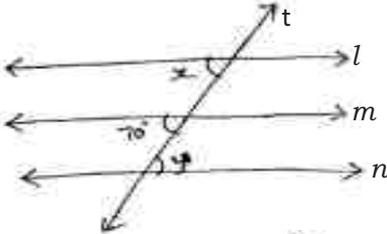
Chapter-5 Lines and Angles

Extra Questions:

1. In the following figures, $l \parallel m$ and t is a transversal. Find the unknown angles.



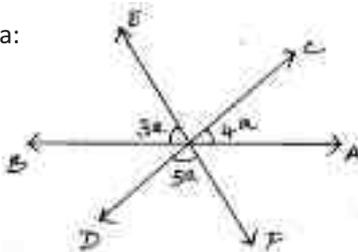
2. In the following figure, $l \parallel m \parallel n$ and t is a transversal. Find x & y



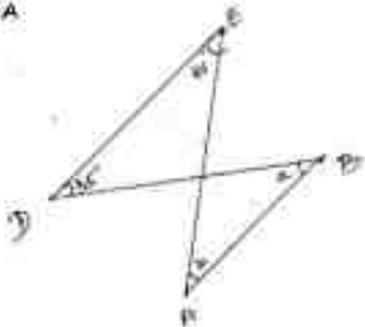
3. Find x



4. Find a :



5. In the figure, DE and AB are parallel. Find a & b .



CHAPTER 6 THE TRIANGLE AND ITS PROPERTIES

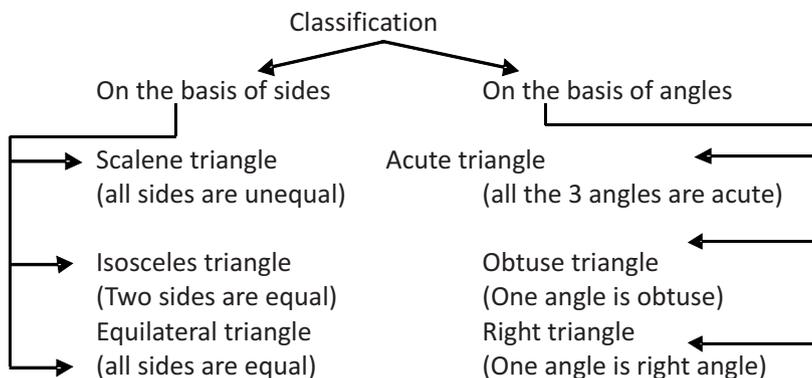
A triangle is a closed figure with 3 sides & 3 vertices.

Median: A median connects a vertex of a triangle to the mid-point of the opposite side.

Altitude:

An altitude has one end point at a vertex of the triangle and the other on the line containing the opposite side. Through each vertex, an altitude can be drawn.

A triangle has two main elements-its side and its angles.



The angle sum property of a Triangle:

The sum of angles of a triangle is 180°

Exterior Angle property:

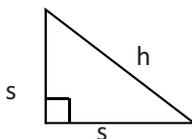
An exterior angle of a triangle is equal to the sum of its interior opposite angles.

An exterior angle of a triangle is greater than to each of its interior opposite angles.

The sum of any two sides of a triangle is always greater than its third side.

Pythagoras theorem:

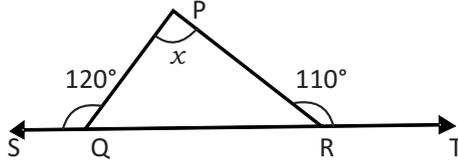
The Pythagoras theorem, states that the square of the length of the hypotenuse in a right-angled triangle is equal to the sum of the squares of the lengths of the other two sides.



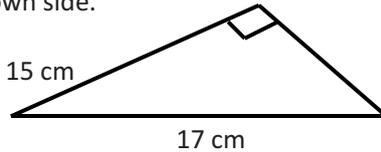
$$h^2 = s^2 + s^2$$

Extra questions:

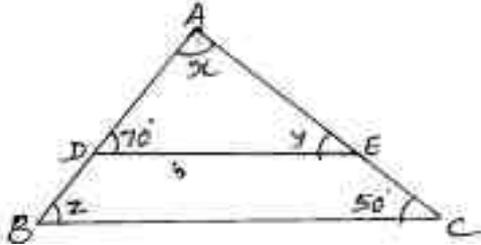
1. What are the two aspects on the basis of which triangles are classified?
2. Find the unknown side.



3. Find the length of unknown side.



4. A man walks 3 km north and then 4 km east. Find how far he is now from the starting position.
5. In $\triangle ABC$, line segment DE is parallel to BC . Find x , y and z .



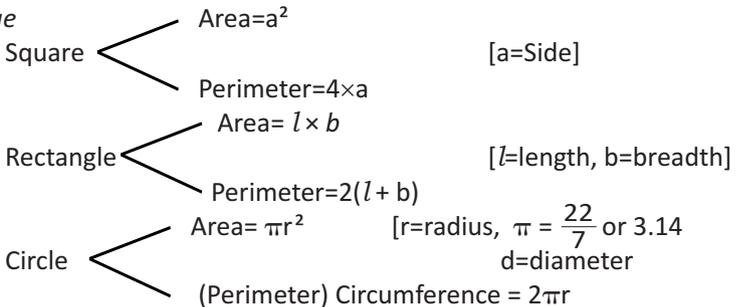
6. Three angles of a triangle are in the ratio 4 : 3 : 2. Find the measure of the angles.

CHAPTER-11 PERIMETER AND AREA

Perimeter- The distance around a closed figure.

Area- The part of plane occupied by the closed figure.

Formulae



Triangle: Area = $\frac{1}{2} \times b \times h$

[b=Base, h=height]

Parallelogram: Area = Base \times Height

Conversion Formula:

$$1 \text{ cm}^2 = 100 \text{ mm}^2$$

$$1 \text{ m}^2 = 10,000 \text{ cm}^2$$

$$1 \text{ hectare} = 10,000 \text{ m}^2$$

MCQ

CH 1 INTEGERS

- Every natural number is also _____
 a) An integers b) A whole number c) (a) and (b) both d) None
- $-15 - (-7) =$ _____
 a) -22 b) 22 c) -8 d) 8
- On subtracting (-8) from 0, we get _____
 a) 16 b) -8 c) 8 d) None
- The additive inverse of -24 is
 a) -24 b) 0 c) -12 d) 24
- The sum of two integers is always _____
 a) A natural number b) A whole number
 c) An integer d) None
- The integer that is its own additive inverse is _____
 a) 0 b) 1 c) -1 d) None
- By how much does -3 exceed -5?
 a) -2 b) 2 c) 8 d) -8
- $(-25) \times (-10) + (-25) \times (-5) =$ _____
 a) -275 b) 275 c) -375 d) 375
- $(-24) \div 0 =$ _____
 a) 24 b) 0 c) -24 d) Not defined
- The sum of two integers is 83. If one of them is -49, the other is _____
 a) 132 b) -132 c) 34 d) -34

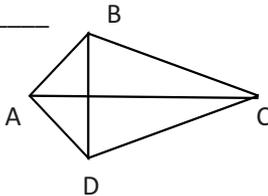
CH 9 RATIONAL NUMBERS

- A fraction $\frac{p}{q}$ is a rational number, if _____
 a) p, q are integers and $q > 0$ b) p, q are integers and $q \neq 0$
 c) p is an integer and $q = 0$ d) q is an integer and $p = 0$
- Every integer is a _____
 a) Natural number b) Whole number
 c) Rational number d) None

7. Add; $a^2+b^2+c^2-3abc$ and $a^2-b^2+c^2+3abc$
 a) a^2+2c^2 b) a^2+c^2+2bca
 c) $2a^2+2c^2$ d) $2a^2+2b^2+2abc$
8. x^2-y^2 is the same as
 a) y^2-x^2 b) x^2+y^2 c) $-(y^2-x^2)$ d) None
9. When we subtract x from zero we get, _____
 a) x b) $-x$ c) 0 d) None
10. An algebraic expression with more than 3 terms is called a _____
 a) Monomial b) Binomial
 c) Trinomial d) Polynomial

CH 14 SYMMETRY

1. _____ triangle has no line of symmetry.
 a) Equilateral b) Isosceles c) Scalene d) None
2. A circle has _____ lines of symmetry
 a) One b) Two c) No d) Unlimited
3. A square has _____ lines of symmetry.
 a) 1 b) 2 c) 4 d) No
4. The letter X of the English alphabet has _____ lines of symmetry
 a) 3 b) 1 c) 2 d) None
5. A kite is symmetrical about _____



- a) The diagonal AC b) The diagonal BD
 c) Both (a) and (b) d) None
6. The letter A of the English alphabet has rotational symmetry of the order
 a) 1 b) 2 c) 3 d) 4
7. A regular polygon of side n has _____ lines of symmetry
 a) 1 b) 2 c) 3 d) n
8. The order of symmetry of the letter I is
 a) 1 b) 2 c) 3 d) 4
9. Which of the following have two lines of symmetry?
 a) A b) B c) H d) E

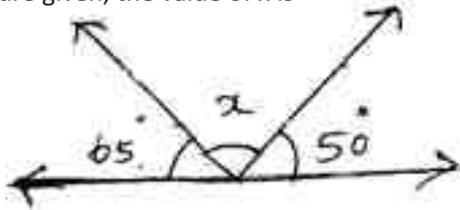
CH 4 SIMPLE EQUATIONS

- The equation for: 'the number 12 added to x get 44' is _____
 a) $44-x=-12$ b) $x+12=44$ c) $x+44=10$ d) None
- The root of the equation $\frac{x-5}{-3} - 4 = -2$ is
 a) 1 b) 6 c) -1 d) None
- $\frac{2}{5}$ of 25 is _____
 a) 25 b) 10 c) 35 d) None
- The solution of the linear equation $2y - \frac{1}{2} = \frac{-1}{3}$ is
 a) $\frac{1}{5}$ b) $\frac{1}{12}$ c) $\frac{1}{6}$ d) None
- 6 added to a number gives -10. The number is _____
 a) 5 b) 10 c) 6 d) -16
- 7 subtracted from five times a number gives 63, the number is _____
 a) 5 b) 10 c) 13 d) 14
- The length of a rectangular field is twice its breadth. If the perimeter of the field is 150m, its length is _____
 a) 15m b) 20m c) 25m d) 50m
- The two consecutive natural numbers whose sum is 63 are _____
 a) 30, 33 b) 29, 34 c) 31, 32 d) None
- The equation in which the highest power of the variables is 1, is known as a _____
 a) Monomial b) Linear equation
 c) Quadratic equation d) None
- The highest power of a variable in a linear equation is _____
 a) 0 b) 1 c) 2 d) 3

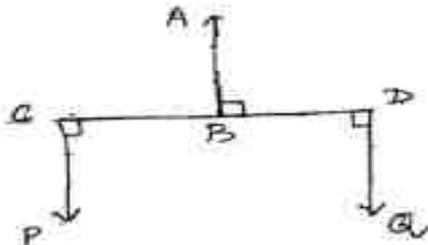
CH 5 LINES AND ANGLES

- If two parallel lines are intersected by a transversal then _____
 a) alternate angles are always equal
 b) angles on the same side of the transversal are supplementary
 c) Corresponding angles are equal
 d) All of the above

2. Parallel lines are always _____
 a) Equal b) Coincident c) Intersect d) Equidistant
3. Linear pair angles are also _____
 a) Complimentary angles b) Supplementary angles
 c) Equal angles d) None
4. If two lines are intersected by a transversal, and the corresponding angles formed are equal, then the _____
 a) Lines are equal b) Lines are not equal
 c) Lines are parallel d) None
5. If parallel lines are intersected by a transversal, then the number of pairs of alternate interior angles is _____
 a) 1 b) 2 c) 3 d) 4
6. The complement of the angle 37° is
 a) 53° b) 45° c) 50° d) 143°
7. The supplement of an angle of 0° is
 a) 0° b) 90° c) 180° d) None
8. Vertically opposite angles are _____
 a) Always equal b) Sometimes equal c) Not equal d) None
9. In the figure given, the value of x is



- a) 45° b) 50° c) 60° d) 65°
10. In the figure given, is CP parallel to AB?



- A) No b) Yes c) Not always

CH 6 THE TRIANGLE AND ITS PROPERTIES

- In an isosceles triangle, the angles opposite to equal sides are _____
a) Obtuse b) Acute c) Equal d) None
- The number of altitudes in a triangle is
a) 1 b) 2 c) 3 d) None
- The number of measurements of a triangle is _____
a) One b) Two c) Three d) Six
- An exterior angle is equal to the _____ of interior opposite angles.
a) Sum b) Difference c) Product d) None
- The sum of two sides of a triangle is _____ than the third side.
a) Smaller b) Equal c) Greater d) None
- The Pythagoras theorem is applied in _____
a) Acute-angled triangle b) Obtuse-angled triangle
c) Right-angled triangle d) None
- In $\triangle PQR$ the side opposite to $\angle R$ is _____
a) PR b) QR c) PQ d) None
- If the square of the hypotenuse of an isosceles right triangle is equal to $2m$, the measure of the other two sides are _____
a) $1m, 2m$ b) $1m, 1m$ c) $2m, 1.5m$ d) None
- Any triangle can have _____ obtuse angle
a) 1 b) 2 c) 3 d) None
- Is it possible to have a triangle in which each angle is less than 60° ?
a) Yes b) No c) None

CH 11 PERIMETER AND AREA

- If the radius of a circle is doubled, then the area becomes _____
a) 2 times b) 4 times c) 6 times d) 8 times
- $1 \text{ m}^2 = \underline{\hspace{2cm}} \text{ cm}^2$
a) 100 b) 1000 c) 10000 d) None
- The circumference of a circle whose area is $9\pi r^2$, is _____
a) $9\pi r$ b) $18\pi r$ c) $6\pi r$ d) None

4. If the area of a parallelogram is 64m^2 and its altitude is 8m, the parallelogram is a _____
 a) Square b) Rhombus c) Rectangle d) None
5. The area of an equilateral triangle of side 6cm is _____
 a) $9\sqrt{3}\text{cm}^2$ b) $6\sqrt{3}\text{cm}^2$ c) $3\sqrt{3}\text{cm}^2$ d) $\sqrt{3}\text{cm}^2$
6. The radius of a circle with circumference 66m is _____
 a) 21m b) 10.5m c) 14m d) None
7. _____ is the distance around a closed figure.
 a) Area b) Altitude c) Perimeter d) None
8. If the length of a regular octagon is 4cm, then its perimeter is _____
 a) 10cm b) 32cm c) 20cm d) 24cm
9. The perimeter of a circle is also known as _____
 a) Area b) Circumference c) Length d) Radius
10. Value of $\pi =$ _____
 a) 7.14 b) 2.14 c) 1.14 d) 3.14

SCIENCE

CHAPTER-1 NUTRITION IN PLANTS

I. Answer Briefly.

1. Why do organisms need to take food?

Ans: All living organisms take food and utilise it to get energy for the growth and maintenance of their bodies.

2. Distinguish between a parasite and a saprotroph.

Ans: *Parasite: Organisms derive nutrition from the body of other living organisms (host) are called parasite. E.g. Cuscuta, Sundew.

*Saprotrophs: Organisms which derive nutrition from dead and decaying organisms are called saprotrophs. Eg. Fungi

3. How would you test the presence of starch in leaves?

Ans: *We can test the presence of starch in leaves by performing iodine test.

*To test the presence of starch in leaves take two potted plants of the same kind.

*Keep one in the dark room for 72 hours and keep the other plant in the Sun light.

*Now, take one leaf from each potted plant and put a few drops of iodine solution on them. Then note down the observation.

*No blue black colour will be observed on the leaves of the plant kept in the dark room. This indicates the absence of starch. Blue black colour will be observed in the leaves kept in sunlight. This indicates the presence of starch.

4. Lichens is a composite of which two organisms. Which type of nutrition relationship exists here?

Ans: Two organisms are Algae and Fungi. They exhibit symbiotic relationship. The fungus provides shelter, water and minerals to the algae and in return, the algae provides food which it prepared by photosynthesis.

5. Explain the role of Chlorophyll in the process of photosynthesis.

Ans: Chlorophyll is the green colour pigment which helps leaves to capture energy from sunlight to carry out the food making process of plants by the leaves.

6. What is the function of stomata in leaf of a plant?

Ans: Stomata are the tiny pores present on the surface of leaves which helps in exchange of gases, the pores in stomata are surrounded by guard cells.

7. What is the role of the leguminous plants in replenishing soil fertility?

Ans: Rhizobium is a type of bacteria that cannot make its own food and lives in roots of gram, peas, moong beans and other legumes, it convert atmospheric nitrogen into usable form which increases the fertility of soil and legumes provide food and shelter to the bacteria.

II. Answer in detail:

1. Give a brief description of the process of synthesis of food in green plants.

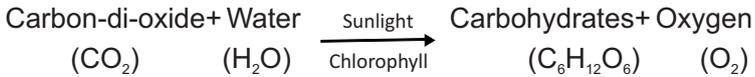
Ans: Photosynthesis is defined as the process in which the chlorophyll-containing plant cells synthesis food in the form of carbohydrates, using carbon-di-oxide and water in the presence of solar energy.

Sources of raw materials required for Photosynthesis:

*Water is taken in from the roots of the plant and transported to the leaves.

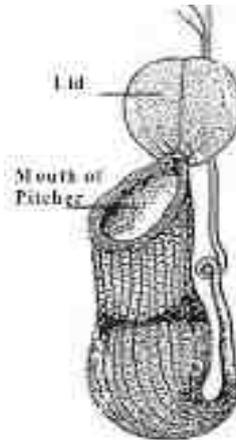
*Carbon-di-oxide from the air enters the leaves through the tiny pores called stomata and diffuses to the cells containing chlorophyll.

*Solar energy is used to break water into hydrogen and oxygen. Thus, hydrogen combines with Carbon-di-oxide to form food for the plants, which is ultimately used by the animals as well. Thus, photosynthesis can be represented by the following equation.



2. Explain how pitcher plants get their nutrition with neat labelled diagram?

Ans: The pitcher-like structure is the modified part of the leaf. The apex of the leaf forms a lid which can open and close the mouth of the pitcher. Inside the pitcher there are hair which are directed downwards. When an insect lands in the pitcher, the lid closes and the trapped insects gets entangled into the hair. The insect is digested by the digestive juice secreted in the pitcher. Such insect eating plants are called insectivorous plants.



2. Describe how non-green plants obtain their food.

Ans: The non-green plants which live on other living organisms and obtain their food from them are called parasitic plants. The living organisms from which a parasite derives its food is called the host. A common plant parasite is cuscuta or dodder plant. This parasite produces yellow tubular structures twining around the stem and branches. It does not have chlorophyll. It takes readymade food from the host plant on which it climbs, through special structures called haustoria. The haustoria absorb food from the host plant.

III. Fill in the blanks:

- Green plants are called autotrophs since they synthesise their own food.
- The food synthesized by the plants is stored as starch.
- In photosynthesis, solar energy is captured by the pigment called Chlorophyll.
- During photosynthesis plants take in carbon-di-oxide and release oxygen.
- Name the following:
 - A parasitic plant with yellow, slender and tubular stem - cuscuta.
 - A plant that has both autotrophic and heterotrophic mode of nutrition. - Insectivorous plant.
 - The pores through which leaves exchange gases - stomata.

IV. Match the following:

<i>Column I</i>	<i>Column II</i>
1. Chlorophyll	Leaf
2. Nitrogen	Bacteria
3. Amarbel	Parasite
4. Animals	Heterotrophs
5. Insects	Pitcher plant

V. Mark 'T' if the statement is true and 'F' if it is false.

- Carbondioxide is released during photosynthesis-[F]
- Plants which synthesis their food themselves are called saprotrophs-[F]
- The product of photosynthesis is not a protein.-[T]
- Solar energy is converted into chemical energy during photosynthesis-[T]

VI. Multiple choice questions:

- Amarbel is an example of parasite.
(i) Autotrophs (ii) Parasite (iii) saprotrophs (iv) Host
- The plant which traps and feeds on insect is pitcher plant.
(i) Cuscuta (ii) China rose (iii) Pitcher plant (iv) Rose
- Which part of the plant takes carbon-di-oxide from the air for photosynthesis? Stomata
(i) Root hair (ii) Stomata (iii) Leaf Veins (iv) Sepals
- Plants take Carbon-di-oxide from the atmosphere mainly through their leaves.
(i) Roots (ii) Stem (iii) Flowers (iv) Leaves
- Mushroom is a saprophyte.
(i) Venus flytrap (ii) Mushroom (iii) Lichen (iv) dodder
- Green colour of the plant is due to the presence of chlorophyll.
(i) Oxygen (ii) Carbon-di-oxide (iii) Nitrogen (iv) Chlorophyll

7. Which of the following is not an end product of photosynthesis?
Carbon-di-oxide
(i) Oxygen (ii) Carbon di oxide (iii) Water (iv) Glucose
8. The association of organism where they live together and share shelter and nutrients is known as symbiosis.
(i) Saprophyte (ii) Autotroph (iii) symbiosis (iv) Parasite
9. The tiny pores present in the leaves of the plants for the exchange of gases are called stomata.
(i) Stomata (ii) Tracheae (iii) Chloroplast (iv) Spiracles
10. Rhizobium is an example of symbiosis.
(i) Symbiosis (ii) Parasites (iii) Insectivorous (iv) None of these
11. Iodine is used to detect presence of starch. It gives starch blue-black colour.
(i) Red colour (ii) Green colour (iii) Blue -black colour
(iv) Colourless appearance.
12. Which of the following statements is not true? Saprophytes are green in colour.
(i) Heterotrophs cannot prepare their own food.
(ii) Dodder is an example of parasite
(iii) Saprophytes are green in colour.
(iv) Pulses and Beans are legumes.
13. Sunlight is the ultimate sources of energy for all living organisms.
(i) Water (ii) Sunlight (iii) Temperature (iv) Air
14. Green plants are called autotrophs since they synthesise their own food.
(i) Herbivores (ii) autotrophs (iii) Bacteria (iv) Omnivores
15. Green patches in stagnant water are Algae
(i) Algae (ii) Fungi (iii) Bacteria (iv) None of these
16. Organisms take nutrients from dead and decaying matter is called Saprotrophic nutrition.
(i) Autotrophic Nutrition (ii) Parasitic Nutrition
(iii) Saprotrophic Nutrition (iv) All the above
17. Oxygen is produced during photosynthesis.
(i) Water (ii) Oxygen (iii) Carbon-di-oxide (iv) Protein
18. Which of the following is a symbiotic plant? Lichen
(i) Amarbel (ii) Lichen (iii) Yeast (iv) Pitcher plant
19. Stomatal opening is surrounded by guard cells.
(i) Stomata (ii) Epidermal cells (iii) Chloroplast (iv) Guard cells
20. Plant's food factory is leaf.
(i) Stem (ii) Leaf (iii) Fruits (iv) Root

CHAPTER-2 NUTRITION IN ANIMALS

I. Answer briefly.

1. What are villi? What is their location and function?

Ans: Villi are small finger-like outgrowths, that help in the process of absorption. These are located in the inner walls of the small intestine. Its function is to increase the surface area of the small intestinal wall for absorption of the digested food.

2. Where is the bile produced? Which component of the food does it help to digest?

Ans: The bile juice is secreted by the liver. Bile juice helps in the digestion of fats by breaking down the large fat globules to smaller fat globules.

3. Name the type of carbohydrate that can be digested by ruminants but not by humans. Give the reason also.

Ans: Cellulose is a type of carbohydrate that can be digested by ruminants and not by humans. Ruminants have a large sac-like structure called rumen between the oesophagus and the small intestine.. The cellulose of the food is digested here by the action of certain bacteria which are not present in humans.

4. How do we get instant energy from glucose?

Ans: Glucose is simple sugar which is formed when carbohydrate gets broken. Also, the carbohydrate gets digested into glucose. Since, glucose does not have to be digested and thus act as an instant source of energy.

5. Which part of the digestive canal is involved in:

(i) Absorption of food Small Intestine

(ii) Chewing of food Buccal cavity

(iii) Killing of bacteria Stomach

(iv) Complete digestion of food Small Intestine

(v) Formation of faeces Large Intestine.

6. Write one similarity and one difference between the nutrition in amoeba and human beings.

Ans: Similarity: Both amoeba and human beings have holozoic type of nutrition.

Difference: Human beings have complex structure for the ingestion, digestion, absorption, assimilation and egestion of food while amoeba has simple process in which it engulfs the food with the help of pseudopodia and food get trapped in food vacuoles.

7. Can we survive only on raw, leafy vegetables/grass?

Ans: No, Humans cannot survive only on raw, leafy vegetables or grass. It is because the grass is rich in cellulose, which is a type of

carbohydrate that humans are not able to digest due to the absence of cellulose-digesting enzymes (cellulase).

8. What are secreted inside the stomach?

Ans: The inner lining of the stomach secretes mucous, hydrochloric acid and digestive juices. The mucous protects the lining of the stomach. The acid kills many bacteria that enter along with the food. The digestive juices break down the proteins into simpler substances.

9. How does digestion occur in ruminants grass-eating animals?

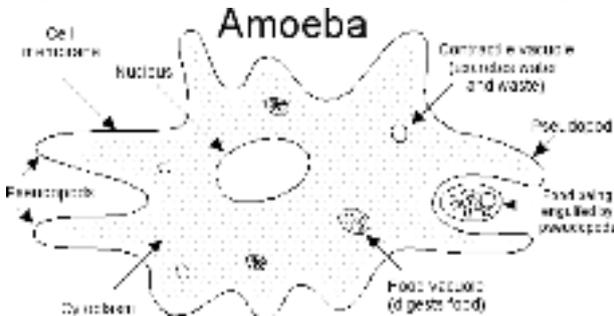
Ans: Ruminants quickly swallow the grass and store it in a separate part of the stomach called rumen. Here the food gets partially digested and is called cud. Later the cud returns to the mouth in small lumps and the animal chews it. This process is called rumination. The Cellulose present in grass is digested here by the action of certain anaerobic bacteria which are not present in humans.

II. Answer in detail:

1. Describe nutrition in amoeba.

Ans: *Amoeba is a single-celled organism found in pond water.

- * It has a cell membrane, a dense, rounded nucleus and many bubble like vacuoles.
- * Amoeba constantly changes its shape and positions by finger like projections called pseudopodia or false feet for movement and capturing of food.
- * Amoeba feeds on microscopic organisms.
- * When it senses food, it pushes out pseudopodia around the food particle and engulfs it.
- * The food becomes trapped in a food vacuole and digested by the digestive juices.
- * They act on the food and break it down into simpler substances are used for growth, maintenance and multiplication.
- * The undigested residue of the food is expelled outside by the vacuole.



2. Explain human digestive system.

Ans: MOUTH: When food is ingested, the salivary gland which secretes saliva acts on it in the mouth. The saliva breaks down the starch into sugar.

OESOPHAGUS: It is a long narrow, muscular tube which directly leads to stomach. It is about 25cm long and pushes masticated food down to the stomach in a wave-like action called peristalsis.

STOMACH: The inner lining of the stomach secretes digestive juices which break down the protein into simple substances. Liver is the largest gland in the body. It secretes bile juice that is stored in a sac called the gall bladder. It digests fats. The pancreas is cream coloured gland secretes pancreatic juice that acts on carbohydrates and proteins into simpler forms.

SMALL INTESTINE: It is highly coiled and is about 7.5 metres long. The digested food is passed into the blood vessels in the wall of the intestine having thousands of finger-like villi. The surface of the villi absorbs the digested food materials. The absorbed substances are transported via the blood vessels to different organs of the body.

LARGE INTESTINE: The undigested food enters into the large intestine from small intestine. It is about 1.5 meter in length. Its function is to absorb water and salts from undigested food materials.

III. Fill in the blanks:

1. The main steps of nutrition in humans are ingestion, digestion, absorption, assimilation and egestion
2. The largest glands in the human body is liver.
3. The stomach releases hydrochloric acid and digestive juices which act on food.
4. The inner wall of the small intestine has many finger-like outgrowths called villi.
5. Amoeba digests its food in the food vacuole.

IV. True or False:

1. Digestion of starch starts in the stomach-False
2. The tongue helps in mixing food with saliva-True
3. The gall bladder temporarily stores bile-True
4. The ruminants bring back swallowed grass into their mouth and chew it for some time-True.

V. Match the following:

I. Column I

Food Components

1. Carbohydrates
2. Proteins
3. Fats

Column II

Products of digestion

- Sugar
- Amino acids
- Fatty acids and glycerol

II. Column I

- a) Salivary gland
- b) Stomach
- c) Liver
- d) Rectum
- e) Small intestine
- f) Large intestine

Column II

- Saliva secretion
- Acid releases
- Bile Juice Secretion
- Storage of undigested food
- Digestion is completed
- Absorption of water

VI. Multiple choice questions MCQS:

1. Fat is completely digested in the
 - a) Stomach
 - b) Mouth
 - c) Small intestine
 - d) Large intestine
2. Water from the undigested food is absorbed mainly in the
 - a) Stomach
 - b) Food pipe
 - c) small intestine
 - d) Large intestine
3. The pointed teeth in the buccal cavity are called
 - a) Incisor
 - b) Canines
 - c) Premolars
 - d) Molars
4. Bile juice is stored in
 - a) Liver
 - b) Pancreas
 - c) Gall bladder
 - d) Stomach
5. The inner walls of the small intestine have millions of small finger like projection called
 - a) Villi
 - b) Trachea
 - c) Appendix
 - d) Oesophagus
6. Which of the following is a ruminant?
 - a) Buffalo
 - b) Camel
 - c) Goat
 - d) All of these
7. Which of the following is not a part of nutrition?
 - a) digestion
 - b) Absorption
 - c) Assimilation
 - d) Excretion
8. An amoeba ingests food with the help of
 - a) Cilia
 - b) Tentacles
 - c) Pseudopodia
 - d) Buccal cavity
9. Grass is rich in _____ a special kind of carbohydrate which can only be digested by ruminants.
 - a) Glucose
 - b) Cellulose
 - c) Sucrose
 - d) Fructose
10. Amylase enzyme is present in
 - a) Bile juice
 - b) Saliva
 - c) Gastric juice
 - d) Pancreatic juice
11. The walls of large intestine absorb
 - a) Water
 - b) Proteins
 - c) Cellulose
 - d) Roughlage

12. Which of the following do not have teeth?
 a) Rats b) Birds c) Snakes d) Elephants
13. Length of small intestine.
 a) 10.5 m long b) 40 m long c) 23 m long d) 7.5 m long
14. The process of digestion taking place in grass eating animals is called
 a) Egestion b) Rumination c) Assimilation d) Absorption
15. Single celled organism among the following is
 a) Human being b) Spirogyra c) Cow d) Amoeba
16. The set of teeth that exists in the mouth during the period from 6 to 8 years of a human being are called.
 a) Premolar b) Milk teeth c) Permanent teeth d) Molar
17. Which teeth help in piercing and tearing of food?
 a) Incisor b) Premolar c) Canine d) Starch
18. The saliva breaks down the _____ into sugar.
 a) Protein b) Fat c) Vitamins d) Starch
19. Most of the digestion takes place in the
 a) Stomach b) Small intestine c) Pancreases d) Large intestine
20. In a adult human, the total number of incisors are
 a) 4 b) 6 c) 8 d) 10

LS.3 FIBRE TO FABRIC

I. Answer in short:

1. You must be familiar with the following nursery rhymes.
 i. Baa baa black sheep, have you any wool.
 ii. Mary had a little lamb, whose fleece was white as snow'.

Answer the following:

- a. Which parts of the black sheep have wool ?

Ans: The fleece of the black sheep have wool.

- b. What is meant by the white fleece of the lamb?

Ans: White fleece means the white coloured hair of the lamb.

2. What is meant by the term 'rearing'?

Ans: Rearing means taking care of herds of animals which includes feeding, grazing, breeding etc. for economical purpose like meat and other useful products

3. Given below is a sequence of steps in the processing of wool.

Which are the missing steps? Add them

shearing, _____, Sorting, _____, _____, _____

Ans: Shearing, Scouring, Sorting, burrs picking, dyeing, rolling

4. Write about the two stages in the life history of the silk moth which are directly related to the production of silk.

Ans: i) Spinning cocoon of silk threads around caterpillar.
ii) Changing of caterpillar into pupa.

5. Out of the following which are the two terms related to silk production?

Sericulture, floriculture, moriculture, apiculture and silviculture.

Ans: Sericulture and moriculture

II. Answer in Paragraph:

1. What do you mean by reeling of silk?

Ans: A pile of cocoon is used for obtaining silk fibres. The cocoons are boiled to separate out silk fibres from them. Threads obtained from the cocoon is spun into silk threads, which are woven into silk cloth by weavers. The process of taking out threads from the cocoon for use as silk is called reeling of silk.

2. Why does silk have different varieties?

Ans: Silk producing moth eats up different kinds of leaves, which accounts for the different varieties of silk like eri silk, mooga silk etc., are obtained from cocoons spun by different types of moths.

3. What are the main hazards of wool industry?

Ans: Workers in wool industry get infected by a bacterium, anthrax, which causes a fatal blood disease called sorter's disease. Such risk faced by workers in any industry are called occupational hazards.

4. What are the different sources of wool?

Ans: The fleece of sheep is not the only source of wool, Apart from that, yak wool is obtained from angora goats in Jammu and Kashmir. The fur (hair) on the body of camels is also used as wool. Llama and Alpaca, found in south America also yield wool.

III. Answer in detail:

1. Write and explain the sequence of steps in processing of wool.

Ans: Following are the steps involved in processing of wool.

Step -1 Shearing: At first hair are removed using shearing Machine

Step -2 Scouring : Hair is washed in tanks to remove grease, dust and dirt. This process is called scouring.

Step-3 The hairy skin is sent to a factory where hair of different textures are separated or sorted, by sorting process.

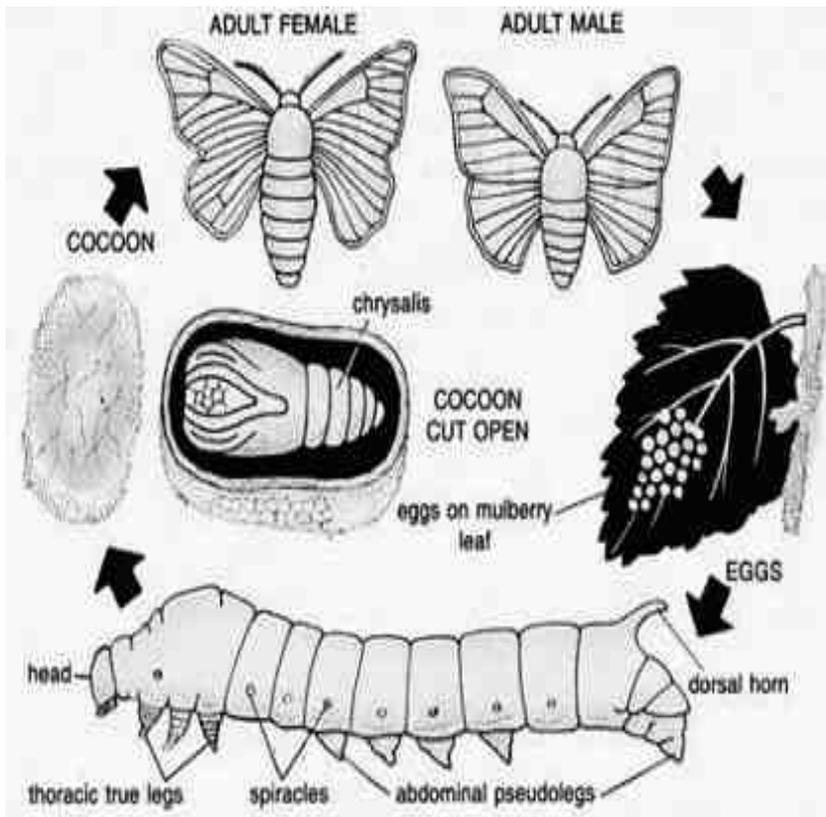
Step-4 The small fluffy fibres called burrs are picked out from the hair.

Step-5 The fibres are then dyed in various colours, according to choice
 Step -6 The Coloured fibres are straightened, combed and rolled into yarn.

2. Write short notes on rearing silkworm.

Ans: A female silk moth lays hundreds of eggs at a time. The eggs are stored on strips of cloth and sold to silk worm farmers. The farmers keep eggs under hygienic conditions with suitable temperature and humidity. The eggs are warmed to a suitable temperature for the larvae to hatch from eggs. The larvae called caterpillars or silk worms eat mulberry leaves day and night and increase in size. After 25 to 30 days, the caterpillar stop eating and starts spinning cocoon around them which develops the silk moth.

3. Draw a sketch showing stages in life cycle of silk moth and explain.



The female silk moth lays eggs, from which hatch larvae which are called caterpillars or silkworms.

- ♦ They grow in size and when caterpillar is ready to enter next stage of its life history is called pupa, it secretes fibre made up of protein completely covers caterpillar is known as cocoon.
- ♦ Silk fibre are used for weaving silk cloth.
- ♦ The silk yarn is obtained from the cocoon of the silk moth.

IV. Match the following:

- | | | |
|--------------------|---|-----------------------|
| 1. Scouring | - | Cleaning sheared skin |
| 2. Mulberry leaves | - | Food for silkworm |
| 3. Yak | - | Wool yielding animal |
| 4. Cocoon | - | Yields silk fibres |

V. Choose the best answer:

1. The silkworm is (a) a caterpillar (b) a larva. Choose the correct option.
a. a b. b c. both a and b d. neither a nor b
2. Which of the following does not yield wool?
a. Yak b. Camel c. Goat d. Woolly dog
3. Wool is not obtained from _____.
a. Sheep b. Goat c. Yak d. Cow
4. The process of removing hair from the body of sheep is called _____.
a. Scouring b. sorting c. Shearing d. combing
5. After scouring, the next process is _____.
a. Shearing b. Sorting c. Spinning d. combing
6. Which of the following is not an animal fibre?
a. Polyester b. Wool c. Silk d. Pashima
7. The rearing of silkworms for obtaining silk is called _____.
a. Apiculture b. Pisciculture
c. Sericulture d. None of these
8. Which one of the following is not a natural fibre?
a. Cotton b. Rayon c. Silk d. Wool
9. Lohi is the breed of _____.
a. Cow b. Silk moth c. Sheep d. Buffalo
10. The process of obtaining silk fibre from cocoons is called _____.
a. Shearing b. Scouring c. reeling d. Combing
11. Which one of the following is not the part of sericulture?
a. Hatching b. Reeling c. Moulting d. Shearing

12. Yaks are generally found in _____ region.
 a. Kashmir b. Tibet c. Ladakh d. Tibet and Ladakh
13. The silk covering spun by the silkworm for its protection is called ____
 a. Cocoon b. Hatching c. laying d. Scouring
14. Silk is obtained from cocoons of _____.
 a. Sheep b. Goat c. Silkworms d. All of these
15. Pashmina shawls are weaved from which of these?
 a. Angora wool b. Yak wool
 c. Kashmiri goat wool d. None of these
16. Silk thread is obtained from _____.
 a. Adult moth b. Pupa c. Caterpillar d. Cocoon
17. The silk and wool are made of a kind of _____.
 a. Fats b. Carbohydrates c. Proteins d. Vitamins
18. Silkworms feed on leaves of _____.
 a. Guava b. Mulberry c. Mango d. Banana
19. _____ are thin, soft flexible obtain from plants and animals.
 a. Fibre b. Crop c. Milk d. None of these
20. The thick coat of hair on a sheep body is called _____.
 a. Skin b. Fur c. Fleece d. Fat

CH:4 HEAT

I. Answer in Short:

1. Define Heat and Temperature.

Ans: **Heat:** Heat is the form of energy which produces a sensation of hotness or coldness. It is measured in Joules.

Temperature: The degree of hotness or coldness is called temperature. It is measured in Celsius, Fahrenheit and Kelvin.

2. Give two examples each of conductors and insulators of heat.

Ans: Conductors : Aluminium, Iron
 Insulators : Plastic, wood

3. Why does the mercury not fall or rise in a clinical thermometer when taken out of the mouth.

Ans: Kink present in the clinical thermometer prevents the mercury level from falling on its own.

4. Why stainless steel cooking utensils are usually provided with copper bottoms?

Ans: Stainless steel cooking utensils are usually provided with copper bottoms because copper is the best conductor of heat than the stainless steel.

5. What is the uses of maximum and minimum thermometer?

Ans: The maximum and minimum thermometer is used to measure the maximum and minimum temperatures of the previous day, reported in weather reports.

II. Answer in Paragraph:

1. Discuss why wearing more layers of clothing during winter keeps us warmer than wearing just one thick piece of clothing.

Ans: The air gets trapped between two layers of warm clothes. Air acts as an insulator of heat. This layer prevents our body heat to escape in the surroundings. So wearing more layers of clothing during winter keep us warmer than wearing just one thick piece of clothing.

2. In places of hot climate it is advised that the outer walls of houses be painted white. Explain.

Ans: In place of hot climate it is advised that the outer walls of houses be painted white because light colour reflects most of the heat that falls on it. Therefore, the temperature inside the house does not increase very much.

3. State similarities and differences between the laboratory thermometer and the clinical thermometer?

Ans: *Similarities:*

- ★ Both made up of uniform glass tube.
- ★ Both contain mercury
- ★ Both have bulb at one end
- ★ Both generally have celsius scales.

Difference:

- ★ Range of laboratory thermometer is from -10°C to 110°C while range of clinical thermometer is from 35°C to 42°C
- ★ Laboratory thermometer is used to take the reading of temperature in laboratory materials. While clinical thermometer is used to measure the temperature of human body.
- ★ Mercury level falls when removed from the source in case of laboratory thermometer while in case of clinical thermometer the kink prevents the mercury level falling on its own.

III. Answer in details:

1. What is sea and land breeze? Explain.

Ans: **Sea Breeze:** During the day, the land gets heated faster than the water. The air over the land becomes heater and rises up.

The cooler air from the sea rushes in towards the land to take its place. The warm air from land moves towards the sea to complete the cycle. The air from the sea is called sea breeze.

Land Breeze: At night, the water cools down more slowly than the land. So, the cool air from the land moves towards the sea. This is called the land breeze.



2. List the precautions to be measured while reading a clinical thermometer.

Ans: Thermometer should be washed before and after use, preferably with an antiseptic solution.

- ★ Ensure that before use the mercury level is below 35°C.
- ★ Read the thermometer keeping the level of mercury along the line of sight.
- ★ Handle the thermometer with care. If it hits against some hard object, it can break.
- ★ Don't hold the thermometer by the bulb while reading it.

IV. Fill in the blanks:

1. The hotness of an object is determined by its temperature.
2. Temperature of boiling water cannot be measured by a clinical thermometer.
3. Temperature is measured in degree celsius.
4. No medium is required for transfer of heat by the process of radiation.
5. A cool steel spoon is dipped in a cup of hot milk. It transfers heat to its other end by the process of conduction.
6. Clothes of dark colours absorb heat better than clothes of light colours.

V. Match the following:

- | | | |
|--|---|--------|
| 1. Land breeze blows during | - | Night |
| 2. Sea breeze blows during | - | Day |
| 3. Dark coloured clothes are preferred during | - | Winter |
| 4. Light coloured clothes are preferred during | - | Summer |

VI. Multiple choice questions: [MCQS]

- One litre of water at 30°C is mixed with one litre of water at 50°C . The temperature of the mixture will be
 - 80°C
 - More than 50°C but less than 80°C
 - 20°C
 - Between 30°C to 50°C
- An iron ball at 40°C is dropped in a mug containing water at 40°C . The heat will
 - Flow from iron ball to water
 - Not flow from iron ball to water or from water to iron ball
 - Flow from water to iron ball
 - Increase the temperature of both
- A wooden spoon is dipped in a cup of ice cream. It's other end.
 - Becomes cold by the process of conduction
 - Becomes cold by the process of convection
 - Becomes cold by the process of Radiation
 - Does not become cold.
- Stainless steel pans are carefully provided with copper bottoms. The reasons for this could be that
 - Copper bottom makes the pan more durable
 - Such pans appear colourful
 - Copper is a better conductor of heat than the stainless steel
 - Copper is easier to clean than the stainless steel.
- Temperature is measured by a device called.
 - Thermometer
 - Barometer
 - Manometer
 - All of these
- A Clinical thermometer reads temperature from
 - 100°C to 200°C
 - 40°C to 50°C
 - 20°C to 10°C
 - 35°C to 42°C
- The normal temperature of human body is
 - 0°C
 - 37°C
 - 10°C
 - 100°C
- The range of a laboratory thermometer is generally from
 - 0°C to 100°C
 - -20°C to 110°C
 - -10°C to 110°C
 - 10°C to 110°C
- The liquid metal used in a thermometer is
 - Mercury
 - Silver
 - Gold
 - Copper
- The transfer of heat which does not require any medium is called.
 - Conduction
 - Convection
 - Radiation
 - Vaporization

11. A thermo flask prevents loss or gain of heat by
a) Conduction b) Convection
c) Radiation d) All of these
12. Sea breeze is caused due to
a) Conduction b) Convection c) Radiation d) All of these
13. Handles of saucepans and other cooking utensils are made up of
a) Thermal Conductors b) Thermal Insulators
c) Electrical Conductors d) melalloid
14. In SI unit of temperature is
a) Celsius b) Fahrenheit c) Kelvin d) Ampere
15. A very good conductors of heat contains
a) Metals b) Non-Metals c) Liquids d) Gases
16. A solar panel is kept on a black surface so that it absorbs more
a) Heat b) Water c) Air d) Oxygen
17. Materials that trap air by fur, feather, wool and saw dust are heat
a) Insulators b) Conductors c) Gainers d) Losers
18. A polished silvery surface is
a) Good absorber of heat b) Good reflector of heat
c) Pood reflector of heat d) None of these
19. Infrared radiations can pass through
a) 1 foot thick walls b) Glass c) Water d) Log
20. Compared to hot air; cooler air is
a) Light b) A good conductor c) More efficient d) Denser

5. ACIDS, BASES AND SALTS

I. Answer in short:

1. Ammonia is found in many house hold products, such as window cleaners. It turns red litmus blue what is its nature?

Ans: Ammonia is basic in nature as it turns the colour of red litmus paper to blue.

2. Dorji has a few bottles of soft drink in his restaurant. But unfortunately these are not labeled. He has to serve the drinks on the demand of customers. One customer wants acidic drink, another wants basic and third wants neutral drink. How will Dorji decide which drink is to be served to whom?

Ans: Dorji can use indicators to test which drink is acidic or basic. He can perform litmus paper test by pouring few drops of drink on blue litmus paper strip. If the blue litmus paper turns red, that drink is acidic.

If red litmus paper turns blue, the drink is basic. If both red and blue litmus paper shows no colour change then that drink is neutral.

3. Is the distilled water acidic / basic / neutral? How would you verify it?

Ans: Distilled water is neutral in nature. The same can be verified by using red and blue litmus papers. Neither will show a colour change with distilled water. This proves that distilled water is neutral.

4. Why does a vegetable stain turn reddish brown when washed with soap solution?

Ans: Vegetable stain is acidic in nature. So When it combines with soap which is basic in nature, turn reddish brown.

5. How is china rosa indicator prepared?

Ans: China rosa indicator is prepared by keeping the china rosa petals in warm water. After sometime, the solution becomes pink which is used as an indicator.

II. Answer in Paragraph:

1. State the difference between Acids and Bases.

Acids	Bases
1. These are sour to taste	1. These are bitter to taste and soupy to touch.
2. Acids turn blue litmus red.	3. Bases turn red litmus blue
3. Acids do not change the colour of red litmus	2. Bases do not change the colour of blue litmus
4. Acids give dark pink colour with china rose indicator.	4. Bases give green colour with china rose indicator
5. Acid do not change the colour of turmeric indicator	5. Bases turns the colour of turmeric indicator to red.

2. Name the source from which litmus solution is obtained. What is the use of this solution?

Ans: Litmus solution is obtained from lichens. A natural dye extracted from lichens is dissolved in distilled water to obtain litmus solution. It is used as an indicator to distinguish between acids and bases.

Solution	Colour of Litmus solution
Acidic	Red
Basic	Blue
Neutral	No Change

3. Blue litmus paper is dipped in a solution. It remain blue. What is the nature of the solution? Explain.

Ans: We know that basic and neutral solutions do not change the colour of blue litmus paper. Since blue litmus remains blue after dipping in the

solution, the solution is either basic or neutral in nature. Put a drop of this solution on a red litmus paper. If it turns blue, then the above solution is basic in nature and if no colour change occurs, then it is neutral.

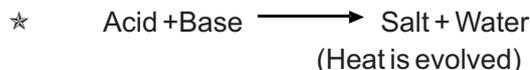
4. Why should factory waste be neutralised before discharging it into water bodies? Explain.

Ans: The waste substances discharged by many factories contain acid. If these untreated factory wastes are directly discharged into the water bodies, then the acids present in the factory wastes will kill the fish and other aquatic organisms that live in the water bodies. Thus, factory waste are neutralized by adding basic substances.

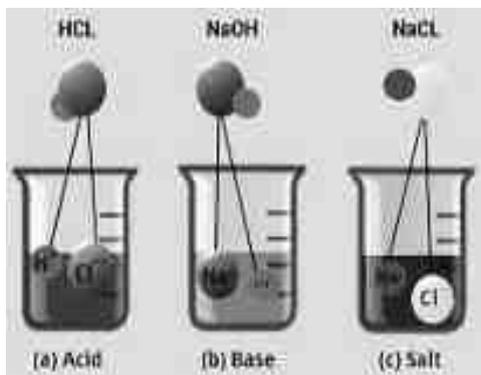
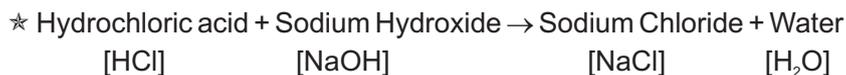
III. Answer in detail:

1. Describe the process of neutralisation with the help of an example.

Ans: The reaction between an acid and a base is known as neutralisation. Salt and water are produced in this process with the evolution of heat.



☆ For example, when hydrochloric acid (HCl) reacts with a base sodium hydroxide (NaOH), it forms a salt Sodium Chloride (NaCl) and water (H₂O)



Process of neutralisation

2. Explain Why:

- a) An antacid tablet is taken when you suffer from acidity.
- b) Calamine solution is applied on the skin when an ant bites.

Ans: a) Due to spicy food, our stomach releases excess of hydrochloric acid which causes acidity or indigestion. An antacid tablet consists of a base like milk of magnesia (Magnesium hydroxide). It neutralizes the excess of excessive acid and bring relief.

b) The sting of an ant contains formic acid which causes irritation on the skin. Calamine solution contains zinc carbonate which is a base. Calamine solution neutralizes acid effect of the ant bite when applied on the skin.

IV. Objective: True or False:

1. Nitric acid turn red litmus blue -False
2. Sodium hydroxide turns blue litmus red-False
3. Sodium hydroxide and hydrochloric acid neutralize each other and form salt and water-True
4. Indicator is a substance which shows different colours in acidic and basic solutions-True.
5. Tooth decay is caused by the presence of a base - False.

V. MCQ's:

1. Consider the following statements:
 - a) Both acids and bases change colour of all indicators.
 - b) If an indicator gives a colour change with an acid, it does not give a change colour with a base.
 - c) If an indicator change colour with a base, it does not change colour with an acid.
 - d) Change of colour in an acid and a base depends on the type of the indicator. Which of these statements are correct?
(i) All four (ii) a and b (iii) b and c (iv) Only d
2. Orange juice is sour in taste due to the presence of citric acid
 - a) Acetic acid b) Citric acid c) Formic acid d) Tartaric acid
3. A solution turns red litmus paper blue. If a drop of phenolphthalein is added to it, turns pink
 - a) Turns pink b) Remains Colourless
 - c) Turns red again d) Turns blue

4. Which of the following is added to the soil if it is too basic?

Organic Matter

- a) Calamine solution b) Milk of Magnesia
c) Organic Matter d) Tartaric acid

5. The substance which turns blue litmus red is acidic

- a) Basic b) Acidic c) Neutral d) All of these

6. Which of the following is a property of an acid? Sour taste

- a) Sour taste b) Sweet taste
c) Bitter taste d) Salty taste

7. Milk of magnesia contain Magnesium hydroxide.

- a) Sodium hydroxide b) Potassium hydroxide
c) Magnesium Hydroxide d) Ammonium hydroxide

8. When an acid reacts with a base what compounds are formed?

salt and water

- a) Water only b) Metal oxides only
c) salt only d) salt and water

9. Sodium hydroxide is found in soap

- a) Lemon b) Soap c) Oil of Vitriol d) Curd

10. Lactic acid is found in curd

- a) Curd b) Soap c) Apple d) Lime

11. Acetic acid is found in vinegar

- a) Curd b) Spinach c) Vinegar d) Citrus fruits

12. Which of the following colours is given by phenolphthalein in a basic salt solution? pink

- a) Yellow b) Pink c) Orange red d) Colourless

13. The most commonly used natural indicator 'Litmus' is extracted from Lichens.

- a) Lichens b) Turmeric c) Beet root d) China rose

14. Which of the following is a strong acid? Nitric acid

- a) Acetic acid b) Nitric acid
c) lactic acid d) Citric acid

15. The substances used to test whether a substance is acidic/basic are known as indicators.

- a) Indicators b) Acids c) Bases d) Salt

16. Substance which are bitter in taste, feel soapy on touching are known as Bases

- a) Acids b) Bases c) Indicators d) Neutral Solution

17. Is the distilled water acidic/basic/neutral? Neutral

- a) None of the above b) Neutral c) Acidic d) Basic

18. An antacid tablet contains base

- a) Base b) None of these c) Acid d) Neutral

19. Factory waste contains acids

- a) Acids b) Bases c) Neutral d) None of these

20. Nitric acid turns red litmus blue. False

- a) False b) True
c) None of these d) No reaction

6. PHYSICAL AND CHEMICAL CHANGES

I. Answer in Short:

1. What is Crystallization ?

The process by which crystals of pure substances are obtained from their solutions.

2. Classify the changes involved in the following processes as physical or chemical changes.

- a) Photosynthesis
b) Dissolving sugar in water
c) Burning of coal
d) Melting of wax
e) Beating aluminium to make aluminium foil
f) Digestion of food

Ans: (a) Photosynthesis → Chemical change

(b) Dissolving sugar in water → Physical change

(c) Burning of coal → Chemical change

(d) Melting of wax → Physical change

(e) Beating aluminium to make aluminium foil → Physical change

(f) Digestion of food → Chemical change

3. Explain how painting of an iron gate prevents it from rusting.

Ans: Rusting is aided by both moisture (water) and air (oxygen). By painting an iron gate, we prevent its contact from the air and moisture present in the atmosphere. Hence, rusting is prevented.

II. Answer in Paragraph:

1. When a candle burns, both physical and chemical changes take place. Identify these changes. Give another example of a familiar process in which both the chemical and physical changes take place.

Ans: When a candle burns, both physical and chemical changes take place.

Physical change → Melting of wax

Chemical change → Burning of wax

Eating of food is another example where both physical and chemical changes occur simultaneously.

Physical change → Breaking down of larger food particles into smaller particles

Chemical change → Digestion of food

2. How will you show that setting of curd is a chemical change?

Ans: Once the curd is formed, milk cannot be re-obtained from it. And milk contains lactose, curd contains lactic acid in which lactobacillus bacteria present. When lactobacillus bacteria is added to milk, setting of curd (which is a chemical change) takes place. Since, a new substance (curd) is obtained it is a chemical change.

3. Explain why burning of wood and cutting it into small pieces are considered as two different types of changes.

Ans: When we burn, a new substance coal is formed. Therefore it is chemical change. However, when we cut wood, only the shape and size of the wood are changed. No new substance is formed. Therefore, it is a physical change.

4. Explain why rusting of iron objects is faster in coastal areas than in deserts.

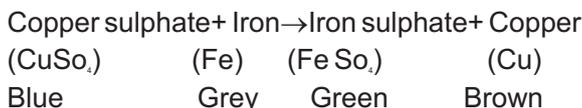
Ans: Both air and moisture are required for rusting to take place. In coastal areas, the quantity of moisture present in air is more than that in deserts. In desert areas, the amount of moisture in air is even lower. Therefore, rusting of iron objects is faster in coastal areas than in deserts.

III. Answer in detail:

1. What happens when an iron nail is dipped in copper sulphate solution?

Ans: Copper sulphate solution is blue in colour. It changes to green colour due to the formation of a new substance (iron sulphate).

★ The brown deposit on the nail is of copper.



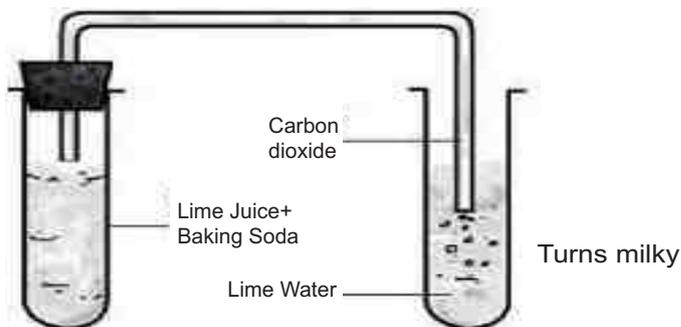
2. When baking soda is mixed with lemon juice, bubbles are formed with the evolution of a gas what type of change is it? Explain?

When baking soda (Sodium hydrogen carbonate) is mixed with lemon juice (citric acid), bubbles are formed with hissing sound due to evolution of carbon - di - oxide gas. This is a chemical change.

Lemon juice + Baking soda \rightarrow Carbon - di - oxide + other substances
(Evolution of gas)

When the carbon - di - oxide is passed through lime water, calcium carbonate is formed, which makes limewater milky.

Carbon - di - oxide + Lime water \rightarrow Calcium carbonate + water



3. Describe how crystals of copper sulphate are prepared.

Ans: Crystals of copper sulphate are prepared by the method of crystallisation. The process is as follows. A cupful of water is taken in a beaker. Few drops of dilute Sulphuric acid are added to this. The water is then heated and when it starts boiling, copper sulphate powder is added with stirring. Copper sulphate powder should be added on till the solution becomes saturated. It is then filtered into a China dish and allowed to cool. The solution should be kept undistributed. Slowly the crystals of copper sulphate separate out.

IV. True or false.

1. Cutting a log of wood into pieces is a chemical change. False
2. Formation of manure from leaves is a physical change False
3. Iron pipes coated with zinc do not get rusted easily True
4. Iron and rust are the same substances False
5. Condensation of steam is not a chemical change True.

V. Fill in the blanks:

1. When carbon - di - oxide is passed through lime water, it turns milky due to the formation of calcium carbonate.
2. The chemical name of baking soda is sodium hydrogen - carbonate.
3. Two methods by which rusting of iron can be prevented are galvanisation and painting.
4. Changes in which only physical properties of a substances change are called physical changes.
5. Changes in which new substances are formed are called chemical changes.

VI. MCQ.

1. The gas we use in the kitchen is called (LPG) liquefied petroleum gas. In the cylinder it exist as a liquid. When it comes out from the cylinder it becomes a gas (Change - A) then it burns (Change - B) the following statements pertain to these changes. Choose the correct one.
 - (a) Process - A is a chemical change.
 - (b) Process - B is a chemical change
 - (c) Both processes A and B are chemical changes
 - (d) None of these processes is a chemical change
2. Anaerobic bacteria digest animal waste and produce biogas (Change - A). The bio gas is then burnt as fuel (Change - B) the following statements pertain to these changes choose the correct one.

- (i) Process - A is a chemical change.
(ii) Process - B is a chemical change
(iii) Both processes A and B are chemical changes
(iv) None of these processes is a chemical changes.
3. When baking soda is added to vinegar _____ gas is produced.
(a) Carbon - di - oxide (b) Nitrous oxide
(c) Sulphur di oxide (d) Carbon - monoxide
4. Dissolving sugar in water is a _____ change
(a) Chemical (b) Physical (c) Both a & b (d) None of these
5. The process of depositing a layer of zinc on iron is called _____
(a) crystallization (b) Galvanisation
(c) Rusting (d) Precipitation
6. Crystals of pure substances are obtained from their solutions by _____
(a) Ccrystallization (b) Galvanisation
(c) Rusting (d) Precipitation
7. Hydrated iron oxide is called _____
(a) Iron (b) Carbon
(c) Magnesium hydroxide (d) Rust
8. During which of the following changes is a new substance formed?
a) Melting (b) Sublimation (c) Evaporation (d) Rusting
9. Carbon - di - oxide turns lime water _____
a) Pink (b) Yellow (c) milky (d) red
10. In galvanisation, iron objects are coated with _____
a) aluminium metal (b) zinc metal
c) copper metal (d) silver metal
11. Magnesium ribbon burns with _____ light forming ash.
a) white (b) red (c) Blue (d) green
12. Magnesium ribbon burns in air to form magnesium _____
a) carbonate (b) bi carbonate (c) hydroxide (d) oxide
13. When iron nail is kept in copper sulphate solution, the blue colour of copper sulphate solution changes to
a) red (b) orange (c) green (d) Yellow
14. A change in which one or more new substances are formed is called _____ change.
a) Physical (b) Chemical (c) both a & b (d) none of these
15. The presences of both _____ and water is essential for rusting.
a) Hydrogen (b) chlorine (c) Oxygen (d) Nitrogen
16. _____ act as a natural shield against UV rays
a) atmosphere (b) Ozone (c) radiation (d) Sun

17. Only change of _____ takes place during the melting of ice.
 a) physical b) chemical c) crystal d) none of these
18. _____ are the purest solid form of a substance with a definite geometrical shape.
 a) liquid b) Solid c) gas d) Crystals
19. Generally, a physical change is _____
 a) reversible b) irreversible c) shape d) chemical
20. _____ acid is used in crystallization.
 a) nitric b) Sulphuric c) Hydrochloric d) Nitrous

10. RESPIRATION IN ORGANISMS

I. Answer in short:

1. What is Breathing rate ?

The number of times a person breathes in a minute is called breathing rate.

2. Why does an athlete breathe faster and deeper than usual after finishing the race?

Ans: During the run, the demand of energy is high but the supply of oxygen to produce energy is limited. Therefore, anaerobic respiration takes places in the muscle cells to fulfill the demand of energy. After finishing the race, an athlete breathe faster and deeper than usual so that more oxygen is supplied to the cells.

3. Why do we often sneeze when we inhale a lot of dust - laden air?

Ans: We often sneeze when we inhale a lot of dust - laden air to expel out these foreign particles. These particles get past the hair in the nasal cavity and irritate the lining of cavity which result in sneezing.

4. Why mountaineers carry oxygen with them?

Ans: Mountaineers carry oxygen with them because the amount of air available to a person is less than that available on the ground.

II. Answer in Paragraph:

1. Take three test - tubes. Fill each of them with water. Label them A, B and C. Keep a Snail in test - tube A, a water plant in test tube B and in C, keep Snail and plant both. Which test tube would have the high concentration of CO_2 ?

Ans: Test tube A will have the high concentration of CO_2 , because snail will take in oxygen and gives out CO_2 . In test tube B the plant will absorb the CO_2 present in H_2O and in test tube C, the CO_2 will be released by snail and it is utilized by the water plant for photosynthesis process and hence there will be less concentration of CO_2 in B and C.

2. What happens to the air we breathe in?

Ans: The air we breathe in transported to every parts of body and ultimately it is transported to each cells. In the cells, oxygen in the air helps in the breakdown of food. This process of breakdown of food in the cell with the release of energy is called cellular respiration.

3. How does the exchange of gases occurs in breathing?

Ans: When we inhale air it passes through our nostrils to nasal cavity. From nasal cavity the air reaches our lungs. The exhale air follows same route to go out. Breathing in and out involves the movement of the diaphragm and the rib cage.

4. How do the plants breathe in oxygen?

Ans: In plants each part can independently take in carbondioxide from air and give out oxygen. Leaves of the plants have tiny pores called stomata for exchange of oxygen and carbon - di - oxide. Roots take up air from the pores present between the soil particles.

III. Answer in detail:

1. List the similarities and differences between aerobic and anaerobic respiration

Ans: Similarities between aerobic and anaerobic respiration.

- ❖ In both aerobic and anaerobic respiration, food is broken down to release energy.
- ❖ both takes place inside the cells
- ❖ Both are necessary for the survival of living organisms.

Difference:

Aerobic respiration:

- It takes place in the presence of oxygen.
- Energy is released in higher amount
- Carbon - di - oxide and water are produced as by products.
- It is a slow process.

Examples: Animals and plants.

Anaerobic respiration:

- It takes place in the absence of oxygen
- Energy is released in lesser amount.
- Glucose breaks down into lactic acid and energy and then lactic acid is broken down into carbon-di-oxide and water.
- It is a fast process

Examples: Human muscle cells, yeast, bacteria.

2. Explain the process of breathing in human.

Ans: Breathing involves the movement of the diaphragm and the rib cage.

During inhalation, ribs move up and outwards and diaphragm moves down. This movement increases space in our chest cavity and air rushes into the lungs. The lungs get filled with air.

During exhalation, ribs move down and inwards, while diaphragm moves up to its former position. This reduces the size of the chest cavity and air is pushed out of the lungs.

IV. Match the following:

- | | | |
|--------------|---|----------------|
| 1. Yeast | - | Alcohol |
| 2. Diaphragm | - | chest cavity |
| 3. Skin | - | Earthworm |
| 4. Leaves | - | Stomata |
| 5. Fish | - | Gills |
| 6. Frog | - | Lungs and skin |

V. True or false:

1. During heavy exercise the breathing rate of a person slows down - False
2. Plants carry out photosynthesis only during the day and respiration only at night - False
3. Frogs breathe through their skins as well as their lungs - True
4. The fishes have lungs for respiration - False
5. The size of the chest cavity increases during inhalation - True.

VI. MCQ:

1. In cockroaches, air enters the body through.

a) lungs	b) gills	c) <u>spiracles</u>	d) skin
----------	----------	---------------------	---------
2. During heavy exercises, we get cramps in leg due to the accumulation of _____

a) carbon - di -oxide	b) <u>Lactic acid</u>
c) alcohol	d) water
3. Normal range of breathing rate per minute in an average adult person at rest is _____

a) 9-12	b) <u>15-18</u>	c) 21-24	d) 30-33
---------	-----------------	----------	----------
4. During exhalation, the ribs _____

a) move outwards	b) <u>move downwards</u>
c) move upward	d) do not move at all
5. Which of the following is not associated with the process of respiration?

a) lungs	b) alveole	c) <u>bladder</u>	d) trachea
----------	------------	-------------------	------------

6. In fish, exchange of gases takes place through _____
a) lungs b) spiracles c) body skin d) gills
7. Trachea are present in an _____
a) frog b) fish c) earthworm d) insect
8. The end products of respiration are
a) carbon - di oxide and energy
b) carbon - di - oxide and water
c) carbon di oxide, water and energy
d) carbon - di oxide and oxygen
9. The process in which exchange of gases takes place is called _____
a) combustion b) respiration
c) breathing d) cellular respiration
10. The process of breakdown of food in the cell with the release of energy is called _____
a) respiration b) inhalation c) exhalation d) breathing
11. Taking in air rich in oxygen into the body is called _____
a) respiration b) inhalation c) exhalation d) Breathing
12. Giving out of air rich in carbon - di- oxide is called _____
a) Respiration b) inhalation c) exhalation d) breathing
13. During exhalation the size of the chest cavity _____
a) decreases b) increases
c) remains the same d) none of these
14. Name the organism which breathes through its skin.
a) cat b) human being c) dog d) earthworm
15. The air tubes that an insect has are useful for the exchange of _____
a) liquids b) solids c) gases d) no exchange
16. Name the muscular sheet which separates the abdomen from the chest cavity.
a) Diaphragm b) Ribs c) spiracles d) Tracheae
17. Which of the following organism can do anaerobic respiration?
a) yeast b) leech c) Amoeba d) fish
18. The chemical used to test the presence of CO₂ in exhaled air _____
a) Lime juice b) lime stone c) quick lime d) lime water
19. The tiny pores present in the leaves of the plants for exchange of gases _____
a) Trachea b) stomata c) Chloroplast d) spiracles
20. Wind pipe is also called _____
a) Oesophagus b) Bronchus c) Trachea d) Nasal cavity

LS.7 WEATHER, CLIMATE AND ADAPTATIONS OF ANIMALS TO CLIMATE

I. Answer in short:

1. Name the elements that determine the weather of a place.

Ans: The elements that determine the weather are temperature, rainfall and humidity.

2. What are the maximum and minimum temperatures likely to occur during day ?

Ans: The maximum temperature of the day occurs generally in the afternoon and minimum temperature occurs generally in early morning.

3. Which of the two changes frequently, weather or climate ?

Ans: Weather changes frequently.

4. The tropical rain forest has large population of animals. Explain why it is so.

Ans: Because of continuous warmth and rain, this region supports wide variety of plants and animals.

II. Answer in paragraph:

1. Write some common adaptive features of a polar bear which help in keeping it warm.

Ans: Polar bears have white fur so that they are not easily visible in the snowy white background. It protect them from their predators. To protect from extreme cold, they have two thick layers of fur. They have a layer of fat under the skin which also acts as a protection layer to the polar bear.

2. Explain with examples why we find animals of certain kind living in particular climatic conditions.

Ans: Animals are adapted to survive in the conditions in which they live. Features and habits which help them to adapt to their surroundings. So, to survive in a particular type of climate the animals must have certain adapted features. For examples, animals in the polar region are adapted to the extremely cold climate, such as polar bear and penguin.

3. How do elephants living in the tropical rain forests adapt themselves.

Ans: The elephant adapt themselves by many remarkable ways. It has a trunk that it uses as a nose for strong sense of smell. Trunk is also used to picking up the food. Its tusks are modified teeth. Large ears of the elephant help to hear very soft sounds. They also help the elephant to keep cool in hot and humid climate of the rain forest.

4. Why is camouflage important for animals ?

Ans: Many tropical animals have sensitive hearing, sharp eyesight, thick skin and a skin colour which helps them to camouflage by blending with the surroundings. This helps to protect themselves from predators. Eg. tigers

5. Which type of animals are inhabitants of tropical rain forest area ?

Ans: The major types of animals living in the rain forests are monkeys, apes, lions, tigers, elephant etc. The climatic conditions in rain forests are highly suitable for supporting an enormous number and variety of animals.

III. Answer in detail:

1. What do you mean by the term 'Migration' ? Give an example of a living organism which show this phenomenon.

Ans: The regular seasonal journey undertaken by many animals and birds to escape the harsh and cold conditions of weather is known as migration. Many animals, birds and fishes migrate to warmer regions in winter and come back when winter is over. Migration is marked by its annual seasonality. For example, the Siberian crane that comes from Siberia migrates to India at places like Bharat pur in Rajasthan and Sultanpur in Haryana.

2. Explain with examples how animals have adapted themselves to overcome the competition for food and shelter in the rain forests.

Ans: To overcome the competition for food and shelter, some animals are adapted to get food which is not easily reachable. Example, red-eyed frog has developed sticky pads on its feet to help to climb trees on which it lives. Another examples is of the Toucan bird, which possesses a long, large beak. This helps a toucan to reach the fruits on branches which are otherwise too weak to support its weight.

IV. Fill in the blanks:

1. The average weather taken over a long time is called climate.

2. At place receives very little rainfall and the temperature is height throughout the year, the climate of that place will be hot and dry.

3. The two regions of the earth with extreme climatic conditions are pole and desert.

V. Indicate the type of climate of the following areas.

- a) Jammu and Kashmir : Cold and wet
- b) Kerala : Hot and wet
- c) Rajasthan : Hot and dry
- d) North east Indian : Hot and wet

VI. Multiple choice questions:

1. The coldest region on earth is the _____.
a) Polar region b) tropical region
c) temperate region d) coastal region
2. Which of these is specifically an adaptation for cold climates ?
a) thick fur b) long ears c) sweating glands d) light bones
3. Camouflage shown in polar bear is due to
a) thick fur b) long ears c) whiter fur d) two layer of tail
4. Birds are adapted to fly because of _____.
a) streamlined body b) light bones
c) feathers and wings d) all of these.
5. The atmospheric conditions on a particular day, at a place with respect to the temperature, humidity etc is called _____.
a) climate b) weather c) season d) all of these
6. Which of the following is not an element of the weather ?
a) temperature b) humidity c) latitude d) wind speed
7. Weather report are prepared by _____.
a) geologist b) meteorologist c) germinologist d) physician
8. Which of these is specifically an adaptation for cold climate ?
a) thick fur b) long ear c) sweat d) light bones
9. The maximum temperature for a particular day is recorded in the _____.
a) evening b) night c) morning d) afternoon
10. An animal 'ship of desert' is _____.
a) camel b) polar bear c) frog d) penguin
11. Atmospheric pressure is measured with the help of _____.
a) Hygrometer b) thermometer
c) barometer d) All of these
12. Which of the following is a migratory bird ?
a) Siberian crane b) arctic tern
c) both a and b d) none of these
13. _____ are found in tropical rain forest
a) seal b) apes c) gorillas d) both b and c
14. Fish uses which organ to breath in water ?
a) mouth b) lungs c) gills d) skin

15. Which is not a cold blooded animal ?
 a) frog b) fish c) Birds d) Snakes
16. Which of the following change frequently? _____.
 a) Climate b) weather
 c) both a and b d) none of these
17. The elephant uses its trunk as a sense organ for _____.
 a) sound b) taste c) sight d) smell
18. The lion tailed macaque also called _____.
 a) ape b) gorilla c) beard ape d) none of these
19. The periodic movement of animals from one place to another place is called _____.
 a) adaptation b) habitat c) migration d) none of these
20. The climate of tropical rainforest is _____.
 a) extremely cold b) hot
 c) hot and humid d) cold and humid

CH.9 SOIL

I. Answer in short:

1. Explain how soil is formed.

Ans: Soil is formed by the breaking down of rocks by the action of wind, water and climate. This process is called weathering.

2. How is clayey soil useful for crops?

Ans: Clayey soil retain water to a great extent. Thus, the crops which require more water grow well in clayey soil.

3. Raza conducted an experiment in the field related to the rate of percolation. She observed that it took 40 min for 200 ml of water to percolate through the soil sample. Calculate the rate of percolation.

Ans: Rate of percolation = amount of water/ percolation time
 $= 200 \text{ ml} / 40 \text{ min}$
 $= 5 \text{ ml/min}$

4. Why is uppermost layer of soil, dark in colour?

Ans: Uppermost layer of soil, dark in colour because it is rich in humus and minerals.

5. What is bed rock?

Ans: The C - horizon layer is made up of small lumps of rocks with cracks and crevices. Below this layer is the bed rock, which is hard and difficult to dig with a spade.

II. Answer in paragraph:

1. What is Humus? What is its significance?

Ans: Humus is the organic matter present in the soil formed by decomposition of dead plant and animal remains. It is an important element of the top soil that determines the soil fertility.

2. List the difference between clayey soil and sandy soil.

S.NO	Clayey soil	Sandy soil
1.	The proportion of fine particles is higher.	The proportion of large particles is higher.
2.	Particles are packed tightly.	Particles are loosely packed.
3.	It can hold good amount of water.	It's ability to retain water is low
4.	Less air is trapped between the particles	More air trapped between the particles
5.	It is rich in humus.	It is not rich in humus.

3. Write brief notes on soil types?

Ans: The mixture of rock particles and humus is called the soil. The soil is classified on the basis of the proportion of particles of various sizes.

Sandy soil: It contains greater proportion of big particles with large spaces between them are filled with air.

Clayey soil: The proportion of fine particles is relatively higher and packed tightly with less air.

Loamy soil: It is a mixture of sand, clay and another type of soil particles known as silt. Thus the soil can be classified as sandy, clayed and loamy.

III. Answer in detail:

1. Explain how soil pollution and soil erosion could be prevented.

Ans: (i) Prevention of soil pollution.

* Plastic and polythene bags destroy the fertility of soil. Hence, they should be disposed properly.

*Some waste products from industries and homes pollute soil. These pollutants should be treated chemically to make them harmless before they are disposed.

*Excessive usage of pesticides and Insecticides should be avoided.

(ii) Prevention of soil erosion:

*Removal of the upper fertile layer of the soil by strong wind and flowing water is called soil erosion.

*Roots of plant bind the soil firmly and prevent soil erosion. So, soil erosion can be prevented by planting trees.

2. Explain the soil profile and the different layers in it.

Ans: A soil profile is a management of the successive layers of the soil that would appear when we have vertical section view. Each layer differs in texture, colour, depth and chemical composition. These layers are referred to as horizons.

A - Horizons: Also called top soil. Upper most layer of soil. The colour of this layer is the darkest., since it is rich in humus and minerals. It is soft, porous and hold more water than the other layers.

B - Horizons: The next layer has a lesser amount of humus but more of minerals. This layer is generally harder and more compact and is called the B - horizon or the middle layer.

C - Horizons: The third layer is the C - Horizon which is made up of small lumps of rocks with cracks and crevices.

Bed rock: Below C - horizon the layer is called bed rock, which is hard and difficult to dig with a spade.

IV. Match the following:

- | | | |
|--------------------------------|---|----------------------------------|
| 1. A home for living organisms | - | All kinds of soil. |
| 2. Upper layer of the soil | - | Dark in colour |
| 3. Sandy soil | - | large particles |
| 4. Middle layer of the soil | - | Lesser amount of humus |
| 5. Clayey soil | - | Small particles and packed tight |

V. Multiple choice questions:

- In addition to the rock particles, the soil contains
 - air and water
 - water and plants
 - minerals, organic matter, air and water
 - water, air and plants
- The water holding capacity is the highest in
 - sandy soil
 - Clayey soil
 - loamy soil
 - mixture of soil and loam
- Weathering of rock is a _____ process.
 - very slow
 - slow
 - fast
 - very fast
- The percolation rate of water in particular soil is expressed in the unit of _____.
 - ml/min
 - L/min
 - min/L
 - m/min

5. Large and coarse particles are called
a) clay b) slit c) humus d) sand
6. Which of the following soil rich in humus?
a) sandy soil b) mixed soil c) loamy soil d) none of these
7. The layer of soil which is soft, porous and can hold more water is ____
a) topsoil b) subsoil c) c horizon d) bed rock
8. Soil, in addition to particles, contains _____
a) air and water
b) air, water and humus
c) air, water and living organisms
d) air, water, humus and living organisms
9. The layer of soil from which plants get the essential nutrients is ____
a) top soil b) sub soil c) c - horizon d) bed rock
10. Soil profile consists mainly of _____
a) two layers b) three layers c) four layers d) five layers
11. Water holding capacity is the highest in _____
a) loamy soil b) clayey soil c) sandy soil d) soil containing gravel
12. The removal of land surface by water, wind or ice is known as ____
a) erosion b) slope c) rock d) none of these
13. Clayey and _____ soils are both suitable for growing cereals like wheat and gram.
a) silt b) loamy c) sandy d) sand
14. A vertical section through different layers of soil is called the ____
a) soil profile b) soil c) humus d) top soil
15. The breaking down of rocks by the action of wind, water and climate is called _____
a) humus b) weathering c) topsoil d) loamy
16. The mixture of rock particles and humus is called the _____
a) sand b) silt c) soil d) loamy
17. _____ is a mixture of sand, clay and another type of soil particle.
a) sandy soil b) clayey c) loamy d) none of these
18. _____ occurs as a deposit in river beds.
a) soil b) sand c) silt d) rocks
19. Below the C – horizon, this layer is present _____
a) bed rock b) hard soil c) silt d) humus
20. The rotting dead matter in the soil is called _____
a) humus b) bed rock c) sandy soil d) top soil



SOCIAL

CHAPTER - I - TRACING CHANGES THROUGH A THOUSAND YEARS

I. Define the following terms:

1. Foreigner - One who belongs to another country is termed as foreigner.
2. Periodisation - Dividing of a period of thousand years into several sub - periods is termed as periodisation.
3. Cartographer - A person who makes maps is called cartographer.
4. Shikaste - Illegible handwriting or the handwriting which is difficult to be read and understood.
5. Historians: The persons who study the past in chronological order

Date Line

- * 1154 CE - AL - Idrisi made a map of Indian sub - continent.
- * 1266-1287 - Reign of Ghiyasuddin Balban.
- * 1356 - Ziyauddin Barani Wrote his first chronicle.

III. Answer in short:

1. List some of the technological changes associated with medieval period.

Ans: Some of the technological changes associated with medieval period are

- Persian wheel in irrigation
- Spinning wheel
- Fire-arms in combat.

2. Name the various groups that became important between 700-1750

Ans: The various group that became politically important between 700-1750 were Rajputs, Sikhs, Marathas, Jats, Ahoms, Kayasthas etc.

3. What does the term pan-regional empire mean?

Ans: Pan-regional empire means the empire crossing its region and spreading over several other regions.

4. Who was considered a 'foreigner' in the past?

Ans: In the past, a person who was stranger or who was not a part of the society or culture was considered to be a foreigner.

- In Hindi, a foreigner is termed as pardesi.

- In Persian, a foreigner is called ajnabi.

IV. Answer in paragraph:

1. What were some of the major religious developments during this period?

Ans: Some of the major religious developments during this period.

- Changes in Hinduism
- Rise of Bhakti movement.
- Rise of sufi movement
- Rise of Sikhism
- Arrival of Muslim religion
- Shia Muslims
- Sunni Muslims
- Hanafi] Two schools of law for Muslims.
- Shafi'i

2. Write short notes on Historians and their sources.

Ans: Availability of paper in the 14th century.

People used paper to write holy texts, chronicles of ruler, letters and teachings of saints, petitions and judicial records and in preparing accounts and taxes.

- Manuscripts were collected by wealthy people, rulers, monasteries and temples.
- They were placed in libraries and archives.
- They provided a lot of detailed information to historians.
- They were difficult to use.

3. How were the people grouped into jatis?

Ans: As society became more, uneven people were grouped into jatis or sub-castes and ranked on the basis of their backgrounds and their occupations.

- Ranks were not fixed permanently.
- They varied according to the power, influence and resources controlled by members of the jati.
- The status of the same jati could vary from area to area.

4. What is the contribution of the medieval period to the Indian history?

Ans: Medieval period is considered very important in the Indian history.

The following points are its contributions:

- Many modern languages, which we speak now a days in India, developed at this time.
- Some of the food items we eat and the clothes we wear became popular during this age.
- The history of many of our current religious faiths

such as Islam, Sikhism, etc. can be traced back to this period.

V. Answer in detail:

1. What major changes occurred between 700 to 1750 AD?

Ans: Throughout the period between 700 and 1750 AD there was a gradual clearing of forests and the extension of agriculture. This was a change faster and more complete in some areas than in others.

- Changes in their habitat forced many forest-dwellers to migrate.
- Others started tilling the land and became peasants.
- Regional markets, chieftains, priests, monasteries and temples began to influence them.
- They became part of large complex societies.
- They were required to pay taxes and offer goods and services to local lords.
- As a result, significant economic and social differences emerged among the peasants.
- Some possessed more productive land.
- Others kept cattle.
- Yet others combined artisanal work with agricultural activity during the lean season

(GEO) CH.1 OUR ENVIRONMENT

I. Definitions:

1. *Environment:* The place, people, things and nature that surround any living organism is called environment.
2. *Biotic:* It refers to the world of living organisms, such as plants and animals.
3. *Abiotic:* It refers to the world of non-living elements such as land.
4. *Lithosphere:* It is the solid crust or the hard top layer of the earth.
5. *Hydrosphere:* It refers to water bodies like- rivers, lakes etc., on the earth.

II. Short answer:

1. What is an ecosystem?

Ans: All plants, animals and human beings depend on their immediate surroundings. They are also interdependent on each other. This relation between the living organisms as well as relation between the organism and their surroundings form an ecosystem.

2. What do you mean by natural environment?

Ans: Natural environment consists of land, water, air, plants and animals. Thus natural environment refers to both biotic and abiotic

conditions that exist on the earth.

3. Why is our environment changing?

Ans: Our environment is changing because our needs are increasing day by day. To fulfil these needs we often don't think about the environment and start modifying it.

4. How is atmosphere important for us?

Ans: Atmosphere protects us from the harmful rays and scorching heat of the sun.

5. What does lithosphere provide us?

Ans: Lithosphere provide us forests, grass lands for grazing, land for agriculture and human settlements. It is a rich source of minerals.

III. Answer in paragraph:

1. Write a note on lithosphere.

Ans: Lithosphere is the solid crust or the hard top layer of the earth. It is made up of rocks and minerals.

* It is covered by a thin layer of soil. It is an irregular surface with various landforms such as mountains, plateaus, desert, plains valleys etc.....,

* Lithosphere plays an important role in our life. It provides us forest, grassland for grazing, land for agriculture and human settlement. It is also a treasure of various minerals.

2. How do human beings modify natural environment?

Ans: * The needs of human beings are increasing day by day. Hence, they modify natural environment to fulfil these needs. Sometimes they even destroy their environment.

* Human being have made cars for their convenience. These cars release fumes which pollute the air. They have established factories on land. These factories manufacture various item such as containers. This is how they modify natural environment.

3. Distinguish between biotic and abiotic environments

Biotic environment:

* The world of living organisms is called biotic environment.

* Examples: Plants and animals

Abiotic Environment:

* The world of non living elements is called abiotic environment.

* Example: land

4. Why plants and animals depend on each other?

Plants and animals depend on each other in the following ways:

1. Plants provide food to animals.

2. Plants, in the form of forests, provide shelter to wild life.
3. Wild life add beauty to the forests.
4. Animals provide manure to plants for growth.
5. Animals also provide beauty to forests.
6. Dead animals also provide humus content.

IV. Answer in detail:

1. Give an account of various domains of the environment.

Ans: Various domains of the environment are :

i) Lithosphere ii) Atmosphere iii) Hydrosphere iv) Biosphere

i) Lithosphere: It is the solid crust or the hard top layer of the earth. It is made up of rocks and minerals and covered by a thin layer of soil. It provides us forest, grassland and land.

ii) Atmosphere: It is the thin layer of air that surrounds the earth. The gravitational force of the earth holds the atmosphere around it. It protects us from harmful rays and scorching heat of the sun. It consists of various gases, dust and water vapour.

iii) Hydrosphere: It refers to various water bodies such as rivers, lakes, seas, oceans etc., that exist on the earth.

iv) Biosphere: Biosphere or the living world is comprised of plant and animal kingdom. It is a narrow zone of the earth where land, water and air interact with each other to support life.

2. What was brought a change in interaction between humans and their surroundings?

Human being modifies nature according to their need. Early humans adapted themselves to their natural surroundings. They led a simple life fulfilling their needs from nature.

With changes in needs new methods and technologies were invented. Settled life brought agriculture and domestication of animals. Invention of wheel, surplus food led to development of trade and commerce. Barter system emerged.

Industrial revolution, changes in transportation increased production. Growth in communication system made life easier and speedy. Humans learned new ways to use and change the surroundings.

HIS: CH-2 NEW KINGS AND KINGDOMS

I. Definitions:

1. Samanta : Samantas were big land lords or warrior chiefs in different regions of the sub continent. (or) Samantas were the

subordinates of the kings.

2. Nadu: The larger form of groups of villages is termed as nadu.
3. Sabha: The present day assembly was called Sabha of the law makers assembled there.
4. Valanadu: A province in the chola empire was called valanadu.
5. Brahmadeya: Tax free land given to Brahmanas by a ruler as a gift.

II. Short answers:

1. Who were the parties involved in the “tripartite struggle”?
Parties involved in the “tripartite struggle” are
 - Gurjara – Pratiharas
 - Rashtrakutas
 - Palas
2. What service did samantas provide to the existing kings?
* Samantas brought gifts for their kings or overlords.
* They should be present at their courts or functions organized by them.
3. How were Brahmanas rewarded?
* Kings often rewarded Brahmanas with grants of land.
 - These were recorded on copper plates.
 - The plates were given to those who received the land.
4. Who looked after the Brahmadeya?
Each brahmadeya was looked after by an assembly or sabha of prominent brahmana land holders.
5. What types of land are described in the inscriptions?
The land types described in the inscriptions are VellanVagai, Brahmadeya, Shalabhoga, Devadana, Tirunamattukkani and Pallichchhandam.

III. Answer in Paragraph:

1. How did the Rashtrakutas become powerful?
Rashtrakutas became powerful in the following manner.
 - * Rashtrakutas were subordinates to the Chalukyas of Karnataka.
 - * In the mid-eighth century, Dantidurga, a Rashtrakuta chief, overthrew his Chalukya overlord.
 - * He performed a ritual called Hiranya-garbha with the help of Brahmanas.
 - * This ritual was then, considered to lead the rebirth of the sacrificer as Kshatriya, even if he was not Kshatriya by birth.
2. What were the qualifications necessary to become a member of a committees of the Sabha in the chola Empire?
The working of a sabha according to the Uttaramerur inscription is

given below:

- * All those who wish to become members of the sabha should be owners of land from which land revenue is collected.
 - * They should have their own homes.
 - * They should be between 35 and 70 years of age.
 - * They should have knowledge of the vedas.
3. What titles did the new kings adopt?
- * Many of the new kings adopted high-sounding titles.
 - * These titles were Maharaja – adhiraja meaning great king, overlord of kings, Tribhuvana-Chakravartin meaning lord of the three worlds and so on.
 - * However, In spite of such claims, they often shared power with their samantas as well as with associations of peasants, traders and Brahmanas.
4. How were resources used in the period 7th to 12th centuries. ?
- * The resources were used in the following ways:
 - To finance the king's establishment.
 - In the construction of temples and forts.
 - To fight wars, which were in turn expected to lead to the acquisition of wealth in the form of plunder.
 - To access to land as well as trade routes.

IV. Detail:

1. What were the activities associated with chola temples?
- Splendid temples and bronze sculptures of the cholas.
- * Raja Raja and Rajendra built big temples of Thanjavur and Gangai Konda cholapuram.
 - * They are architectural and sculptural marvels.
 - * Chola temples often became the centre of settlements around them.
 - * These were centres of craft production.
 - * Temples were also endowed with land by both rulers and others.
 - * The produce of this land went to maintain all the specialists who worked at the temple and very often lived near it.
 - * They included priests, garland makers, cooks, sweepers, musicians, dancers etc.,
 - * In other words, temples were not only places of worship, but also the hub of economic, social and cultural life.
 - * Amongst the crafts associated with temples, the making of bronze images was the most important.
 - * Chola bronze images are amongst the finest in the world
 - * Most images were of deities, sometimes images were made of

devotees also.

2. Who was Mahmud Ghazni? How did he expand his kingdom?

One of the best known rulers is sultan Mahmud of Ghazni, Afghanistan.

* He ruled from 997 to 1030 AD

* He extended control over parts of central Asia, Iran and the north – western part of the sub-continent.

* He raided the subcontinent almost every year – his targets were wealthy temples including somnath, Gujarat.

* He used most of the wealth to create a splendid capital city at Ghazni.

* He was interested in finding out more about the people he conquered.

* He entrusted a scholar named Al-Biruni to write an account of the sub continent.

* This Arabic work, known as the kitab al – Hind, remains an important source for historians.

* He consulted Sanskrit scholars to prepare this account.

(HIS) Ch-3The Delhi Sultans

I. Definitions:

1. Birth Right:

It refers to the privileges claimed on account of birth.

2. Mosque:

It is called a masjid in Arabic and literally means a place where a Muslim prostrates in reverence to Allah.

3. Bandagan :

The early Delhi Sultans especially Iltutmish favoured their slaves purchased for military service. These slaves were known as bandagan in Persian.

4. Gender Distinctions:

Social and biological differences between men and women.

5. Hinterland:

It refers to the land adjacent to a city or port that supply it with goods and services.

II. Answer in short:

1. What is meant by “ External “ and “Internal frontiers” of the sultanate.

Ans: The external frontier means the areas beyond the hinterland of the garrison towns. The Internal frontier means the hinterland of garrison towns.

2. Mention the sources that provide a lot of information about the Delhi Sultans.

Ans: Inscriptions, Coins, architecture and history written in Persian by learned authors are some of the most important sources that provide a lot of information about the Delhi Sultans.

3. Why was Raziyya removed from the throne?

Ans: Being a women ruler she was not favoured by anyone. She ruled just for four years and was finally dethroned in 1240.

4. Why did the Authors of Persian Tawarikh criticise the Delhi Sultans?

Ans: The authors did not like the Sultanate's policy of appointing the "low and base born" to high offices.

5. Name three types of Taxes collected during the sultanate period.

Ans: * Tax on cultivation called Kharaj and amounting to about 50% of the peasants yield.

* Tax on cattle

* Tax on houses

II. Answer in paragraph:

1. What were the steps taken to ensure that muqtis performed their duties?

Ans: The steps taken are as follows:

* Accountants are appointed by the state to check the amount of revenue collected by the muqtis.

* Care was taken that the muqti collected only the taxes prescribed by the state and not more than that.

* It was also taken care that he kept only the required number of soldiers.

2. Who was Raziyya? Why was she not accepted as a Sultan inspite of being talented?

Ans: Raziyya was Sultan Iltutmish's daughter. She became Sultan in 1236. She was very talented. According to the chronicler of the age, Minhaj-i-Siraj, she was more able and qualified than all her brothers. But she was not accepted when she became a ruler. Those were the days when women were not allowed to enjoy independent identity. They were supposed to be subordinate to men. This led to her removal from the throne in 1240.

3. Who was Sher Shah Suri? Write briefly about his administration?

Ans: Sher Shah Suri (1540-1545) established a powerful state. He started his career as the manager of a small territory for his uncle in Bihar and eventually challenged and defeated the Mughal Emperor Humayun. Sher Shah captured Delhi and established his own

Dynasty known as the Suri dynasty. Although the Suri dynasty ruled for only short period i.e 15 years, it introduced an administration, that borrowed elements from Alauddin Khalji and made them more efficient. The great emperor Akbar followed the techniques of Sher Shah's administration while consolidating the Mughal Empire.

4. What is called a masjid? How is it used.

- * A mosque is called a masjid in Arabic.
- * Literally, it is a place where a muslim prostrates in reverence to Allah.
- * In a "Congregational mosque" (Masjid – I jami or jama masjid) Muslims read their prayers (namaz) together.
- * Members of the congregation choose the most respected, learned male as their leader (imam) for the rituals of prayer.
- * He also delivers the sermon (khutba) during the Friday prayer.
- * During prayer, Muslims stand facing Mecca. In India, this is to the West. This is called the qibla.
- * The Delhi sultans built several mosques in cities all over the subcontinent.

IV. Answer in detail:

1. Give an account of Alauddin's administrative measures.

Ans: During the reign of Alauddin Khalji, Mongol attacks increased. It was a huge administrative challenge for the sultan. He introduced several administrative measures.

1. Alauddin Khalji raised a huge standing army as a defensive measure.
2. He constructed a new garrison town known as Siri for his soldiers.
3. The soldiers had to be fed. This was done through the produce collected as tax from lands between the Ganga and Yamuna. Tax was fixed at 50% of the Peasant's produce.
4. He paid his soldiers cash salaries rather than Iqta. This was done in order to make soldiers able to buy their supplies from merchants in Delhi. It was feared that merchants would raise their prices. In order to stop this Alauddin controlled the prices of goods in Delhi. Prices were carefully surveyed by officers and merchants who did not sell at the prescribed rates were punished.
5. Alauddin's administrative measures were successful because he efficiently withstood the threat of Mongol attacks.

2. Who was more successful of the two rulers?

Alauddin's measures were successful.

- * His reign was known for cheap prices and good supply of goods. He successfully withstood Mongol invasions.
- Md. Tughluq's measures were a failure.

- * His Kashmir campaign was a disaster. He disbanded his troops and gave up the idea of invading Transoxiana.
- * People resented shifting to Daulatabad.
- * Increased taxes and famine in Ganga-Yamuna belt led to rebellion.
- * Token currency was called off.

The important thing to remember is that Md.Tughluq was the first ruler who planned to capture Mongol territory. His measures were offensive unlike Alauddin's defensive measures.

(GEO) CH-02 INSIDE OUR EARTH

I. Definition:

1. Crust: The upper most layer over the earth's surface. It is very thin.
2. Sial: The continental mass of the crust consisting of silica and alumina is called sial.
3. Sima: The Oceanic crust mainly consists of silica and magnesium.
4. Igneous Rocks: Igneous rocks are formed by cooling and solidifying molten magma.
5. Lava: Lava is fiery red molten magma coming out from the interior of the earth on its surface.

II. Answer in short:

1. What are the three layers of the earth?

Ans: The three layers of the earth are:

- * Crust * Mantle * core

2. What is a rock?

Ans: A rock is a natural mass of mineral matter that makes up the earth's crust. Rocks can be of different colour, size and texture.

3. Name the types of rocks.

Ans: Three types of rocks are:

- * Igneous rocks also known as primary rocks.
- * Sedimentary rocks.
- * Metamorphic rocks

4. What are the uses of rocks?

Ans: Hard rocks are used for making roads, houses and buildings. Stones are used in many games such as seven stones (pitthoo), hopscotch (Stapu/ kitkit), Five stones (gitti)

5. What are metamorphic rocks.

Ans: When the igneous and sedimentary rocks are subjected to heat and pressure they change into metamorphic rocks. For example : Clay changes into slate and lime stone into marble.

II. Answer in paragraph:

1. What are minerals? How are they useful for mankind?

Ans: Minerals are naturally occurring substances which have certain physical properties and definite chemical composition. Minerals are very useful for mankind. Some minerals like coal, natural gas and petroleum are used as fuels. They are also used in industries. Iron, aluminum, gold, Uranium etc are used in medicine, in Fertilizers etc.

2. How are extrusive and intrusive rocks formed?

Ans: When the molten lava comes on the earth's surface. It rapidly cools down and becomes solid. Rocks formed in this way on the crust are extrusive igneous rocks. Sometimes the molten Magma cools down deep inside the earth's crust. Solid rocks so formed are actually intrusive igneous rocks.

3. What do you mean by a rock cycle?

Ans: One type of rock changes to another type under certain conditions in a cyclic manner. This process of transformation of the rock from one to another is known as the rock cycle.

Example:- Igneous rocks change into sedimentary rocks. When the igneous and sedimentary rocks are subjected to heat and pressure, they change into metamorphic rocks. The metamorphic rocks which are still under great heat and pressure melt down to form molten magma. This molten magma again can cool down and solidify into igneous rocks.

4. How is the earth a dynamic planet?

* The earth is our homeland.

* It is a dynamic planet.

* It is constantly undergoing changes inside and outside.

IV. Answer in detail:

1. Mention Various types of rocks.

Ans: Rocks are of three types.

* Igneous rock * Sedimentary rocks * Metamorphic rocks

* Igneous Rocks:

When the molten magma cools, it become solid. Rocks formed in this way are called igneous rocks. They are of two types.

* Extrusive Rocks and * Intrusive rocks

* Extrusive Rocks:

When the molten lava comes on the earth's surface, it rapidly cools down and becomes solid. Rocks formed in this way on the crust are called extrusive Igneous rocks. Ex: Basalt

Intrusive Rocks: Sometimes the molten magma cools down deep inside the earth's crust. Solid rocks so formed are called Intrusive igneous rocks. Ex: Granite

Sedimentary rocks: Small fragments of rocks are called sediments. These sediments are transported and deposited by wind, water etc. These loose sediments are compressed and hardened to form sedimentary rocks.

Metamorphic rocks: When igneous and sedimentary rocks are subjected to great heat and pressure, they change into metamorphic rocks

Ex: Clay changes into slate and lime stone into marble.

2. Describe the interior of the earth

Interior of the earth

* The earth is made up of several concentric layers with one inside another, just like an onion.

Crust:

* The uppermost layer on the earth's surface is called the crust.

- It is the thinnest of all the layers.

- It is about 35km, thick on the continental masses and only 5km thick on the ocean floors.

- Main minerals constituent of the continental mass are silica and alumina.

* It is thus called sial. (Si-Silica and al-alumina)

Mantle:

* Just beneath the crust is the mantle.

- It extends up to a depth of 2900km below the crust.

Core:

* The innermost layer is the core with radius of about 3500 km.

- It is mainly made up of nickel and iron.

- Hence it is called nife. (ni-nickel and fe-ferrous i.e.iron)

- The central core has very high temperature and pressure.

(CIVICS)CH-1 & 10 - EQUALITY & STRUGGLES FOR EQUALITY

Definition:

1. Dignity: Thinking of oneself and other persons as worth of respect.

2. Constitution:

A document that lays down the basic rules and regulations for people and the government in the country to follow.

3. Reservoir:

An artificial lake where water is collected and kept in quantity to use.

4. Contractor: One that contracts to perform work or provide supplies.
5. TMS: Tawa Matsya Sangh is an organization fighting for the rights of the displaced forest dwellers of the Satpura forest in Madhya Pradesh.

II. Answer in short:

1. In a democracy why is Universal Adult Franchise important.

Ans: In a democracy, every citizen is equal. The concept of Universal Adult Franchise is based on equality. Therefore it is important in a democracy. Under Universal Adult Franchise every adult irrespective of caste, creed, religion, sex etc is allowed to vote.

2. What was the condition of the African-Americans in the United States of America Prior to 1950s?

Ans: Prior to 1950s, the African-American's in the United States of America were treated extremely unequally and denied equality through law.

3. What was the demand of the Tawa Matsya Sangh?

Ans: The Tawa Matsya Sangh demanded their right to continue fishing for their livelihood.

4. What is known as the civil Right Movements?

Ans: A movement took place in the USA in the late 1950s to push for equal rights for African-American's. This movement later came to be known as civil rights movement.

5. State the main reasons why people do not have equality?

- * Poverty
- * Lack of resources
- * Discrimination on the basis of religion, caste and sex.
- * Lack of dignity and respect for certain communities.

III. Answer in paragraph:

1. Write a brief note on the civil rights Act of 1964.

Ans: The civil Right Act was passed in the year 1964. The Act Prohibited discrimination on the basis of race, religion or national origin. It also stated that all schools would be open to African-American children and that they would no longer have to attend separate schools specially set up for them. However a majority of Africans-American's continue to be among the poorest in the country.

2. Write a note on "Creative expression".

Ans: People fight against in equality in two ways i.e by joining protest movements and by using their pen or their voice, or their ability to dance to draw attention on issues of inequality. This is known as creative expression. Writers, singers, dancers and artists have also

been very active in the fight against inequality. Often poems, songs and stories can also inspire us and make us believe strongly in an issue and influence our efforts to correct the prevailing situation.

3. Mention two different kinds of inequalities that exist in our country. Give examples.

Ans: Two different kinds of inequalities that exist in our country are inequalities based on the caste system and based on the religion.

Omprakash valmiki was treated extremely unequal because he was a dalit. In school, his head master made him sweep the school and the play ground.

Ansaris were treated unequally on the basis of differences of religion. They were looking to rent an apartment in the city. They were about to take an apartment at the first sight. But the moment the land lady knew their names she declined to rent the house.

4. What leads to displacement of people and communities?

There are many reasons which displace people and communities. For example,

- * When dams are built or forests are declared as sanctuaries, thousands of people are displaced.
- * Villages uprooted and people have to start afresh.
- * In urban areas, when basis of poor people are relocated outside the cities. Their work, children's schooling gets disrupted due to distance.
- * This displacement has become widespread problem. People of different organizations usually come together to fight against this. For example Tawa Matsya Sangh.

IV. Answer in detail:

1. What are the Provision made in the constitution for the recognition of equality?

Ans: The provisions made in the constitution for the recognition of equality are as follow:

- Every person is equal before law. This means every person from the President of India to a domestic worker has to obey the same laws.
- No person can be discriminated against on the basis of their religion, caste, race, place of birth or whether they are male or female.
- Every person has access to all public places including play grounds, hotels, shops and markets. All persons can use publicly available wells, roads and bathing ghats.
- Untouchability has been abolished.

2. Give an account of the Indian constitution as a living document?

The Indian Constitution as a living document.

- * The foundation of all movements for justice and the inspiration and for all the poetry and songs on equality is the recognition of equality among people.
- * The Indian Constitution recognises the equality of all persons.
- * Movements and struggles for equality in India continuously refer to the Indian constitution to make their point about equality and justice for all.
- * The fish workers in the Tawa Matsya Sangh (TMS) hope that the provisions of the constitution will become a reality through their participation in this movement.
- * By constantly referring to the constitution, they use it as a 'living document' i.e., something that has real meaning in our lives.
- * In a democracy, there are always communities and individuals trying to expand the idea of democracy and push for a greater recognition of equality on existing as well as new issues.

(HIS) CH-04 THE MUGHAL EMPIRE

I. Definition:

1. Mansabdar: An individual who holds a mansab meaning a position or rank.
2. Suba and Subadar: The empire was divided into provinces called subas which were governed by a subadar who carried both political and military functions.
3. Diwan: The financial officer of a Suba was called as Diwan.
4. Jagirs: Mansabdars received their salaries as revenue assignments called Jagirs.
5. Zat: Ranks and salary were determined by a numerical value called zat.

II. Answer in short:

1. What were the central provinces under the control of the Mughals?

Ans: Panipat, Lahore, Delhi, Agra, Mathura, Amber, Ajmer, Fatehpur sikri, Chittor, Ranthambhore and Allahabad.

2. What do you mean by primogeniture?

Ans: The system of inheritance or succession by the first born, specifically the eldest son is called primogeniture.

3. What was Zabt?

Ans: It was the revenue collected on the basis of schedule of revenue rates for individual crops.

4. What qualities of the Mughals enabled them to extend their influence over many kings and chieftains?

Ans: The careful balance between defeating but not humiliating their opponents enabled the Mughals to extend their influence over many kings and chieftains.

5. Who was Babur?

Ans: He was the first Mughal emperor and reigned from 1526 to 1530.

III. Answer in Paragraph:

1. What were the relationship between the mansabdar and the Jagir?

Ans: Mansabdars were the patrons who joined mughal services. They received their salaries as revenue assignments. This was called Jagir. Mansabdars did not actually reside in or administer the Jagir. They only had rights to the revenue of their assignment. This revenue was collected for them by their servants, while the mansabdars themselves served in some other part of the country.

2. What were the main features of Sulh-i-kul?

Ans: The idea of Sulh-i-kul was introduced by Akbar, the Great. Sulh - i-kul meant universal peace. Its main features are as follows:

- The idea of sulh-i-kul was based on the idea of tolerance which did not discriminate between the people of different religions in Akbar's realm.
- It focused on a system of ethics- honesty, justice, peace. These values were universally applicable.

3. What was the role of the zamindar in Mughal administration?

Ans: Zamindars were powerful local chieftains appointed by Mughal rulers. They exercised great influence and power. They collected taxes from the peasants and gave them to the Mughal emperor. Thus they played the role of intermediaries. In some areas the zamindars became more powerful. The exploitation by Mughal administrators made them to rebellion. They got support from the peasants in rebelling against the Mughal authority.

4. Who founded the Mughal rule in India and how?

Babur was the first Mughal Emperor in India (1526-1530). At the age of 12 he was forced to leave his ancestral home Ferghana due to Uzbegs's attacks.

* In 1526, he defeated Ibrahim Lodi at the battle of panipat and captured Delhi and Agra.

* In 1527, he defeated Rana Sanga at Khanua.

* In 1528, he defeated Rajputs at Chanderi and strengthened his control over Delhi and Agra.

IV. Answer in detail:

1. Give an account of Akbar Nama and Ain-i-Akbari.

Ans: * Abul Fazl, one of Akbar's close friends and courtiers, wrote a three volume history of the reign of Akbar. It was titled "Akbar Nama".

* The first volume dealt with Akbar's ancestors and the second volume recorded the events of Akbar's reign.

* Ain-i-Akbari is the third volume. It deals with Akbar's administration, house hold, army, the revenues and the geography of his empire.

* The book also provides details about the traditions and cultures of the people living in India.

* The most interesting aspect about Ain-i-Akbari is its rich statistical details about things as diverse as crops, yields, prices, wages and revenues.

2. At which age did Akbar became emperor? Give an account of his rulership:

Akbar 1556-1605

Akbar was 13 years old when he became emperor. His reign can be divided into three periods.

* 1556-1570 – Akbar became Independent of the regent Bairam Khan and other members of his domestic staff. Military campaigns were launched against the suris and other Afghans, against the neighbouring kingdoms of Malwa and Gondwana, and to suppress the revolt of his half brother Mirza Hakim and the Uzbegs. In 1568 the Sisodiya capital of Chittor was seized and in 1569 Rathambhor.

* 1570-1585 – Military campaigns in Gujarat were followed by campaigns in the east in Bihar, Bengal and Orissa. These campaigns were complicated by the 1579-1580 revolt in support of Mirza Hakim.

* 1585-1605 – Expansion of Akbar's empire. Campaigns were launched in the North-West. Qandahar was seized from the Safavids. Kashmir was annexed, as also Kabul, after the death of Mirza Hakim.

- Campaigns in the Deccan started and Berar, Khandesh and parts of Ahmad nagar were annexed. In the last years of his reign Akbar was distracted by the rebellion of prince Salim, the future Emperor Jahangir.

GEO: CH-3 OUR CHANGING EARTH

I. Definitions:

1. Weathering : Weathering is the breaking up of rocks on the earth's surface at their place of origin.

2. Ox-Bow Lake: Cut-off lake due to cut-off of a meander loop is called ox-bow lake as its shape is like an ox-bow.
3. Sea Cliff: The steep rocky coast rising almost vertically above sea water is called sea cliff.
4. Moraines: The material which is carried by a glacier consisting of rocks big or small, sand and silt and deposited at the end of the glaciers is known as moraines.
5. Sand dunes: Heaps of sand in the desert formed due to the deposition work of wind are termed as sand dunes.

II. Answer in short:

1. What are lithospheric plates?

The lithosphere is broken into several large pieces. These large pieces of lithosphere are called lithospheric plates.

Eg: Indo-Australian plate.

2. What are earthquakes?

When the lithospheric plates move, the surface of the earth vibrates. The vibrations travel all around the earth. These vibrations are called earthquakes.

3. What are three types of earthquake waves?

The three types of earthquake waves are :

- P waves or longitudinal waves.
- S waves or transverse waves.
- L waves or surface waves

4. What is a seismograph?

An earthquake is measured with a machine it is called a seismograph.

5. What is a waterfall?

When a river tumbles at a steep angle over the hard rocks of a deep sleep valley it forms a waterfall.

III. Answer in Paragraph:

1. What are exogenic and endogenic forces?

Exogenic forces:

Exogenic forces are those forces which act on the surface of the earth and cause changes on the surface of the earth.

Ex: Weathering, gradation etc.,

Endogenic forces:

Endogenic forces are those forces which originate in the interior of the earth and cause changes on the surface of the earth

ex: Volcanoes and earthquakes.

2. Why do buildings get collapsed due to earthquakes?

- * Mostly buildings are not built/made earthquake proof.
- * When the earthquakes strike, the buildings are not capable of resisting the vibrations of the earthquakes.
- * They tear apart due to shallow foundation, sub-standard interior material and lack of adequate steel.
- * They collapse and fall down like a pack of papers/ cards.

3. Write about some common earthquake prediction methods adopted locally by people?

Some of the common earthquake prediction methods adopted locally by people are:

- Wild animal behavior.
- Agitated fish in the ponds.
- Snakes coming out to the surface from their holes.
- Animals trying to untie themselves and run away.
- Birds leaving their nests and beginning to chatter loudly.
- Aborigines beginning to run to higher grounds.

4. Describe the work of ice:

Work of ice:

- * Glaciers are "rivers" of ice.
- * They too erode the landscape by bulldozing soil and stones to expose the solid rock below.
- * Glaciers carve out deep hollows.
- * As the ice melts they get filled up with water and become beautiful lakes in the mountains.
- * The material carried by the glacier like big and small rocks, sand, silt gets deposited.
- These deposit from glacial moraines.

IV. Answer in Detail:

1. Describe the work of a river:

- * Running water in the river erodes the landscape.
- * When the river enters the plain it twists, turns and forms large bends. These bends are known as meanders.
- * Due to continuous erosion and deposition along the sides of the meander, the ends of the meander loop come closer and closer.
- In due course of time the meander loop cuts-off from the river and forms a cut-off lake.
- It is called an ox-bow lake.
- At times the river over flows its banks.

- The flood water deposits layers of fine soil and other material.
- This leads to the formation of a flat fertile land called a flood plain.
- * The raised banks are called leaves.
- * As the river approaches the sea, the speed of the running water decreases.

2. Give an account of the work of wind.

Work of Wind:

- * An active agent of erosion and deposition in the deserts is wind.
- * In deserts there are numerous rocks with a shape of a mushroom.
- * They are commonly called mushroom rocks.
- Winds erode the lower section of the rock more than the upper part.
- Such rocks have narrower base and wider top.
- * When the wind blows, it lifts and transports sand from one place to another.
- * When it stops blowing, the sand falls and gets deposited in low hill like structures.
- * These are called sand dunes.
- * When the grains of sand are very fine and light, the wind carries it over very long distances.
- * When such a sand is deposited in large areas, it is called loess. Large deposits of loess are found in china.

(CIVICS)CH-2 Role OF Government

CH-3 How The State Government Works

I. Definition:

1. Communicable diseases: Diseases that spread from one person to another through water, food, air, etc.
2. Public: A service that is meant for all people in the country and is organized by the government.
3. Private: A service that is organized by an individual or company for their own profit.
4. Constituency: It refers to a particular area from which all the voters living there choose their representatives.
5. Majority: A political party whose MLA s have won more than half the number of constituencies in a state can said to be in a majority.

II. Answer in short:

1. What do people in a democratic country expect the government?

Ans: People in a democratic country expect the government to work for their welfare.

2. Name some water borne diseases.

Ans: Diarrhoea, worms, hepatitis.

3. What do we need to prevent and treat illnesses?

Ans: We need appropriate healthcare facilities such as health centres, hospitals, laboratories for testing, ambulance services etc.

4. What is full form of RMP's? Where are they found?

Ans: Registered Medical practitioners. They are found in the rural areas.

5. Why are poor people more likely to fall ill?

Ans: Poor people are more likely to fall ill because they are not provided basic necessities like drinking water, adequate housing, clean surroundings etc.

III. Answer in paragraph:

1. Define Health.

Ans: Health is defined as the ability of a person to remain free of illness and injuries. Health is not only about disease, there are other factors such as safe drinking water, clean surroundings etc, because they affect our health in various ways. Being active is also essential part of health. We also need to be without mental stress, because we cannot be healthy for a long time, if we are under mental strain.

2. What do you mean by a MLA?

Ans: * The term MLA stand for a Member of Legislative Assembly.

* He/ she is elected through a general election and represents a particular constituency.

* It is not necessary for one to be a member of a political party to become a MLA.

* He/She can contest the election as an independent candidate also.

* In some cases, he/she is sponsored by political party.

* He/ She must be a citizen of India and fulfil the requisite qualifications for the post.

3. What is the process of formation of government in a state?

Ans: * A general election is conducted to elect representatives from various constituencies. The party which earns more than half of the total seats is said to be in a majority.

* That party is usually called for forming the Government.

Sometimes, no party gains clear majority.

* The party with maximum elected members tries to get support from the like- minded parties or independent candidates.

* The party that proves to have maximum supporters in that way is allowed to form government. Otherwise there would be re-election.

4. Who takes the decisions about running of the government?

The chief minister and other ministers have to take the decisions about running the government. These decisions have to be approved by the member of Assembly.

In democracy these members (MLAS) can ask questions, debate an issue or take decision about spending the money. They have the joint authority. We see or listen about these discussions from the newspapers or news channels.

IV. Answer in detail:

1. Distinguish between public health services and private health service.

Public Health Service	Private Health Service
<ul style="list-style-type: none"> * It provides health care facilities either free or at a low cost. Money making is not a goal of public health services. * Public health services are found both in rural and urban areas. * We find huge rush at the government hospitals. People have to wait for hours in a long queue. 	<ul style="list-style-type: none"> * They run mainly for profit. They usually prescribe expensive medicines. * It is found only in urban areas. * Private hospitals are maintained properly. People don't face such long queues there.

2. Where else work of government is discussed other than the legislature?

Besides Legislative Assembly there are other places (means) where opinions are expressed about the work of the government and action is demanded.

- * The newspapers, T.V.channels and other organizations regularly talking about the government.
- * In a democracy, there are various ways through which people express their views and also take action.
- * One such way is the press conference.
- * Large number of people from different newspapers come to the press conference.
- * The minister and some government officials explain the steps that the government has taken.
- * There were many questions asked by news reporters at this meetings . These discussions were then reported in different newspapers.

CH-06 TOWNS TRADERS AND CRAFTS PERSONS

I. Definition :

1. Emporium: A place where goods from diverse production centres are bought and sold.
2. Hundi: It is a note recording a deposit made by a person. The amount deposited can be claimed in another place by presenting the record of the deposit.
3. Sthapatis: Sculptors who make beautiful bronze idols and tall, ornamental bell metal - lamps.
4. Pilgrimage centres: Religious places where people go for pilgrimage.
5. Temple Town: A town with a number of famous temples.

II. Answer in short:

1. In what ways was craft production in cities like Calcutta different from that in cities like Thanjavur?

Ans: The craft production in Thanjavur was in form of inlay work in copper and silver white, in Calcutta it was in the form of cotton textiles and silk textiles.

2. Why did the rulers endow temple with grants of land and money?

Ans: They did so in order to carry out elaborate rituals, feed pilgrims and priests and celebrate festivals.

3. Name a few Indian spices which became an important part of European cooking.

Ans: Pepper, cinnamon, nutmeg, dried ginger are the Indian spices which became an important part of European cooking.

4. How was water supplied to the city of Thanjavur?

Ans: Water supply for the city of Thanjavur came from wells and tanks.

5. Who lived in the "Black Towns" in cities such as Madras?

Ans: Merchants, Artisans, native traders and crafts persons lived in the "Black Towns".

III. Answer in paragraph:

1. Why do you think Towns grew around temples?

Ans: The following factors are responsible for the growth of towns around temples.

* A large numbers of priests, workers, artisans, trader etc settled near the temple.

They carried to the various needs of the people as well as of pilgrims who flocked to the temples. By and by towns grew, which came to be known as temple towns.

2. Why did people from distant lands visit Surat?

Ans: * Surat was the Gateway for trade with west Asia via the Gulf of Ormuz.

* Surat has also been called the gate to Mecca because many pilgrim ships set sail from here.

* There was a big market for cotton textiles. One could find several retail and wholesale shops selling cotton textiles.

* The textiles of Surat were famous for their gold lace border i.e. zari and had a market in west Asia, Africa and Europe.

There were ample rest-houses for the visitors.

3. How important were crafts persons for the building and maintenance of temples?

Ans: * The Vishwakarma community consisting of gold smith, bronze smith, blacksmiths, masons and carpenters were essential to the building of temples.

* Weavers such as the Saliyar or Kaikkolars were prosperous communities and they made ample donations to temples.

* The crafts persons of Bidar were skilled in their inlay work in copper and silver. They were also important for the building and maintenance of temples in their own way.

4. How did Kabul become commercially important from 16th century onwards?

Kabul became commercially and politically important from 16th century onwards because along with Kandhar it was linked to the "Silk Route"

* Trade in horses was mainly carried through this route which was amounted to be around ₹30,000 annually. As horse trade was estimated to be about ₹30,000 annually slaves were brought here for sale.

* Camels carried dry fruits, carpets, dates, silk and even fruits from Kabul to sub continent.

IV. Answer in detail:

1. Describe various functions of small towns.

Ans: * Several small towns came to be seen in the Sub-Continent from the 8th Century onward.

* These towns usually had a "Mandapika or Mandi" where nearby villagers came to sell their produce. These towns also had market streets called hatta or haat lined with shops.

* There were also streets for different kinds of artisans such as potters, oil pressers, sugar market, toddy makers etc.

* Many traders came from far and near to these towns to buy local articles and sell products of distant places such as salt, camphor, horse etc.

2. Why do you think people regarded Thanjavur as a great town?

Thanjavur is an example of temple town and is regarded as a great town:

- * It represented a pattern of urbanization and was central to chola economy.
- * It was the capital city on the delta of Kaveri with the most important temple Raja rajeshvara. It had tanks and wells for water supply and army barracks.
- * It had the mandapas or pavilions for royal court.
- * It had huge markets selling grains, spices, clothes and jewellery.
- * Many communities like the Sthapatis or sculpture makers, Saliya weavers related to temple activities lived here.
- * It was activities lived here.
- * It was a great pilgrim town of the period

(GEO) CH- 4 AIR

I. Definition:

1. Atmosphere:

Atmosphere is a thin blanket of air that surrounds the earth.

2. Global warming:

When the temperature of the earth's atmosphere increases due to the increase of carbon dioxide it is called Global warming .

3. Isolation: Isolation is the incoming solar energy intercepted by the earth.

4. Air Pressure:

The pressure exerted by the weight of air on the earth's surface is known as air pressure.

5. Wind: Wind is the movement of air from high pressure area to low pressure areas.

II. Answer in short:

1. What is atmosphere?

Ans: Atmosphere is a thin blanket of air that surrounds the earth. It protects us from the harmful rays of the sun. It consist of several gases in which Nitrogen and oxygen occupy the major portion.

2. Which two gases make the bulk of the atmosphere?

Ans: Nitrogen (78%) and oxygen (21%) make the bulk of the atmosphere.

3. Which gas creates green house effect in the atmosphere?

Ans: Carbon dioxide creates green house effect in the atmosphere.

4. What is weather?

Ans: Weather is hour to hour, day to day condition of the atmosphere.

5. Name three types of rainfall.

Ans: * Convictional Rainfall.

* Orographic Rainfall

* Cyclonic Rainfall

II. Answer in paragraph:

1. Give Reason - Wet clothes take longer time to dry on a humid day.

Ans: On a humid day, the air is full of water vapour. Hence, evaporation is very slow. This is the reason why wet clothes take longer time to dry on a humid day.

2. Give an account of the composition of the atmosphere.

Ans: Our atmosphere is composed of mainly two gases - nitrogen (78%) and oxygen(21%) other gases like carbon dioxide, helium, ozone, argon and hydrogen are found in lesser quantities. Apart from these gases, tiny dust particles are also present in the air.

3. How is rainfall important for us? What happens when there is excess rain?

Ans: Rainfall is very important for the survival of plants and animals. It brings fresh water to the earth's surface. If rainfall is less, there is water scarcity which sometime causes drought like situation. If there is excess rain, floods take place which make the life of the affected people miserable.

4. What is global warming? What is its affect?

When the heat retained through green house gas increases the temperature of the earth, it causes global warming.

* The plants maintain the balance of gases. However this balance is upset by burning fuels such as coal, petroleum oil and large scale deforestation.

* This rise in temperature causes the snow in coldest parts to melt.

* As a result the sea level rises causing floods in the coastal areas.

* This may bring changes in weather and climate leading to extinction of certain plants and animal species.

IV. Answer in detail:

1. What is wind? Mention its different types.

Ans: Wind is the movement of air from high pressure area to low pressure area. It is divided into three types.

* Permanent winds * Seasonal winds * Local winds

Permanent winds: The trade winds, westerlies and easterlies are the permanent winds. These blow constantly throughout the year in a particular direction.

Seasonal Winds: These winds change their direction in different seasons.

Ex: Monsoons in India.

Local Winds: * These winds blow only during a particular period of the day or year in a small area.

Ex: Land and sea breeze.

* Loo is a local wind which is hot and dry, blow in the northern plains of India during summers.

2. Describe the fury of cyclone taking example of 'super cyclone of Odisha.

Odisha on eastern seacoast of India is prone to cyclones originating in Bay of Bengal.

* Odisha was hit by cyclone on the 17th -18th October 1999 and again on 29th October.

* Cyclone originated as a 'depression' in the Gulf of Thailand near Port Blair.

* It moved in north west direction on 25th October and intensified into super cyclone and hit Odisha.

* Wind speed was upto 260 km/hr which lasted for 36 hours.

* Trees were uprooted Kutcha houses, roof tops, industrial sheds etc., blown away.

* Power supply and communication lines damaged.

* Continuous rains flooded the major rivers. Tidal waves swept 20km of inland areas including cities of Bhubaneshwar and Cuttack and destructed 28 coastal towns.

* 7-10m high tidal waves caused damage to paddy crops, vegetables, fruits and agricultural land turned infertile due to salination.

* 13 Million people were affected. Livestock was killed.

* Plantations of teak, sal, bamboo, mangrove forests between paradeep and Konark disappeared.

CIV: CH: 4, 5 GROWING UP AS BOYS AND GIRLS: WOMEN CHANGE THE WORLD [GENDER]

I. DEFINITIONS:

- 1) Identity: Identity is a sense of self-awareness of who one is.
- 2) De - Valued: When some persons are not given due recognition for a task or job they have done, they feel de-valued or considered persons with less value.
- 3) Domestic Help: Domestic help is either a woman, a girl or a male who works in a household or paid remuneration whether on daily rate or monthly rate.
- 4) Stereotype: When we believe that people belonging to particular groups like religious, economic, regional community are bound to have certain fixed characteristics or can only do a certain type of work.
- 5) Discrimination: Discrimination is when we do not treat people equally or with respect due to prejudices.
- 6) Violation: When someone forcefully breaks the law or rule openly and shows disrespect, we say that he or she has committed a violation.

II. Answer in Short:

- 1) Where is Samoan islands?

Samoa islands are in the southern part of the Pacific Ocean.

- 2) Is there an equality between the genders?

In most societies, including ours, the work done by man and woman are not valued equally. They do not have the same status in society.

- 3) What do you understand by the term “double burden”?

In today’s world, many women work inside as well as outside the home. This is referred to as “double burden”

- 4) Name the one way which has created opportunities for women.

Getting an education was, and still is, one way in which new opportunities were created for women.

- 5) Why was Ramabai known as “Pandita”?

Ramabai could read and write Sanskrit, a remarkable achievement as women were not allowed to study. Therefore, she was given the title of “Pandita”.

- 6) What Rashsundari devi writings were about?

Rashsundari Devi was able to read chaitanya Bhagabat. Through

her writings she gave world an opportunity to read about women's lives. She wrote about her daily life and experiences.

III. Answer in paragraph:

1. What a short note on Samoan children and Indian children.

Samoan Children:

- As soon as babies could walk, their mothers or other adults no longer looked after them.
- Both boys and girls looked after their younger siblings.
- At the age of 9 years, boys joined the other boys in learning outdoor jobs like fishing and planting coconuts.
- Girls helped with the preparations of the food.

Indian Children:

- Babies are taken care by their mothers.
- Most of the children both boys and girls go to school.
- They learn different subjects in the school.

2. How does the society make a distinction between girls and boys?

From the young age society make a clear distinction between the two genders. Boys are given cars and girls are given dolls. Through the toys the difference starts. The girls are dressed differently, are asked to speak softly. Boys on the other hand play different games, are considered to be tough.

Through this the children are conditioned to play the specific role when they grow up. This even affects our subject and career choices later in the life.

3. What is the need to have census every 10 years?

Census is held to count the entire population. It also collects details about age group, work areas, standard of living and so on. All this data help the government to plan out the development programmes.

- * This helps us to know about the percentage of literate population, ratio of men and women.
- * Ratio of rural and urban population
- * Economic status of the people.
- * People engaged in different professions etc.

4. Can you describe two methods of struggle that the women's movement used to raise issues?

1) Campaigning:

To fight discrimination and violence against women. Women groups spoke against dowry deaths, sexual harassment. Laws were formulated in 1997 to protect women against sexual harassment. Anti dowry laws were passed in 1980's

2) Raising Awareness:

It is an important part to raise public awareness about women's right issues. Public rallies, demonstrations were the methods used. It is a creative and positive way of expressing the views and thoughts of people on the concerned issues and involving more people. This way the people who are clueless about women problems or are unaware would also be involved.

IV. Answer in Detail:

1. Describe the lives of domestic workers:

Life of domestic workers:

- * Many homes, particularly in towns and cities, employ domestic workers.
- * They do a lot of work – sweeping and cleaning, washing clothes and dishes, cooking, looking after young children or the elderly.
- * Most domestic workers are women.
- * Sometimes even young boys or girls are employed to do this work.
- * Wages are low, as domestic work does not have much value.
- * A domestic worker's day begins as early as five in the morning and ends as late as twelve at night.
- * Despite the hard work they do, their employers often do not pay them enough or show them much respect.

2. Who was Rokeya Sakhawat Hossain and what was her dream?

Rokeya Sakhawat Hossain was born in a rich family. She knew how to read and write Urdu but was stopped from learning Bangla and English.

- * She learnt to read and write English and Bangla with the support of her elder brother and sister.
- * She wrote a remarkable story Sultana's dream.
- * Her main character, a lady reached a place called Lady land where women had the freedom to study, work and create new things.
- * In this land men were sent to seclusion with their weapons, and were defeated by brain power of women.
- * Sultana travels in Ladyland with Sarah but later realises that it was a dream.



L-2 தமிழ்

கவிதைப் பேழை	:	1. எங்கள் தமிழ்: 2. ஒன்றல்ல இரண்டல்ல
உரைநடை உலகம்	:	பேச்சு மொழியும் எழுத்துமொழியும்
விரிவானம்	:	சொலவடைகள்
கற்கண்டு	:	குற்றியலுகரம், குற்றியலிகரம்

கவிதைப் பேழை - எங்கள் தமிழ்

I. சிறுவினாக்கள்:

1. நாமக்கல் கவிஞர் - குறிப்பு வரைக.

இயற்பெயர்	:	இராமலிங்கம் பிள்ளை
பெற்றோர்	:	வெங்கடராமன் அம்மணி அம்மாள்
பிறந்த ஊர்	:	மோகனூர் (நாமக்கல் மாவட்டம்)
இயற்றிய நூல்கள்	:	மலைக்கள்ளன், நாமக்கல் கவிஞர் பாடல்கள், என்கதை, சங்கொலி.
சிறப்புப் பெயர்	:	காந்தியத்தை பின்பற்றியதால் காந்தியக்கவிஞர் என அழைக்கப்பட்டார். தமிழகத்தின் அரசவைக் கவிஞராகத் திகழ்ந்தார். 1971ல் மத்திய அரசின் "பத்மபூஷன்" விருதினைப் பெற்றவர். இவர் சிறந்த ஒவியராகத் திகழ்ந்தவர்.

காலம் : 19.10.1888 - 24.08.1972

2 "எங்கள் தமிழ்" பாடலில் நாமக்கல் கவிஞர் கூறும் கருத்துகளை எழுதுக.

நம் தாய்மொழியாம் தமிழ்மொழி அருள்நெறிகள் நிரம்பிய அறிவைத் தருகிறது. அதுவே தமிழ்மக்களின் குரலாகவும் விளங்குகிறது.

தமிழ் மொழியைக் கற்றோர், பொருள் பெறுவதற்காக யாரையும் புகழ்ந்து பேசமாட்டார். தம்மைப் போற்றாதவர்களையும் இகழ்ந்து பேச மாட்டார்.

கொல்லாமையைக் குறிக்கோளாகவும், பொய்யாமையை கொள்கையாகவும் கொண்டு, எல்லா மனிதர்களும் இன்புற்று வாழ அன்பும், அறமும் உதவும்.

நம் தமிழ் மொழி அனைவரிடத்தும் அன்பையும், அறத்தையும், தூண்டும். அச்சத்தைப் போக்கி இன்பத்தைத்தரும். எங்கள் தமிழ்மொழி தேன் போன்ற மொழியாகும் என நாமக்கல்கவிஞர் கூறுகின்றார்.

II. சிந்தனை வினா :

1. கவிஞர் தமிழை ஏன் தேனுடன் ஒப்பிடுகிறார்?

தேன் சுவை தருவதைப் போலத் தமிழும் பல்குவைகளைத் தருகிறது.

தேன் உடலுக்கு மருந்தாகப் பயன்படுவது போலத் தமிழ் நம் வாழ்வுக்குத் தேவையான அன்பையும், அறத்தையும் கூறுகிறது.

தேன் பல ஆண்டுகள் கெடாமல் இருப்பதைப் போலத் தமிழும் கெடாமல் இளமையோடு திகழ்கிறது.

எனவே கவிஞர் தமிழைத் தேனுடன் ஒப்பிடுகிறார்.

2. ஒன்றல்ல இரண்டல்ல

I. சிறுவினாக்கள்:

1. தமிழுக்கு வளம் சேர்க்கும் இலக்கிய வகைகளாகக் கவிஞர் கூறுவன

யாவை?

பகைவரை வென்றதைப் பாடுவது பரணி இலக்கியம்.

வான்புகழ் கொண்ட திருக்குறள்.

அகம், புறம் ஆகியவற்றை மெய்ப் பொருளாகக் கொண்ட சங்க இலக்கியங்கள்.

இசைப்பாடலான பரிப்பாடலும், கலம்பக நூல்களும், எட்டுத்தொகை நூல்களும் தமிழுக்கு வளம் சேர்க்கும் இலக்கிய வகைகளாக கவிஞர் கூறுகிறார்.

2. தமிழ்நாட்டின் பெருமைகளாக கவிஞர் உடுமலை நாராயண கவி கூறுவது என்ன?

தமிழ்நாட்டின் பெருமைகள் ஒன்றல்ல இரண்டல்ல பலவாகும். வேறு எவற்றோடும் இணை சொல்ல முடியாத விந்தைகளாகும். இங்கு வீசும் தென்றலில் தேன் மணம் கமழும்.

சுவைமிகு கணிகளும், பொன் போன்ற தானியக் கதிர்களும் விளையும்.

தமிழ்நாட்டின் நன்செய் நிலவளம் பலவாகும் தமிழ்நாட்டின் பெருமைகளாக கவிஞர் உடுமலை நாராயண கவி கூறினார்.

II. சிந்தனை வினா:

1. தமிழில் அற இலக்கியங்கள் மிகுதியாக தோன்றக் காரணம் என்ன?

மனிதன் மனிதனாக வாழ அறநூல்கள் தேவை.

தமிழ் இலக்கியங்கள் முழுவதுமே அற இலக்கியங்கள் ஆகும்.

மனிதன் அறம், பொருள், இன்பம், வீடு ஆகிய உறுதிப்பொருள்கள் நான்கையும் வாழ்க்கையில் அடைய அறநூல்கள் கருவிகளாக அமைகின்றன.

எனவே தமிழில் அற இலக்கியங்கள் மிகுதியாகத் தோன்றின.

உரைநடை உலகம் - பேச்சுமொழியும், எழுத்துமொழியும்

I. சிறுவினாக்கள்:

1. பேச்சுமொழிக்கும், எழுத்துமொழிக்கும் இடையே உள்ள வேறுபாடுகளை எழுதுக.

பேச்சுமொழி	எழுத்துமொழி
1. பேச்சு மொழியை “உலக வழக்கு” என்பர்.	1. எழுத்து மொழியை “இலக்கிய வழக்கு” என்பர்
2. சொற்கள் பெரும்பாலும் குறுகி ஒலிக்கும். (எ.டு) நல்லாச் சாப்ட்டான்	2. சொற்கள் முழுமையாக எழுதப்படும். (எ.டு) நன்றாக சாப்பிட்டான்.
3. உணர்ச்சிக் கூறுகள் அதிகமாக இருக்கும்.	3. உணர்ச்சிக் கூறுகள் குறைவாக இருக்கும்.
4. உடல்மொழிக்கும், குரல் ஏற்றத்தாழ்வும் இணைவதால் எளிமையாக கருத்தை உணர்த்துகிறது.	4. உடல் மொழி குரல் ஏற்றத்தாழ்வுக்கு இடமில்லை.
5. எழுத்துக்களை மாற்றி ஒலிப்பது உண்டு. (எ.டு) ‘இலை’ என்பதை ‘எல்’ என கூறுவர்.	5. எழுத்துமொழியில் இம்மாறுபாடுகள் இல்லை.

2. கிளைமொழிகள் எவ்வாறு உருவாகின்றது?

ஒரே மொழியை பேசும் மக்கள் வெவ்வேறு இடங்களில் வாழ்வதும் உண்டு.

வாழும் இடத்தின் நில அமைப்பு, இயற்கைத்தடைகள் காரணமாக அவர்கள் பேசும் மொழியில் சில மாற்றங்கள் ஏற்படும்.

தொடர்பு குறையும் போது இம்மாற்றங்கள் மிகுதியாகி புதிய மொழியாகப் பிரியும்.

இவ்வாறு உருவாகும் புதிய மொழியைக் கிளைமொழி என்பர்.

கன்னடம், தெலுங்கு, மலையாளம் முதலிய திராவிட மொழிகள் தமிழிலிருந்து பிரிந்து சென்ற கிளைமொழிகள் ஆகும்.

II. நெடுவினா:

1. பேச்சுமொழி, எழுத்துமொழி பற்றியும் அவற்றின் நுட்பங்களைப் பற்றியும் விரிவாக விளக்குக.

மொழி:

தமது எண்ணங்களையும், உணர்ச்சிகளையும் பிறருக்கு வெளிப்படுத்துவதற்காக மனிதனால் உருவாக்கப்பட்டதே மொழி. மொழி ஒருவர் கருத்தை மற்றவர் அறிந்து செயல்பட உதவுகிறது.

மொழியின் வகைகள்:

பேச்சுமொழி, எழுத்துமொழி, கிளைமொழி, வட்டாரமொழி ஆகியன மொழியின் வடிவங்களாகும்.

பேச்சுமொழி:

மொழியின் உயிர்நாடியாக விளங்குவது பேச்சுமொழியாகும்.

பேச்சுமொழி உணர்வுகளை எளிதாக வெளிப்படுத்தும். அது கருத்தை வெளிப்படுத்துவதை மட்டுமே நோக்கமாகக் கொண்டதாகும்.

எழுத்துமொழி:

பேச்சுமொழிக்கு நாம் தந்த வரிவடிவமே எழுத்துமொழி.

ஒரு மொழியானது நீண்ட காலம் நிலைபெறுவதற்கு எழுத்து வடிவம் இன்றியமையாதது.

எழுத்துமொழியில் காலம், இடம் ஆகியவற்றிற்கேற்ப சொற்கள் சிதைவதில்லை. ஆனால் வரிவடிவம் மாறுபடும்.

கிளைமொழி:

ஒரே மொழியை பேசும் மக்கள் வெவ்வேறு இடங்களில் வாழ்வதும் உண்டு. அவர்கள் பேசும் மொழியில் சிறிது சிறிதாக மாற்றங்கள் ஏற்பட்டு, அவர்களுக்கு இடையேயான தொடர்பு குறையும் பொழுது புதிய மொழியாகப் பிரியும். இவ்வாறு உருவாகும் புதிய மொழியைக் கிளைமொழி எனபர். எ.கா. கன்னடம், தெலுங்கு, மலையாளம்.

வட்டாரமொழி:

ஒரே மொழியின் வெவ்வேறு வடிவங்களை வட்டாரமொழி என்பர்.

எ.கா. - 'இருக்கிறது' என்னும் சொல்லை 'இருக்கு' என்பர்.

மொழியின் நுட்பங்கள்:

மேடைப்பேச்சிலும், வானொலி, தொலைக்காட்சி போன்ற

ஊடகங்களிலும் எழுத்துமொழியாகிய இலக்கியத்தமிழே பயன்பட்டு வந்தது.

பேச்சுத்தமிழில் காலந்தோறும் ஏற்பட்டு வரும் மாற்றங்களைத் தவிர்க்க இயலாது.

ஊடகங்களிலும், இலக்கியங்களிலும் திருத்தமான தமிழையே பயன்படுத்தவேண்டும்.

III. சிந்தனை வினா:

1. இலக்கியங்கள் காலம் கடந்தும் அழியாமல் வாழ்வதற்கு என்ன காரணம் என்று கருதுகிறீர்கள்?

கல்தோன்றி மண்தோன்றா காலத்தே வாளொடு முன்தோன்றிய மூத்தகுடி என்ற பாடல் தமிழின் பழைமையை உணர்த்துகிறது.

இப்பழைமையை உணர்த்தும் மொழியாக நம் தமிழ்மொழி விளங்குகிறது.

சங்க இலக்கியங்கள் சங்க கால வரலாற்று செய்திகளையும், வாழ்வியல் செய்திகளையும் அறிந்து கொள்ள உதவுகிறது.

இலக்கியங்கள் காலக் கண்ணாடியாகத் திகழ்கின்றன.

எனவே தான் இலக்கியங்கள் காலம் கடந்தும் அழியாமல் வாழ்கின்றன.

விரிவானம் - சொலவடைகள்

பொம்மலாட்டக் காட்சிகளை சிறுகதையாக எழுதுக.

முன்னுரை:

சொலவடைகள் என்பவை சிறு சிறு தொடர்களாக வட்டாரப் பேச்சு வழக்கில் வழங்கி வருபவை. இவை பேச்சு மொழியின் அழகியலையும் பண்பாட்டுக் கூறுகளையும் கொண்டிருக்கும். பொருட்செறிவுமிக்கச் சொலவடைகளை நாட்டுப்புற மக்களும் தம் பேச்சில் இயல்பாகப் பயன்படுத்துகின்றனர். சொலவடையை "ஆளுக்கு ஒரு வேலை" என்னும் கதையின் மூலம் பார்க்கப்போகிறோம்.

ஒழுங்காய் பள்ளிக்கூடம் போகாமல் ஊரைச் சுற்றி வந்த பையன். அம்மா, அப்பா எவ்வளவு சொல்லியும் கேட்கவில்லை. "எறும்பு

ஊரக் கல்லும் தேயும்”கிற மாதிரி கொஞ்சம் கொஞ்சமாக பொறுமையா பெற்றோர் அறிவுரை கூறியும் அந்தப் பையன் கேட்கவில்லை.

எறும்பும், தேனீயும் கற்பித்த பாடம்:

எறும்பைத் தன்னுடன் விளையாட அழைக்கின்றான். ஆனால் எறும்பு “குடல் கூழுக்கு அழுவுதாம். கொண்டை பூவுக்கு அழுவுதாம்” எனக்கு நெறைய வேல கிடக்கு. நான் எங்குமுந்தைகளுக்குத் தீனி கொடுக்கணும். “சொப்பனத்தில் கண்ட அரிசி சோத்துக்கு ஆகுமா” எனக் கூறி தன் வேலையை எறும்பு தொடர்ந்தது.

அடுத்து தேனீயை விளையாட அழைத்தான். அதற்கு தேனீ உனக்கு தான் வேலை இல்லை. “ஆயிரம் கலம் நெல்லுக்கு ஒரு அந்துப்பூச்சி போதும். உன்னைப் போல ஒரு ஆளு இருந்தா எங்கக் கூட்டமே கெட்டுப் போயிடும் என்ற கூறி தன் வேலையைத் தொடர்ந்தது.

மாடு கற்பித்த பாடம்:

அவன் மாட்டை விளையாட அழைத்தான். அதற்கு மாடு “காவடிப்பாரம் சுமக்கிறவனுக்குத்தான் தெரியும்”. இப்போ உனக்குத்தான் வேலை இல்லை. “இருப்பவனுக்கு புளியேப்பம்; இல்லாதவனுக்குப் பசியேப்பம்” நான் என் முதலாளிக்கு உப்புமுட்டை, புளிமுட்டை எல்லாம் சுமக்கணும். நீ போ நான் வரல என்றது.

ஆமையும், முயலும் கற்பித்த பாடம்:

ஆமையை விளையாட அழைக்கின்றான். ஆனால் ஆமையோ என்னைவிட வேகமாக ஓடுற முயலோட போட்டி வச்சிருக்கேன். நான் கொஞ்ச நேரம் கூட வீணாக்காமல் நடந்தே ஆகணும் என்றது. முயலை விளையாட அழைக்கிறான். அதற்கு முயல் போன தடவை ஆமையிடம் தோத்துப் போய்ட்டேன் இந்தத் தடவையாவது நான் முந்தி ஆகணும். ஆதனால் நான் வேகமாக ஓடணும் எனக் கூறி தன் வேலையைத் தொடர்ந்தது.

முடிவுரை:

சிறுவன் தன் அம்மாவிடம் ஊரு உலகத்துல எல்லாரும் அவங்க அவங்க வேலையைப் பார்க்கிறாங்க நானும் பள்ளிக்கூடம் சென்று படிக்கும் வேலையைப் பார்க்கிறேன் எனக் கூறி பள்ளிக் கூடம் செல்கிறான்.

நீதி: காலம் கண் போன்றது கடமை பொன் போன்றது.

கற்கண்டு - குற்றியலுகரம், குற்றியலிகரம்

I. குறுவினாக்கள்:

1. 'குற்றியலுகரம்' என்னும் சொல்லைப் பிரித்து விளக்கம் தருக.

குறுமை + இயல் + உகரம் = குற்றியலுகரம்

கு, சு, டு, து, பு, று ஆகிய ஆறு வல்லினை உகரங்களும் சொல்லின் இறுதியில் வரும்போது தனக்குரிய ஒரு மாத்திரை அளவில் இருந்து குறைந்து அரை மாத்திரை அளவே ஒலிப்பதே குற்றியலுகரம் எனப்படும்.

2. முற்றியலுகரம் என்றால் என்ன? சான்று தருக.

தனக்குரிய ஒரு மாத்திரை அளவில் இருந்து குறையாமல் ஒலிப்பது முற்றியலுகரம் எனப்படும்.

(எ.கா.) புகு, பசு, விடு.

3. குற்றியலுகரம் எத்தனை வகைப்படும்? அவை யாவை?

குற்றியலுகரம் ஆறு வகைப்படும். அவை.

1. நெடில்தொடர்க் குற்றியலுகரம் 2 ஆய்தத்தொடர்க் குற்றியலுகரம்

3. உயிர் தொடர்க் குற்றியலுகரம் 4. வன் தொடர்க் குற்றியலுகரம்

5. மென் தொடர்க் குற்றியலுகரம் 6. இடைத்தொடர்க் குற்றியலுகரம்

4. குற்றியலிகரம் என்றால் என்ன? எ.கா. தருக.

குற்றியலுகரச் சொல்லுக்கு முன் 'யகரத்தை' முதலாக உடையச் சொல் வரும் போது நிலைமொழி ஈற்றில் வரும் 'உகரம்' 'இகரமாக' மாறும். அவ்வாறு மாறும் போது இகரம் தனக்குரிய ஒருமாத்திரை அளவில் இருந்து குறைந்து அரை மாத்திரை அளவில் ஒலிப்பதே குற்றியலிகரம் ஆகும். (எ.கா.) நாடு + யாது = நாடியாது.

இயல் - 2

கவிதைப் பேழை	:	1. காடு
	:	2. அப்படியே நிற்கட்டும் அந்தமரம்
உரைநடை உலகம்	:	விலங்குகள் உலகம்
விரிவானம்	:	இந்திய வனமகன்
கற்கண்டு	:	நால்வகைக் குறுக்கங்கள்
வாழ்வியல்	:	திருக்குறள்

கவிதைப் பேழை - 1. காடு

I. சிறுவினாக்கள்:

1. 'காடு' பாடலில் விலங்குகளின் செயல்களாகக் கவிஞர்

கூறுவனவற்றை எழுதுக.

* காடு பாடலில் மயில்கள் நடனமாடும்.

* பன்றிகள் கிழங்குகளைத் தோண்டி உண்ணும்.

* அதனைக் கண்டு நஞ்சினை உடைய பாம்புகள் கலக்கமடையும்.

* நரிக்கூட்டம் ஊளையிடும்.

* மிகுந்த சுவையுடைய தழையை யானைகள் தின்றபடி புதிய நடை போடும்.

* மரங்களில் குயில்கள் கூவும்.

* சிங்கம், புலி, கரடி, சிறுத்தை போன்ற விலங்கினங்கள் எங்கும் அலைந்து திரியும்.

2. கவிஞர் சுரதா - குறிப்பு எழுதுக.

இயற்பெயர் : இராசகோபாலன்

பிறந்த ஆண்டு : 1921

ஊர் : நாகை மாவட்டம் - பழையனூர்

பெற்றோர் : திருவேங்கடம் - செண்பகம்

பட்டம் : கலைமாமணி

விருது : பாவேந்தர் விருது

சிறப்புப்பெயர் : உவமைகளின் கவிஞர், கவிஞர் திலகம், தன்மானக் கவிஞர்.

எழுதிய நூல்கள் : சிரிப்பின் நிழல், சுவரும் சுண்ணாம்பும்.
தேன்மழை, துறைமுகம்.

II. சிந்தனை வினா:

1. காட்டை 'இயற்கை விடுதி' என்று கவிஞர் கூறக்காரணம் என்ன?

* விலங்குகள் காட்டில் உள்ள உணவுகளை மட்டும் உண்ணும்.

* காட்டில் தன் தேவைகளைப் பூர்த்தி செய்து கொள்ளும்.

* காடுகள் விலங்குகள் தங்கும் இடமாக இருக்கிறது.

எனவே தான் காட்டை 'இயற்கை விடுதி' என்று கவிஞர் கூறுகிறார்.

2. அப்படியே நிற்கட்டும் அந்தமரம்

I. சிறுவினா:

1. நாவல் மரம் பற்றிய நினைவுகளாகக் கவிஞர் கூறுவன யாவை? ஒருநாள் அடித்த சூறைக்காற்றில் நாவல் மரம் வேரோடு சாய்ந்துவிட்டது.

ஊருக்கு அம்மரம் பயன்பட்டதால் ஊர்மக்கள் யாவரும் அங்கு விரைந்து சென்று துக்கம் விசாரித்தனர்.

ஆனால் கவிஞர்க்கு மட்டும் அது நீங்காத நினைவாக மனதினுள்ளே குன்றுகளின் நடுவில் மாமலை போல் காணப்பட்டது என்று கவிஞர் கூறுகிறார்.

II. சிந்தனை வினா:

1. பெருங்காற்றில் வீழ்ந்த மரத்தை கவிஞர் ஏன் பார்க்க விரும்பவில்லை?

* இம்மரம் பெருவாழ்வு வாழ்ந்த மரம்.

* இம்மரம் நேற்று இரவு பேய்க்காற்றில் வேரோடு சாய்ந்துவிட்டதால் என் மனம் மிகவும் வேதனை அடைகிறது.

* மரம் மரமாக நிற்கும்போது எல்லோருக்கும் பயன்பட்டதால் அதன் அழிவைக் காண கவிஞரின் மனம் விரும்பவில்லை.

உரைநடை - விலங்குகள் உலகம்

I. சிறுவினாக்கள்:

1. காடுகளால் விளையும் நன்மைகள் யாவை?

- * மழை பெய்ய காடுகள் காரணமாய் உள்ளன.
- * வனவிலங்குகளுக்கு புகலிடமாயும் உள்ளன.
- * மண் அரிப்பைத் தடுத்தல், சிற்றாறுகள் தோன்ற காரணமாக இருத்தல் தொழில் வளர்ச்சிக்கு உதவுதல், மூலிகைகள் தருதல் என எண்ணற்ற நன்மைகள் நமக்கு காடுகளால் கிடைக்கின்றன.
- * காட்டு விலங்குகளிடமிருந்து தந்தம், தோல், நறுமணப்பொருள் முதலிய பலவகைப் பொருட்கள் கிடைக்கின்றன.

2. சிங்கம் பற்றி குறிப்பு - வரைக.

- * உலகில் ஆசிய சிங்கம் ஆப்பிரிக்கச் சிங்கம் என இரண்டு வகைச் சிங்கங்கள் வாழ்கின்றன.
- * குஜராத் மாநிலத்தில் 'கீர் சரணாலயத்தில்' மட்டுமே இந்தவகை சிங்கங்கள் உள்ளன.
- * ஒரே காட்டில் சிங்கமும், புலியும் வாழாது.
- * சிங்கம் பசி இல்லாதபோது அதன் அருகில் வேறு எந்த உயிர்கள் வந்தாலும் கண்டு கொள்ளாது.
- * பெரும்பாலும் பெண்சிங்கங்களே வேட்டையாடும்.
- * சிங்கம் உணவையோ, எதிரிகளையோ பின்பக்கம் நின்று தாக்காது நேருக்கு நேர்நின்று தாக்கும். அதனால் தான் "காட்டின் ராஜா" என அழைக்கப்படுகிறது.

3. புலிகள் குறித்து நீங்கள் அறிந்து கொண்ட செய்தியைத் தொகுத்து

எழுதுக.

- * புலி இரவில் மட்டுமே வேட்டையாடும் தன்மை கொண்டது.
- * புலிகள் தனித்து வாழும் இயல்புடையவை.
- * தனது குட்டிகளை இரண்டு ஆண்டுகள் வரை வளர்த்து வரும்.
- * குட்டிகள் வேட்டையாடக் கற்றவுடன் அவற்றுக்கான எல்லைகளையும் பிரித்துத் தனியாக அனுப்பிவிடும்.

- *புலியின் உறுமல் மூன்று கிலோமீட்டர் வரை கேட்கும்.
- *உலக அளவில் அமெரிக்காவில் தான் புலிகள் அதிகமாக உள்ளது.
- *புலிதான் காட்டின் வளத்தைக் குறிக்கும் குறியீடு.
- *புலியை “பண்புள்ள விலங்கு” என்று அழைக்கிறோம்.

II. நெடுவினா:

1. மனிதனின் முதல் இருப்பிடமான காடுகள் பற்றியும், அங்குவாழும் விலங்குகள் பற்றியும் தொகுத்து எழுதுக?

காடுகள்:

மனிதனின் முயற்சியின்றி வளர்ந்த மரங்கள் செடிகள், கொடிகள், புல், புதர்கள், பூச்சியினங்கள், பறவைகள், விலங்குகள் போன்ற பல்லுயிர்களின் வாழ்விடம் காடாகும்.

காடுகளின் பயன்கள்:

காடுகள் மண்ணரிப்பை தடுக்கின்றன.

சிற்றாறுகளை உருவாக்குகின்றன, தொழில் வளர்ச்சிக்கு உதவுகின்றன.

மருந்துப்பொருள்களையும், மூலிகைப் பொருள்களையும் தருகின்றன. எனவே காடுகளை பாதுகாக்கவேண்டும்.

காட்டில் வாழும் விலங்குகளின் தன்மைகள்:

யானை:

ஆசிய யானைகளில் ஆண் யானைக்கு தந்தம் உண்டு, பெண் யானைக்கு தந்தம் இல்லை.

ஆப்பிரிக்க யானைகளில் இரண்டுக்குமே தந்தம் உண்டு.

யானைகள் கூட்டமாக வாழும் அக்கூட்டத்திற்கு பெண் யானை தலைமை தாங்கும்.

ஒரு நாள் ஒன்றுக்கு 250 கிலோ புல் இலை, தழைகளை உணவாக உட்கொள்ளும்.

குடிக்க 65 லிட்டர் தண்ணீர் தேவைப்படும்.

யானை மிகுந்த நினைவாற்றல் கொண்ட விலங்காகும்.

கரடி:

- * கரடி ஓர் அணைத்து உண்ணி.
- * கரையான் அதற்கு மிகவும் பிடித்த உணவாகும்.
- * கரடியின் அடர்ந்த முடிகள் தேனீக்களிடம் இருந்து தன்னை காப்பாற்றுவதற்கு உதவும்.
- * நன்கு வளர்ந்த கரடி 160 கிலோ எடைவரை இருக்கும்.

புலி:

- * புலி தனித்து வாழும் இயல்புடையது.
- * ஒரு குறிப்பிட்ட எல்லைக்குள் ஒருபுலி மட்டுமே வாழும்.
- * புலி 90-நாட்களில் இரண்டு அல்லது மூன்று குட்டிகளை ஈனும்.
- * தனது குட்டிகளை இரண்டு ஆண்டுகள் வரை வளர்த்து வரும்.
- * புலிதான் காட்டின் வளத்தைக் குறிக்கும் குறியீடு.
- * புலி தனக்கு தேவையான உணவை வேட்டையாடியபின்பு, வேறு எந்த விலங்குகளையும் வேட்டையாடுவது இல்லை. இதனால் இது "பண்புள்ள விலங்கு" என அழைக்கப்படுகிறது.

III. சிந்தனை வினா:

1. காடுகளை அழிப்பதால் ஏற்படும் விளைவுகளை எழுதுக.
- * காடுகளை அழிப்பதால் மழைவளம் குறைகிறது.
 - * மண்ணரிப்பு ஏற்படும்.
 - * பூமி வெப்பமயமாகும்.
 - * நதிகளின் நீரோட்டம் குறைந்து வறட்சி ஏற்படுகிறது.
 - * மருந்துப் பொருள் களும். மூலிகைப் பொருள் களும் குறைந்துவிடும்.

விரிவானம் - இந்திய வனமகன்

முன்னுரை:

பிரம்மபுத்திரா ஆற்றின் நடுவில் உள்ள மூங்கில் மட்டுமே வளரக் கூடிய மணல் தீவுகளில் ஜாதவ் பயேங் காட்டினை உருவாக்கிய விதம் பற்றி இக்கட்டுரையில் காண்போம்.

காட்டை உருவாக்கும் எண்ணம்:

1979 ஆம் ஆண்டில் பிரம்மபுத்திரா ஆற்றில் வெருவெள்ளம் ஏற்பட்டது. வெள்ளத்தில் அடித்து வரப்பட்ட ஏராளமான பாம்புகள், மரங்கள் இல்லதாததால் இறந்து போயின உலகில் உள்ள மரங்கள் அழிந்து விட்டால் மனிதனும் இப்படித்தான் இறந்து போவான் என்ற எண்ணம் ஜாதவ் பபேங்கின் உள்ளத்தை உறுத்தியது. அப்பொழுதே இந்தத் தீவு முழுவதும் மரங்களை வளர்க்க வேண்டும் என்ற எண்ணம் அவருக்கு உருவானது.

காட்டை உருவாக்கிய விதம்:

ஜாதவ் பபேங் தம் கையில் கிடைத்த விதைகளை விதைத்து தண்ணீர் ஊற்றி வந்தார். ஒரு விதை கூட முளைக்கவில்லை. பிறகு இங்கு மூங்கில் மட்டுமே வளரும் என்பதை வனத்துறையினர் மூலம் அறிந்து கொண்டு மூங்கில் மரத்தை மட்டும் வளர்த்தார்.

பின்னர் அரசு சமூகக் காடுகள் வளர்ப்புத் திட்டத்துடன் இணைந்து தீவு முழுவதும் பல்வேறு மரங்களை நடத் தொடங்கினார். அதுவும் வளரவில்லை. வேளாண்மைப் பேராசிரியர் ஜாதுநாத் ஆலோசனையின்படி மண்ணின் தன்மையை மாற்ற மண்புழுக்களையும் சிவப்பு கட்டெறும்புகளையும் ஊர்ந்து செல்லச் செய்தார். அதனால் மண்ணின் தன்மையும் சிறிது சிறிதாக மாறியது. அதன்பின் அவர் நட்ட மரங்கள் அனைத்தும் வளர்ந்து பெரிய காடாக மாறியது. அங்கு கால் நடைகளை வளர்த்து அவற்றின் சாணத்தை இயற்கை உரமாகப் பயன் படுத்தினார். காடாக மாறியதால் பறவைகள், எல்லா விலங்குகளும் பலவும் வரத் தொடங்கின.

முடிவுரை:

2012 ஆம் ஆண்டு ஜாதவுக்கு “இந்திய வனமகன்” என்னும் பட்டத்தை வழங்கியுள்ளது. மற்றும் பதம்ஸ்ரீ விருதையும் பெற்றார். ஜாதவ் போன்று நாமும் ஒரு காட்டை உருவாக்க முயல்வோம். மரம் வளர்ப்போம் மழை பெறுவோம் நாட்டின் வளம் காப்போம்.

கற்கண்டு - நால்வகைக் குறுக்கங்கள்

I. குறுவினாக்கள்:

1. ஐகாரக் குறுக்கம் என்றால் என்ன? சான்று தருக.

ஐகாரக் குறுக்கம் என்பது சொற்களின் முதல், இடை, இறுதி ஆகிய இடங்களில் வரும்போது தனக்குரிய இரண்டு மாத்திரை அளவிலிருந்து குறைந்து ஒலிப்பது ஐகாரக் குறுக்கம் எனப்படும். சான்று: வையம், சமையல், பறவை.

2. சொல்லின் முதல், இடை, இறுதி ஆகிய இடங்களில் ஐகாரக் குறுக்கம் பெறும் மாத்திரை அளவு யாது?

ஐகாரம் சொல்லின் முதலில் வரும் போது ஒன்றரை மாத்திரை அளவு ஆகும்.

ஐகாரம் சொல்லின் இடையிலும், இறுதியிலும், வரும்போது ஒரு மாத்திரை அளவு ஆகும்.

3. ஒளகாரக் குறுக்கம் என்றால் என்ன? சான்று தருக.

ஒளகாரக் குறுக்கம் என்பது சொற்களின் முதலில் வரும்போது தனக்குரிய இரண்டு மாத்திரை அளவிலிருந்து குறைந்து ஒன்றரை மாத்திரை அளவாய் குறைந்து ஒலிப்பது ஒளகாரக் குறுக்கம் எனப்படும். சான்று: ஒளவையார், வெளவால்.

4. மகரக்குறுக்கம் என்றால் என்ன? சான்று தருக.

மகரக்குறுக்கம் என்பது தனக்குரிய அரை மாத்திரை அளவிலிருந்து குறைந்து கால் மாத்திரை அளவாய் ஒலிப்பது மகரக்குறுக்கம் எனப்படும். சான்று: போலும் என்பது போன்ம், மருளும் என்பது மருண்ம்.

5. ஆய்தக் குறுக்கம் என்றால் என்ன? சான்ற தருக.

ஆய்த எழுத்து தனக்குரிய அரைமாத்திரை அளவிலிருந்து குறைந்து கால் மாத்திரை அளவாய் ஒலிப்பது ஆய்தக் குறுக்கம் எனப்படும். சான்று: முள் + தீது = முஃடது, கல் + தீது = கஃறீது

III. எதிர்ச்சொல்:

1. மெய்	X	பொய்
2. வலியோர்	X	மெலியோர்
3. நன்மை	X	தீமை
4. காத்தல்	X	அழித்தல்
5. வன்சொல்	X	இன்சொல்

IV. குறுவினாக்கள்:

1. எப்போது தன்நெஞ்சே தன்னை வருத்தும்?

ஒருவன் தன் நெஞ்சறிய பொய் கூறினால், அப்பொய்யே அவனை வருத்தும்.

2. வாழும் நெறி யாது?

ஒருவன் தன் நெஞ்சில் பொறாமையில்லாத குணத்தையே ஒழுக்க நெறியாகக் கொண்டு வாழ வேண்டும்.

3. உலகத்தார் உள்ளங்களில் எல்லாம் இருப்பவன் யார்?

உள்ளத்தில் பொய் இல்லாமல் வாழ்பவர் உலகத்தார் உள்ளங்களில் எல்லாம் இருப்பவன் ஆவார்.

4. சான்றோரால் ஆராயப்படுவது எது?

பொறாமை உடையவருடைய செல்வமும், பொறாமை இல்லாதவருடைய வறுமையும் சான்றோரால் ஆராயப்படும்.

5. யாருடைய வாழ்வில் துன்பம் இல்லை?

பிறருடைய குற்றத்தைக் காண்பது போல் தன்னுடைய குற்றத்தையும் காண்பவருடைய வாழ்வில் துன்பம் இல்லை.

I. சிறுவினாக்கள்:

1. திருக்குறள் - நூற்குறிப்பு தருக.

திரு + குறள் - திருக்குறள், குறள் வெண்பாக்களால் ஆன நூல் ஆதலில் இந்நூல் இப்பெயர் பெற்றது.

அறம், பொருள். இன்பம் என மூன்று பெரும் பிரிவுகளை உடையது.

133 அதிகாரங்களையும் 1330 குறட்பாக்களையும் உடையது.

பதினெண் கீழ்க் கணக்கு நூடல் களுள் ஒன்று, இது 'உலகப்பொதுமறை' என அழைக்கப்படுகிறது.

இதற்கு முப்பால், தெய்வநூல் பொய்யாமொழி என்னும் வேறு பெயர்களும் உண்டு.

2. வாய்மையைப் பற்றி விளக்கி எழுதுக.

வாய்மை எனப்படுவது பிறருக்கு தீங்கு தராத சொற்களைச் சொல்லுதல் ஆகும்.

ஒருவர் தன்னெஞ்சறிந்து பொய் சொல்லுதல் கூடாது. அவ்வாறு கூறினால் அவர் நெஞ்சமே அவனை வருத்தும்.

உள்ளத்தில் பொய் இல்லாமல் வாழ்ந்தால், உலகத்தார் உள்ளங்களில் எல்லாம் நிலைத்து நிற்பவர் ஆவார்.

3. புறங்கூறாமை இறைமாட்சி பற்றி விவரித்து எழுதுக.

ஒருவருக்கு நேர்நின்று கடுமையான சொற்களைக் கூறலாம். ஆனால் அவர் இல்லாத போது புறங்கூறுதல் கூடாது.

பிறருடைய குற்றத்தைக் காண்பது போல், தன்னுடைய குற்றத்தையும் காண்பவருடைய வாழ்வில் துன்பம் இல்லை என்று புறங்கூறாமை பற்றி வள்ளுவர் கூறுகின்றார்.

பொருள் வரும் வழிகளை அறிதலும், நல்வழிகளில் பொருளைச் சேர்த்தலும், சேர்த்த பொருளைப் பாதுகாத்தலும், காத்தப் பொருளைப் பயனுள்ள வகையில் திட்டமிட்டுச் செலவிடுதலும் அரசின் செயலாகும் என இறைமாட்சி பற்றி வள்ளுவர் கூறுகின்றார்.

கடிதம் - புகார் கடிதம்

குடிநீர் வசதி வேண்டி ஊராட்சி ஒன்றிய ஆணையருக்கு கூட்டு விண்ணப்பம் வரைக.

அனுப்புநர்:

ஊர்பொது மக்கள்,

மீனாட்சி நகர்,

சென்னை - 99.

பெறுநர்:

ஊராட்சி ஒன்றிய ஆணையர் அவர்கள்,

ஊராட்சி ஒன்றிய ஆணையர் அலுவலகம்,

சென்னை - 99.

மதிப்பிற்குரிய ஐயா:

பொருள்: குடிநீர் வசதி வேண்டுதல் சார்பாக.

வணக்கம். எங்கள் ஊரில் குடிநீர் வசதி இல்லாமல் மக்கள் தவிக்கிறார்கள். குடிநீர் வசதி இல்லாமல் பிற ஊர்களுக்குச் சென்று குடிநீர் எடுத்து வரும் நிலைமை உள்ளது. இதனால் பள்ளிக்குச் செல்லும் குழந்தைகளும். இளைஞர்களும் பாதிக்கப்படுகிறார்கள். எனவே தயவு செய்து எங்கள் ஊரில் குடிநீர் வசதி செய்து தருமாறு பணிவுடன் கேட்டுக் கொள்கிறோம்.

நன்றி,

இடம் :

இப்படிக்கு

நாள்:

ஊர் பொது மக்கள்

உறைமேல் முகவரி:

பெறுநர்:

ஊராட்சி ஒன்றிய ஆணையர் அவர்கள்,
ஊராட்சி ஒன்றிய ஆணையர் அலுவலம்,
சென்னை - 99.

கட்டுரை - சிறுசேமிப்பு

குறிப்புச்சட்டம்:

1. முன்னுரை
2. சேமிப்பு
3. சேமிக்கும் முறை
4. சிக்கனம்
5. சேமிப்பின் பயன்கள்
6. முடிவுரை

முன்னுரை:

'சிறுதுளி பெருவெள்ளம்' என்பது சேமிப்பை பற்றி உணர்த்தும் பழமொழி ஆகும். தானும் இன்புற்று பிறரையும் இன்புறச் செய்ய பொருள் மிகத் தேவை ஆகும். அப்பொருளினை எல்லோரும் பெற்றிருக்க இயலாது. ஆனால் அப்பொருளினை சேமிக்க இயலும். சேமிப்பதன் அவசியத்தைப் பற்றி இக்கட்டுரையில் காண்போம்.

சேமிப்பு:

“ஈட்டி எட்டிய மட்டும் பாயும்

பணம் பாதாள மட்டும் பாயும்”.

என்பன ஆன்றோர் மொழிகள். பொருளில்லார்க்கும் இவ்வுலகம் இல்லை என்று வள்ளுவர் குறளில் கூறியுள்ளார். எனவே இத்தகைய சிறப்பு மிகு செல்வத்தை சேமித்து வைத்தல் வேண்டும்.

சேமிக்கும் முறை:

கூலித் தொழிலாளி முதல் ஆலைத் தொழிலாளி வரை அனைவரும் சேமிக்கலாம். சேமிக்க விரும்புவோர் அவரவர் தகுதிக் கேற்ப அரசு வகுத்துள்ள சேமிப்பு திட்டங்கள், அஞ்சல் அலுவலகம், சேமிப்பு வங்கி என பல திட்டங்கள் மூலமாகவும் சேமிக்கலாம். மாணவர்களிடம் சேமிப்பு பழக்கத்தை ஏற்படுத்த ‘சஞ்சாயிகா’ என்ற திட்டம் பள்ளியில் செயல்படுகிறது.

சிக்கனம்:

நாம் ஒவ்வொருவரும் பணத்தை சிக்கனமாகச் செலவிட வேண்டும். நமது குடும்பச் செலவினங்களைத் திட்டமிட்டு செய்தால், ஒரு சிறிய அளவிலான பணத்தைச் சேமிக்க இயலும். சிக்கனமாக வாழ்ந்தால் எதிர்காலம் நன்றாக இருக்கும்.

சேமிப்பின் பயன்கள்:

உழைக்கும் காலத்தில் சேமிக்கும் பணம் ஓய்வு காலத்திலும் உடல் நலம் குன்றும் போது குன்றென உதவுகிறது. பிள்ளைகளின் படிப்புக்கும், பிற தேவைகளுக்கும் பயன்படுகிறது.

முடிவுரை:

“சிக்கனம் வீட்டைக் காக்கும்

சேமிப்பு நாட்டைக் காக்கும்”.

எனவே நாம் சேமிப்பை கடைபிடித்து நம் வாழ்வை சிறப்பாக அமைத்துக் கொள்வோம்.

இயல் - 3

கவிதைப் பேழை : 1. புலி தங்கிய குகை

: 2. பாஞ்சைவளம்

உரைநடை உலகம் : தேசியம் காத்த செம்மல்

பசும்பொன் முத்துராமலிங்கதேவர்

விரிவானம் : கப்பலோட்டியத் தமிழர்

கற்கண்டு: வழக்கு

கவிதைப் பேழை - புலி தங்கிய குகை

I. சிறுவினா:

1. தம் மகன் குறித்துத் தாய் கூறிய செய்திகளைத் தொகுத்து எழுதுக.

என் மகன் எங்குள்ளான் என்று எனக்குத் தெரியவில்லை.

புலி தங்கிச் சென்ற குகை போல அவனைப் பெற்றெடுத்த வயிறு என்னிடம் உள்ளது.

இங்கு இல்லை எனில் போர்க்களத்தில் இருக்கக் கூடும்.

அங்கு சென்று காண்பாயாக என்று தாய் கூறுகிறாள்.

II. சிறுவினா:

1. தாய் தன் வயிற்றைப் புலி தங்கிச் சென்ற குகையோடு ஒப்பிடுவது ஏன்?

புலி குறிப்பிட்ட காலம் வரை தன் குகையில் பாதுகாப்பாக இருக்கும். அங்கு இருப்பது புலிக்கு பெருமை இல்லை.

குறிப்பிட்ட காலம் வந்ததும் தன் வீரச்செயல்களை வெளிப்படுத்த தன் குகையை விட்டு வெளியே செல்கிறது.

இதைபோல் என் வயிற்றில் இருந்த எனது மகன் தன் வீரச்செயலை வெளிப்படுத்த போர்களத்திற்கு செல்கிறான் இவ்வாறு செல்வது குகையை விட்டுப்புலி செல்வதற்கு ஒப்பிட்டுக் கூறுகிறாள்.

2. பாஞ்சை வளம்

I. சிறுவினாக்கள்:

1. பாஞ்சாலக் குறிச்சியின் வீடுகள் எவ்வாறு இருக்கும்?

பாஞ்சாலக் குறிச்சியின் வீடுகளில் மணிகளால் அழகு செய்யப்பட்ட மேடைகள் இருக்கும்.

வீடுகள் எல்லாம் மதில்களால் சூழப்பட்ட மாடிவீடுகளாக இருக்கும். வீட்டுக்கதவுகள் மிகவும் நேர்த்தியாகவும் செல்வம் நிறைந்தவையாகவும் இருக்கும்.

2. பாஞ்சாலக் குறிச்சியில் உள்ள பறவைகள், விலங்குகளின் இயல்பை பற்றிக் கூறுக?

பாஞ்சாலக் குறிச்சியில் யானைக் கூட்டமும் குதிரைக் கொட்டிலும் இருக்கும்.

சோலைகளில் குயில்கள் கூவும்.

மயில்கள் நாட்டின் வளத்தைக் கூறி விளையாடும்.

முயலானது தன்னைப் பிடிக்க வரும் வேட்டை நாயை எதிர்த்து விரட்டி விடும்.

II. சிந்தனை வினா:

1. நாட்டுப்புறக் கதைப்பாடல்களில் கட்டபொம்மன் பெரிதும் புகழ்ப்படக் காரணம் என்ன?

கட்டபொம்மன் தமிழகத்தில் ஆங்கிலேயர் ஆட்சியைப் எதிர்த்து போரிட்ட 18ம் நூற்றாண்டைச் சேர்ந்த பாளையக்கார மன்னர்.

கட்டபொம்மனை மாணவச் சமுதாயம் அறிந்து கொள்வதற்காகவும் பாஞ்சாலக் குறிச்சியில் வாழ்ந்த மக்கள் தன் மன்னரை பலரும் அறிந்து கொள்வதற்காகவும் நாட்டுப்புறக் கதைப்பாடல்களில் கட்டபொம்மன் பெரிதும் புகழ்ப்பட்டார்.

தேசியம் காந்த செம்மல்

I. சிறுவினாக்கள்:

1. நேதாஜியுடன் முத்துராமலிங்கத்தேவர் கொண்ட தொடர்புப்பற்றி எழுதுக?

“வங்கச்சிங்கம்” என்று போற்றப்பட்டவர் நேதாஜி சுபாஷ் சந்திரபோஸ்.

நேதாஜியை தமது அரசியல் குருவாக ஏற்றுக் கொண்டவர் முத்துராமலிங்கத்தேவர்.

முத்துராமலிங்கத்தேவர் அழைப்பை ஏற்றுக் கி.பி. 1939 ஆம் ஆண்டு செம்படம்பரத் திங்கள் ஆறாம் நாள் நேதாஜி மதுரைக்கு வருகை தந்தார்.

நேதாஜி தொடங்கிய இந்திய தேசிய இராணுவத்தில் முத்துராமலிங்கத் தேவரின் முயற்சியில் எராளமான தமிழர்கள் இணைந்தனர்.

முத்துராமலிங்கத்தேவர் நேதாஜி என்னும் பெயரில் வார இதழ் ஒன்றையும் நடத்தினார்.

2. தொழிலாளர் நலனுக்காக முத்துராமலிங்கத்தேவர் செய்த தொண்டுகள் யாவை?

1938 காலக்கட்டத்தில் மதுரையில் 23-தொழிலாளர் சங்கத்தின் தலைவராகத் தேவர் திகழ்ந்தார்.

மதுரையிலிருந்து நூற்பு ஆலை ஒன்றில் வேலை செய்த தொழிலாளர்களின் உரிமைக்காகத் தோழர் ப. ஜீவானந்தத்துடன் இணைந்து 1938 ஆம் ஆண்டு போராட்டம் நடத்தினார். அதற்காக ஏழுதிங்கள் சிறைத்தண்டனை பெற்றார்.

உழவர்களின் நலன் காக்க இராஜபாளையத்தில் மிகப்பெரிய அளவிலான மாநாடு ஒன்றை நடத்தினார்.

பெண் தொழிலாளர்களும் மகப்பேறு காலத்தில் ஊதியத்துடன் கூடிய விடுப்பு வேண்டும் என்று போராடினார்.

II. நெடுவினா:

குற்றப்பரம்பரைச் சட்டம்:

ஆங்கில ஆட்சியில் மக்களை ஒடுக்குவதற்காக கொண்டு வரப்பட்டது குற்றப்பரம்பரை சட்டமாகும்.

1934-ஆம் ஆண்டு மே 12, 13 ஆகிய தேதிகளில் கழுதியில் குற்றப்பரம்பரைச் சட்டஎதிர்ப்பு மாநாடு நடத்தினார்.

அவரது தொடர் போராட்டத்தால் 1948 ஆம் ஆண்டு அச்சட்டம் நீக்கப்பட்டது.

ஆலய நுழைவுப் போராட்டம்:

மதுரை மீனாட்சியம்மன் கோவிலுக்கு செல்ல ஒருசாரருக்கு தடை இருந்தது.

1939-ஆம் ஆண்டு ஜீலைத் திங்கள் எட்டாம் நாள் மதுரை வைத்தியநாதர் கோவில் நுழைவுப் போராட்டம் நடத்தத் திட்டமிட்டார்.

தேவர் திருச்சுழியில் இருந்த அர்ச்சகர்கள் இருவரை அழைத்துவந்து ஆலய நுழைவுப் போராட்டத்தை வெற்றிபெறச் செய்தார்.

தொழிலாளர் நலப்போராட்டம்:

மதுரையிலிருந்த நூற்பு ஆலை ஒன்றில் வேலைசெய்த தொழிலாளர்களின் உரிமைக்காகத் தோழர் ப. ஜீவானந்தத்துடன் இணைந்து 1938 ஆம் ஆண்டு போராட்டம் நடத்தினார்.

பெண் தொழிலாளர்களுக்கு மகப்பேறு காலத்தில் ஊதியத்துடன் கூடிய விடுப்பு வேண்டும் என்ற போராடினார்.

I. சிந்தனை வினா:

1. சிறந்த தலைவருக்குரிய பண்புகள் எவை என நீங்கள்

கருதுகிறீர்கள்?

* துடிப்பு * நம்பிக்கை * தைரியம் * கண்ணியம்

* துணிவு * பெருந்தன்மை * தலைமைத்துவம் * சுயஉறுதி

* பலவந்தமான ஆற்றல் * ஒழுக்கம்.

விரிவானம் - கயிலோட்டியத் தமிழர்

முன்னுரை:

தென்னாட்டில் உள்ள தூத்துக்குடி அந்நாளில் எந்நாட்டவரும் அறிந்த துறைமுக நகரம். தன்னலம் துறந்த தனிப்பெரும்

தொண்டர் வ. உ. சிதம்பரனார். இவர் இந்தியக் கடலாட்சி எமதே எனக் கருதி இறுமாந்திருந்த ஆங்கிலேயர்கள் பொறிகலங்கி நெறி மயங்கக் காரணமாக இருந்தவர் கப்பலோட்டியத் தமிழர் ஆவார்.

பிறப்பு:

மீன் வளம் கொழிக்கும் தூத்துக்குடி மாவட்டத்தில் உள்ள ஓட்டப்பிடாரம் என்ற ஊரில் 1872 ஆம் ஆண்டு செப்டம்பர் 5 ஆம் நாள் சிதம்பரனார் பிறந்தார். இவருடைய பெற்றோர் உலகநாதன், பரமாயி அம்மாள் ஆவர். இவர் அனைவராலும் பாராட்டப்பட்டு மிகச் சிறந்த வழக்கறிஞர் என்ற புகழ்ப்பெற்றார்.

கப்பல் நிறுவனம்

ஆங்கிலேய கப்பல் போக்குவரத்தின் ஏக போகத்திற்கு முற்றுப்புள்ளி வைக்க எண்ணினார். வ.உ.சி அவர் நவம்பர் 12, 1906 இல் சுதேசி ஸ்டீம் நேவிகேஷன் நிறுவனத்தை நிறவினார். ஆங்கிலேயர்க்கு எதிராக தூத்துக்குடி கொழும்பு கப்பல் போக்குவரத்தைக் குறைந்த கட்டணத்தில் நடத்தினால் “கப்பலோட்டியத் தமிழன்” என்ற புகழ் பெற்றார்.

தேசிய உணர்வு:

வ.உ.சி அவர்கள் தவறான ஆங்கிலேய அரசைப் பற்றி இந்திய மக்களிடையே விழிப்பணர்ச்சி ஏற்படுத்தும் நோக்கத்துடன் இருந்தார். ஆங்கிலேய அதிகாரிகள் ஏற்கனவே அவர் மீது கொண்ட வெறுப்பினால் இச்செயலை அரசுக்கு எதிரான துரோகம் என்று குற்றம் சாட்டி மார்ச் 12 1908 அன்று அவரைக் கைது செய்து சிறையில் அடைத்தனர். இவரின் புரட்சிகரமான மனப்பான்மையைப் பார்த்து அஞ்சிய ஆங்கிலேயர்கள் சிதம்பரனார்க்கு ஆயுள் தண்டனை அளித்தனர்.

முடிவுரை:

தூத்துக்குடித் துறைமுகம் “வ.உ.சி துறைமுகம்” என அழைக்கப்படுகிறது. இவரின் நூற்றாண்டு விழா நினைவாக சிறப்பு தபால் தலையை வெளியிட்டது நம் தமிழக அரசு. தமிழகத்தின் விடுதலைக்காகப் பாடுபட்ட சிதம்பரனார் 1936 நவம்பர் 18 இல் இறந்தார். இன்றும் நம் நினைவுகளில் வாழ்ந்து கொண்டு இருக்கிறார்.

கற்கண்டு - வழக்கு

I. குறுவினாக்கள்:

1. வழக்கு என்றால் என்ன?

நம் முன்னோர்கள் எந்தெந்தச் சொற்களை என்னென்ன பொருளில் பயன்படுத்தினார்களோ, அவற்றை அவ்வாறே வழங்குவது வழக்கு எனப்படும்.

2. வழக்கு எத்தனை வகைப்படும்? அவை யாவை?

வழக்கு இருவகைப்படும். அவை இயல்பு வழக்கு, தகுதி வழக்கு ஆகும்.

3. இலக்கணமுடையது என்றால் என்ன? சான்று தருக.

இலக்கண நெறி மாறாமல் முறையாக அமைந்த சொல் இலக்கணமுடையது ஆகும். சான்று: நிலம். மரம்.

4. தகுதி வழக்கு என்றால் என்ன? அஃது எத்தனை வகைப்படும்? அவை யாவை?

தகுதியற்ற சொற்களைத் தகுதியான வேறு சொற்களால் குறிப்பிடுவது தகுதி வழக்கு ஆகும்.

தகுதி வழக்கு மூன்று வகைப்படும். அவை.

இடக்கரடக்கல் ,மங்கலம் , குழுஉக்குறி

5. மங்கலம் என்றால் என்ன? சான்று தருக.

அமங்கலமான சொற்களை மங்கலமான வேறு சொற்களால் குறிப்பதே மங்கலம் எனப்படும்.

சான்று: சுடுகாடு - நன்காடு

விளக்கை அணை - விளக்கைக் குளிரவை

6. குழுஉக்குறி என்றால் என்ன? சான்று தருக.

ஒரு குழுவினர் ஒரு பொருள் அல்லது செயலைக் குறிக்கத் தமக்குள் பயன்படுத்திக்கொள்ளும் சொற்கள் குழுஉக்குறி எனப்படும்.சான்று: பொன்னைப் பறி எனல் (பொற்கொல்லர் பயன்படுத்துவது) ஆடையைக் காரைஎனல் (யானைப்பாகர் பயன்படுத்துவது)

போலி

I. குறுவினாக்கள்:

1. போலி என்றால் என்ன? சான்று தருக.

சொல்லில் ஓர் எழுத்து இருக்க வேண்டிய இடத்தில் வேறு ஓர் எழுத்து வந்தாலும் பொருள் மாறுபடாமல் இருப்பது போலி எனப்படும்.

சான்று: அகம் - அகன், நிலம் - நிலன்.

2. போலி எத்தனை வகைப்படும்? அவை யாவை?

போலி மூன்று வகைப்படும் அவை:

முதற்போலி,இடைப்போலி, கடைப்போலி

3. முற்றுபோலி என்றால் என்ன? அவை யாவை?

ஒரு சொல்லில் உள்ள எல்லா எழுத்துகளும் வேறுபட்டாலும் பொருள் மாறாமல் இருப்பது முற்றுப்போலி ஆகும்.

சான்று: அஞ்சு - ஐந்து

இயல் - 4

கவிதைப் பேழை	:	1. கலங்கரை விளக்கம்
	:	2. கவின்மிகு கப்பல்
உரைநடை உலகம்	:	தமிழரின் கப்பற்கலை
விரிவானம்	:	ஆழ்கடலில் அடியில்
கற்கண்டு	:	இலக்கியவகைச் சொற்கள்

கவிதைப் பேழை - கலங்கரை விளக்கம்

I. சிறுவினா:

1. கலங்கரை விளக்கம் பற்றி பெரும்பாணாற்றுப் படை கூறும் கருத்துகளை எழுதுக?

கலங்கரை விளக்கமானது வானம் கீழே விழுந்து விடாமல் தாங்கிக் கொண்டிருக்கும் தூண் போல தோற்றமளிக்கிறது.

ஏணி கொண்டு ஏறமுடியாத உயரத்தைக் கொண்டிருக்கிறது. வேயப்படாமல் சாந்து பூசப்பட்ட விண்ணை முட்டும் மாடத்தை உடையது.

அம்மாடத்தில் இரவில் ஏற்றப்பட்டு எரியும் விளக்கு கடலில் துறை அறியாமல் கலங்கும் மரக்கலங்களைத் தன் துறை நோக்கி அழைக்கிறது என கலங்கரை விளக்கம் பற்றி பெரும்பாணாற்றுப்படை கூறுகிறது.

II. சிந்தனை வினா:

1. கலங்கரை விளக்கம் கப்பல் ஓட்டிகளை தவிர வேறு யாருக்கெல்லாம் பயன்படும் என நீங்கள் கருதுகிறீர்கள்?

மாணவர்களை கல்விச் சுற்றுலா அழைத்துச் சென்று அதன் செயல்பாடுகளையும், பயனையும் அறிய பயன்படுகிறது.

கப்பலோட்டிகளுக்கு இலக்கை அடைய மைல் கல்லாக உள்ளது.

அலையில் அடித்துச் சென்ற மீனவர்களுக்கு வழிகாட்டியாக உள்ளது.

கவிதைப் பேரே - கவின் மிகு கப்பல்

I. சிறுவினா:

1. கடலில் கப்பல் செல்லும் காட்சியை அகநானூறு எவ்வாறு விளக்குகிறது?

உலகம் புடைபெயர்ந்தது போன்ற அழகு பொருந்திய தோற்றத்தை உடையது நாவாய்.

அது புலால் நாற்றமுடைய அலைவீசும் பெரிய கடலின் நீரைப் பிளந்து கொண்டு செல்லும்.

இரவும் பகலும் ஓரிடத்தும் தங்காமல் வீசுகின்ற காற்றானது கடலில் நாவாயை அசைத்துத் செல்லும் காட்சியை அகநானூறு விளக்குகிறது.

II. சிந்தனை வினா:

1. தரைவழிப்பயணம், கடல்வழிப்பயணம் ஆகியவற்றுள் நீங்கள்

விரும்புவது எது? ஏன்?

தரைவழிப் பயணம்:

நாங்கள் தரைவழிப் பயணத்தையே விரும்புகிறோம்.

ஏனெனில், நாங்கள் சேர நினைக்கும் இடத்திற்கு விரைவில் சென்றடைகின்றோம்.

நாங்கள் இயற்கை காட்சிகளை கண்டுகளிக்கின்றோம்.

எங்களுக்கு தரைவழிப் பயணம் மிகவும் மன மகிழ்ச்சியை அளிக்கின்றன.

கடல்வழி பயணம்:

கடல்வழி போக்குவரத்து அதிகசெலவை கட்டுப்படுத்துகிறது.

கடல்வழிப் பயணம் மூலம் போக்குவரத்து நெரிசல் இல்லாமல் இயற்கை காற்றினை சுவாசித்து செல்லலாம்.

இயற்கையின் ரம்யமான காட்சிகளை ரசிக்க உதவும்.

புதிய உத்வேகத்தையும் புத்துணர்ச்சியையும் தரும்.

உரைநடை - தமிழரின் கப்பற்களை

I. சிறுவினா:

1. பண்டைத் தமிழரின் கப்பல் செலுத்தும் முறைப்பற்றி எழுதுக?

கடலில் காற்று வீசும் திசை, கடல் நீரோட்டங்களின் திசை ஆகியவற்றைத் தமிழர்கள் தம் பட்டறிவால் நன்கு அறிந்திருந்தனர்.

திசைக்காட்டும் கருவியைப் பயன்படுத்தியும், வானில் தோன்றும் விண்மீன்களின் நிலையை வைத்தும் திசையை அறிந்து கப்பலைச் செலுத்தினர்.

கப்பல் ஓட்டும் மாலுமிகள் சிறந்த வானியல் அறிவையும் பெற்றிருந்தனர்.

கோள்களின் நிலையை வைத்துப் புயல், மழை போன்றவை

தோன்றும் காலத்தையும் அறிந்து தகுந்த காலத்தில் கப்பல்களைச் செலுத்தினர்.

2. கலங்கரை விளக்கம் குறிப்பு - வரைக?

கடலில் செல்லும் கப்பல்களுக்குத் துறைமுகம் இருக்கும் இடத்தைக் காட்டுவதற்காக அமைக்கப்படுவது கலங்கரை விளக்கமாகும்.

உயரமான கோபுரத்தின் உச்சியில் ஒளிவீசும் விளக்கினைக் கொண்டதாக இஃது அமைக்கப்பட்டது.

'கலம்' என்றால் கப்பல். 'கரைதல்' என்றால் அழைத்தல். கப்பலை அழைக்கும் விளக்கு என்னும் பொருளில் இது "கலங்கரை விளக்கம்" எனப்பட்டது.

3. கப்பல் பாதுகாப்பானதாக அமையத் தமிழர்கள் கையாண்ட வழிமுறைகள் யாவை?

கப்பல் கட்டுவதற்கு வேம்பு, இலுப்பை, புன்னை, நாவல் போன்ற மரங்களை பயன்படுத்தினர்.

மரத்தின் நீளம், அகலம், உயரம் ஆகியவற்றைச் சரியான முறையில் கண்க்கிட்டுக் கப்பல்களை உருவாக்கினர்.

பெரிய படகுகளில் முன்பக்கத்தை யானை, குதிரை, அன்னம் முதலியவற்றின் தலையைப் போன்று வடிவமைப்பதும் உண்டு. இவற்றை பரிமுக அம்பி, கரிமுக அம்பி என்றெல்லாம் அழைத்தனர்.

சுண்ணாம்பையும் சணலையும் கலந்து அரைத்து அதில் எண்ணெய் கலந்து கப்பலின் அடிப்பகுதியில் பூசினர். இதனால் கப்பல்கள் பழுதடையாமல் நெடுங்காலம் உழைத்தன.

இரும்பு ஆணிகள் துருபிடித்துவிடும் என்பதால் மரத்தினால் ஆன ஆணிகள் பயன்படுத்தினார்கள்.

4. சிறிய நீர்நிலைகளையும், கடல்களையும் தமிழர்கள் எவ்வாறு கடந்தார்கள்?

சிறிய நீர்நிலைகள்:

நீர்நிலைகளில் மரக்கிளைகள் மிதந்து செல்வதையும் அவற்றின்மீது பறவைகள், தவளைகள் முதலியன அமர்ந்து செல்வதையும் பழங்கால மனிதன் கண்டான்.

மிதிக்கும் மரக்கட்டைகள் மீது ஏறி அமர்ந்து சிறிய நீர்நிலைகளைக் கடக்கத் தொடங்கினான்.

மீனைப்பார்த்து தானும் மரத்துண்டுகளைத் துடுப்புகளாகப் பயன்படுத்தத் தொடங்கினான்.

மரங்கள் பலவற்றை இணைத்துக்கட்டி அவற்றின் மீது ஏறிப் பயணம் செய்தான்.

II. நெடுவினா:

1. தமிழரின் கப்பற்கலைப்பற்றி தொகுத்து எழுதுக?

பயணங்கள்:

பயணம் மூன்று வகைப்படும். அவை: நீர்வழிப்பயணம், தரைவழிப் பயணம், வான்வழிப்பயணம் ஆகும். வெளிநாட்டு பயணத்திற்கு உதவியாக கப்பல்கள் இருந்தன கப்பலைப் பற்றிப் படித்தும், கப்பலில் பயணிப்பதும் உளத்திற்கு மகிழ்ச்சித் தரும்.

பூம்புகார் துறைமுகம்:

பூம்புகார் துறைமுகத்திலிருந்து கப்பல்கள் மூலம் பொருட்கள் ஏற்றுமதியும், இறக்குமதியும் செய்யப்பட்டன என்பதைப் பட்டினப்பாலை விரிவாக விளக்குகிறது.

கப்பல் பற்றி செயதியை கூறும்பிறநூல்கள்:

பட்டினப்பாலை, திருக்குறள், அகநானூறு. சேந்தன் திவாகரம்

நிகண்டு, புறநானூறு போன்ற நூல்கள் கப்பலைப் பற்றிய சிறப்பான செய்தியைக் கூறுகின்றது.

கப்பலின் உறுப்புகள்:

கப்பல் பல்வேறு வகையான உறுப்புகளை உடையது. ஏரா, பருமல், வங்கு, கூம்பு, பாய்மரம், சுக்கான், நங்கூறும் போன்றவை கப்பலின் உறுப்புகளாகும்.

கப்பலைச் செலுத்தும் முறை:

காற்றின் திசையை அறிந்து கப்பல்களைச் செலுத்தும் முறையைத் தமிழர்கள் நன்கு அறிந்திருந்தனர்.

திசைக்காட்டும் கருவியை பயன்படுத்தி திசையில் கப்பலை செலுத்தினர்.

கோள்களின் நிலையை வைத்துப் புயல், மழை போன்றவை தோன்றும் காலங்களையும் கடல்நீர் நொங்கும் காலத்தையும் அறிந்து தகுந்த காலத்தில் கப்பல்களைச் செலுத்தினர்.

II. சிந்தனை வினா:

1. இக்காலத்தில் மக்கள் வெளிநாட்டிற்கு செல்வதற்கு கடற்பயணத்தை பெரிதும் மேற்கொள்ளாததற்கு காரணம் என்ன? நேரம் வீணாகுகின்றது.

வேகமாக செல்வதற்கு விமானம் இருப்பதால் மக்கள் யாரும் கடற்பயணத்தை விரும்புவதில்லை.

அதிகமாக செலவானாலும் மக்கள் நினைக்கும் எந்த ஒரு வேலையும் விரைவாக நடப்பதால் கடற்பயணத்தை மக்கள் ஏற்பதில்லை.

கடற்பயணத்தில் இயற்கை சீற்றத்தால் பாதிப்பு ஏற்படுகிறது அதனால் மக்கள் விரும்புவதில்லை.

விரிவானம் - ஆழ்கடலில் அடியில்

முன்னுரை:

கடல் பல்வேறு விந்தைகளைத் தன்னுள் கொண்டது. கடலுக்கடியில் பல வகையான தாவரங்கள், மீன்கள், விலங்குகள் பவளப்பாறைகள், எரிமலைகள் எனப் புதுமைகள் பலவும் நிறைந்து கிடக்கின்றன மேலும் கடலுக்கடியில் பல நகரங்களும் கப்பல்களும் மூழ்கிக்கிடக்கின்றன. நீர்மூழ்கிக் கப்பலில் சென்ற அவற்றை எல்லாம் காண்போம்.

புவியின் ஆராய்ச்சி:

கடலுக்கு அடியில் ஒரு கொடிய விலங்கு தாக்கவதாகத் தகவல் அறிந்து பியரி மற்றும் இருவர் உதவியுடன் பசிபிக் பெருங்கடல் பகுதியில் தேடுதல் வேட்டையை தொடந்தார். மூன்று மாதக் கடின உழைப்பின் பயனாக கண்டு பிடித்தனர். அதன் பெயர் “நாட்டில்ஸ்” என்னும் நீர்மூழ்கி கப்பல் ஆகும்.

நீர்மூழ்கிக் கப்பலின் சிறப்பு:

கப்பலில் மிகச்சிறந்த நுடலகம் ஒன்றும் மிகப்பெரிய அருங்காட்சியகம் ஒன்றும் இருந்தன.

கப்பல் எந்தக் கடலில், எந்தப் பகுதியில் இருக்கிறது, கடலுக்கு அடியில் எவ்வளவு ஆழத்தில் இருக்கிறது ஆகியவற்றைத் துல்லியமாக காட்டும் பெரிய திரை ஒன்றும் இருக்கிறது.

கப்பல் செல்வதற்குமுன், மின் விளக்குகள் எரிவதற்கும் தேவையான மின்சாரத்தை தயாரிக்கும் கருவிகளும் உள்ளன.

இந்தக் கப்பலில் மிகப்பெரிய நீர்த்தொட்டிகள் உள்ளன. அவற்றில் தண்ணீரை நிரப்பும் போது கப்பல் கடலுக்கு அடியில் செல்லும் தண்ணீரை எந்திரங்கள் மூலம் வெளியேற்றும் பொழுது கப்பலின் எடை குறைந்து கப்பல் கடல் மட்டத்திற்கு உயரும்.

சில நாட்களுக்கு ஒரு முறை கப்பல் கடல் மட்டத்திற்கு மேலே வரும் பொழுது அதன் மேல் மூடியைத் திறந்து காற்றைப் புதுப் பித்துப் கொள்கின்றனர்.

முடிவுரை:

நீர் மூழ்கி கப்பலால் கடலுக்கு அடியில் உள்ள அரிய வகை விலங்குகள் பற்றியும் மீன் பற்றியும். போரின் போது கடலில் மூழ்கடிக்கப்பட்ட கப்பல்களையும் முற்காலத்தில் பூகம்பத்தால் சிதைந்த மூழ்கிப்போன நகரங்களையும், காணலாம். வெளிநாட்டு எல்லையில் உளவு பார்க்கவும் இந்த நீர் மூழ்கி கப்பல் உதவுகிறது

கற்கண்டு - இலக்கியவகைச் சொற்கள்

I. குறுவினாக்கள்:

1. இலக்கிய வகைச் சொற்கள் எத்தனை வகைப்படும்? அவையாவை?

இலக்கிய வகைச் சொற்கள் நான்கு வகைப்படும். அவை இயற்சொல், திரிசொல், திசைச்சொல் வடசொல் ஆகும்.

2. திரிச்சொல் என்றால் என்ன? சான்று தருக.

கற்றோருக்கு மட்டுமே விளங்குவதாகவும், இலக்கியங்களில் மட்டுமே பயின்று வருபவையாகவும் அமையும் சொற்கள் திரிசொல் எனப்படும்.

சான்று: வங்கூழ் - காற்று, அழுவம் - கடல்

3. திசைச்சொல் என்றால் என்ன? சான்று தருக.

பிற மொழிகளில் இருந்து வந்து தமிழில் இடம் பெறும் சொற்கள் திசைச்சொல் எனப்படும்.

சான்று: கேணி - கிணறு, பெற்றம் - பசு

4. வடசொல் என்றால் என்ன? சான்று தருக.

வடமொழியிலிருந்து வந்து தமிழில் இடம்பெறும் சொற்கள் வடசொற்கள் எனப்படும்.

சான்று: கமலம் - தாமரை, விடம் - பாம்பு

5. வடசொல் எத்தனை வகைப்படும்? அவை யாவை?

வடசொல் இரண்டு வகைப்படும். அவை: தற்சமம், தற்பவம்

6. திரிசொல் எத்தனை வகைப்படும்? அவை யாவை?

திரிசொல் நான்கு வகைப்படும். அவை:

பெயர்த் திரிசொல்வினைத் திரிசொல்இடைத் திரிசொல்

உரித் திரிசொல்.

இயல் - 5

கவிதைப் பேழை : 1. இன்பத்தமிழ் கல்வி

: 2. அழியாச் செல்வம்

உரைநடை உலகம்: வாழ்விக்கும் கல்வி

விரிவானம்: பள்ளி மறுதிறப்பு

கற்கண்டு: ஒரெழுத்து ஒருமொழி பகுபதம், பகாப்பதம்.

கவிதைப் பேழை - இன்பத்தமிழ்க் கல்வி

I. சிறுவினா:

1. இன்பத் தமிழ்க்கல்வி - பாடலின் மையக் கருத்தை எழுதுக.

தமிழ்நாட்டு மக்கள் 'அறியாமை' என்னும் துன்பத்தில் இருக்கிறார்கள்.

இத்துன்பம் நீங்க அனைவரும் இன்பத்தமிழ்க்கல்வியைக் கற்க வேண்டும்.

மனதில் தூய்மை உண்டாகும்.

கோழைத்தனம் நீங்கி வீரம் உண்டாகும் என்று பாரதிதாசன் கூறுகின்றார்.

I. சிந்தனை வினா:

1. தமிழ் மொழிக்கல்வி பயில்வதால் ஏற்படும் நன்மைகளாக நீங்கள் கருதுவனவற்றைத் தொகுத்து எழுதுக.

தமிழ் மொழிக்கல்வி கற்பதன் மூலம் தாம் வாழும் சமூகத்துடன் ஒப்பிட்டுப் பார்க்க முடியும்.

'தமிழ் மொழிக்கல்வி' கற்கும் திறனை அதிகரிக்கச் செய்கிறது.

மாணவர்களின் தன்னம்பிக்கையை வளர்க்கிறது.

ஒருவளமான நாட்டுக்கு அடிப்படை வளமான கல்வி முறையே ஆகும். இதற்கு தமிழ்மொழிக்கல்வி முறையே சிறந்தது.

ஒருவரது படைப்பாற்றலை உருவாக்க சிந்தனை ஆற்றலை வளர்க்க உதவுகிறது.

கவிதைப் பேறை - அழியாச் செல்வம்

I. சிறுவினா:

1. கல்விச் செல்வம் குறித்து நாலடியார் கூறும் கருத்துகளைத் தொகுத்து எழுதுக.

கல்வியைப் பொருள் போல பாதுகாப்பாக வைத்திருந்தாலும் பிறரால் கவர முடியாது.

ஒருவருக்கு கொடுத்தாலும் குறைவுபடாது.

சிறப்பினை உடைய அரசாலும் கவர முடியாது.

ஒருவர் தம் குழந்தைகளுக்கு சேர்த்து வைக்க வேண்டிய செல்வம் கல்விச் செல்வம் ஆகும்.

கல்விச் செல்வத்தை விட பிற செல்வங்கள் எல்லாம் செல்வம் ஆகாது என நாலடியார் கூறுகிறது.

2. நாலடியார் - நூற்குறிப்பு எழுதுக.

நாலடியார் சமணமுனிவர்கள் பலரால் எழுதப்பட்டது.

இந்நூல் பதினெண்கீழ்க்கணக்கு நூல்களுள் ஒன்று.

இந்நூல் நாலடி நானூறு “என்றும், “வேளாண் வேதம்” என்றும் அழைக்கப்படுகிறது.

திருக்குறளுக்கு இணையாக போற்றப்படுகிறது.

அறம், பொருள், இன்பம் என்னம் முப்பகுப்புகளைக் கொண்டது.

II. சிந்தனை வினா:

1. கல்விச் செல்வம் அழியாத செல்வம் எனப்படுவது ஏன்? சிந்தித்து எழுதுக.

கல்வி காலத்தால் அழியாதது.

கள்வராலும் கவர முடியாதது.

வெள்ளத்தால் அழியாதது.

கல்விச் செல்வம் அள்ள அள்ளக் குறையாதது.

கொடுத்தாலும் குறைவு படாதது, வளர்ந்து கொண்டே இருக்கும். எனவேதான் கல்விச் செல்வம் அழியாத செல்வம் என அழைக்கப்படுகிறது.

உரைநடை உலகம் - வாழ்விக்கும் கல்வி

I. சிறுவினாக்கள்:

1. கல்வியே அழியாதச் செல்வம் என்பதை விளக்குக?

இந்த உலகத்தில் எல்லாச் செல்வமும் அழிந்துவிடும் கல்விச்செல்வம் ஒன்றே அழியாதது.

இங்கே ஒரு பெரிய ஆலமரம் இருந்ததே. அது எங்கே என்றார் ஒருவர். அது அழிந்துவிட்டது என்றார் மற்றொருவர்.

இதோ இவர் பத்து ஆண்டுகளுக்கு முன்னே பட்டம் பெற்றிருக்கிறார். இப்போது, எல்லாம் செலவாகிப்போய் வெறும் பத்தாம் வகுப்பு ஆகி விட்டார் என்று சொல்ல மாட்டோம். கல்வி என்றும் அழியாதது.

“கேடில் விழுச்செல்வம் கல்வி ஒருவற்கு மாடல்ல மற்ற யவை” என்ற கல்வியின் சிறப்பை வள்ளவர் கூறுகிறார்.

2. கல்வியையும், விளக்கையும் திருக்குறளார் எவ்வாறு ஒப்பிடுகிறார்?

கல்வி ஓர் ஒளிவிளக்கு. இருக்கும் இடத்தை ஒளிமயமாக ஆக்குவது.

ஒருவன் கற்றுவிட்டால் கற்றக்கல்வியை பலருக்கும் அளிக்கவேண்டும்.

கல்வி இல்லாத நாடு விளக்கில்லாத வீடு.

விளக்கில்லாத வீட்டில் யார் குடியிருப்பார்கள்? வீடு இருட்டாக இருக்கும்.

கல்வி இல்லாத குடும்பத்தை யாரும் மதிக்கமாட்டார்கள்.

கல்வியறிவு இல்லாதவர்களைத் திருவள்ளுவர் விலங்கு என்ற கூறுகிறார்.

II. நெடுவினா:

1. 'வாழ்விக்கும் கல்வி' பற்றி விவரித்து எழுதுக?

உலகில் பலவகையான செல்வங்களை உள்ளன அழியாதச் செல்வம் கல்விச் செல்வமாகும்.

காலமறிதல்:

காலம் மிகவும் அருமையானது. அது போனால் வராது. மேசை, நாற்காலி போனால் வரும். ஆனால் காலமும், நேரமும் போனால் வராது. ஒருமாணவன் நான்கு நாட்களை வீணடித்து விட்டால் போனது போனதுதான். இன்னொரு மாணவரிடம் கடன்கேட்க முடியாது.

ஒளிவிளக்கு:

கல்வி ஓர் ஒளிவிளக்கு. இடத்தை ஒளிமயமாக்கும்.

கல்வி பலருக்கும் அளிப்பதால் ஒளிதரும்.

கல்வி அறிவு இல்லாதவனை திருவள்ளுவர் போல் குறை கூறியது வேறு ஒருவரும் இல்லை.

கல்வி அறிவு இல்லாதவன் விலங்கு என்கிறார்.

கல்வியும் பள்ளியும்:

பள்ளிக்கூடத்தில் ஆசிரியர்கள் இருக்கிறார்கள்.

மாணவர்களை மருத்துவர், பொறியாளர், அறிவியல் அறிஞர்கள் என்ற அடையாளம் காண்பது ஆசிரியர்கள்.

எதிர்காலத்தை உருவாக்கும் பள்ளிக்குக் 'கோயில்' என்று பெயர் வைத்தார் 'பாரதியார்'.

கல்விக் கூடங்களில்தான் குழந்தைகளின் எதிர்காலம் நிர்ணயிக்கப்படுகிறது.

மாணவர்களை எதிர்கால மேதையாக காட்டுவது பள்ளியே என்கிறார் 'பாரதி'.

III. சிந்தனை வினா:

1. நல்ல நூலின் இயல்புகளாக நீங்கள் கருதுவன யாவை?

நல்லநூல் என்பது வாழ்வியல் சிந்தனையோடு இணைந்து இருக்கவேண்டும்.

ஆழமாக சிந்திக்கக் கூடியதாக இருக்கவேண்டும்.

நல்லநூல்களை ஒருமுறை படித்தல் போதாது. மீண்டும் மீண்டும் படிக்கவேண்டும்.

நல்லநூல் என்பது உட்பொருளை யைமாகக் கொண்டு இருக்கவேண்டும்.

நல்ல நூல்கள் நற்பண்புகளை உணர்த்துவதாக இருக்க வேண்டும்.

நல்ல நூல்கள் மீண்டும் மீண்டும் படிக்க வேண்டும் என்ற ஆர்வத்தை தூண்ட வேண்டும்.

விரிவானம் - பள்ளி மறுதிறப்பு

பள்ளிக் கோடை விடுமுறை:

பள்ளி மறுதிறப்புக்கு இரண்டு நாட்கள் இருந்தன. மதிவாணன் சிந்தித்துக் கொண்டே பேருந்து நிறுத்தத்தில் நின்றிருந்தான். "என்ன சிந்தனையடா மதி?" என்று தோளைத் தொட்டபடி கேட்டான் கவின். பள்ளிக்கு செல்வதா, பின்னலாடை நிறுவனத்துக்கு செல்வதா என்ற குழப்பம் எனக்கு என்றான் மதி. நான் முடிவு பண்ணிட்டேன், "நான் பின்னலாடை நிறுவனத்திற்கு தான் செல்வேன்" என்றான் கவின்.

பின்னலாடை நிறுவனம்:

பள்ளிக்கு கோடை விடுமுறை விட்டதும் மதிவாணன் நாலைந்து நாள் கள் அக்காவீடு, அத்தை வீடு போய் வந்தான். தொலைக்காட்சி பார்த்து மகிழ்ந்தான். ஒரு நாள் கவின் பின்னலாடை நிறுவனத்திற்கு அழைத்தான் சனிக்கிழமை வாரச் சம்பளம். புத்து மணிக்கும் பிற்பகலிலும் வடை, தேநீர், இரவில் பரோட்டா, தோசை தருவார்கள். இதனை பெற்றோர்களிடம் கொடுத்தால் மகிழ்ச்சி அடைவர். இதனைப் பற்றி யோசித்த மதிவாணன் பின்னலாடை நிறுவனத்திற்குச் சென்றால் “நாம் இன்று குழந்தை தொழிலாளி” என்றுமே தொழிலாளி ஆகிவிடுவோம்” என்ற சிந்தனை உண்டானது.

மதிவாணனின் கனவு:

மருத்துவர், பொறியாளர், வெளிநாட்டு வேலை என்ற கனவு அவனுக்குள் இருந்தது. அம்பேத்கரும். அப்துல்கலாமும் இருந்த விளம்பரப் பலகை அவன் கண்முன் தென்பட்டது. இவர்களைப் போல உணர் ‘படிப்பு’ அடிப்படைத் தேவை என்று மனதில் கூறிக் கொண்டே நிற்கும் போது பேருந்தில் கூட்டம் வழிந்தது. கவின் மதிவாணனின் கையைப் பிடித்து போய்விடலாம் என்றான்.

கல்வியின் அவசியம்:

பேருந்து நிறுத்தத்தில் மதிவாணன் அருகில் முதியவர் வந்து நின்றார். அவர் அங்கிருந்த சிறுவர்களில் ஒருவனைப் பார்த்து “என்னப்பா இது நல்லூர் போகுமா?” என்று கேட்டார். அதற்கு அச்சிறுவன் “யாருக்குத் தெரியும்? எங்களுக்குப் படிக்கத் தெரியாதே!” பெரியவரே. . . இதைப் படிக்க உங்களுக்கு தெரியாதா, என ஓ . . . வென்று கேலியான ஓசையில் சிரித்தார்கள்.

மதிவாணனின் மனமாற்றம்:

முதியவர் அவமானப் பட்டதை கவனித்த மதிவாணன், கல்வியறிவு இல்லையென்றால் நானும் இப்படித்தான் வாழ்க்கை முழுவதும் அவமானப்பட வேண்டும். நல்லக் கல்வியறிவு தலைநிமிர்ந்து நிற்க வைக்கும். நல்ல படிப்புதான் சிறந்த மனிதனாக்கும் என்ற எண்ணம் வந்தது. விறுவிறுவென்ற நடக்கத் தொடங்கினான் மதிவாணன். 'டேய் எங்கடா போற' குரல் கவினிடமிருந்து வந்தது. பள்ளிக்குப் போறண்டா" என்று கூறி மதிவாணன் சாலையை கடந்தான். பெருமூச்சு விட்டான். இறக்கைகளை விரித்து வானில் பறப்பது போல் இருந்தது மதிவாணனின் மனது.

கற்கண்டு - ஓரெழுத்து ஒருமொழி, பகுபதம். பகாப்பதம்

குறுவினாக்கள்

1. ஓரெழுத்து ஒருமொழி என்றால் என்ன?

ஓர் எழுத்தே பொருள் தரும் சொல்லாக அமைவது ஓரெழுத்து ஒருமொழி எனப்படும்.

2. பதம் எத்தனை வகைப்படும்? அவை யாவை?

பதம் இரண்டு வகைப்படும். அவை பகுபதம், பகாப்பதம்.

3. பகுபத உறுப்புகள் எத்தனை வகைப்படும்? அவை யாவை?

பகுபத உறுப்புகள் ஆறு வகைப்படும். அவை பகுதி, விசுதி, சந்தி, சாரியை, இடைநிலை, விகாரம் ஆகும்.

4. ஓரெழுத்து ஒருமொழி எவையேனும் நான்கினை எழுதுக.

நோ - வறுமைமை - அஞ்சனம்ஐ - தலைவன்

பே - மேகம்

5. பகாப்பதம் என்றால் என்ன? சான்று தருக.

பிரிக்க முடியாத சொல் பகாப்பதம் எனப்படும். சான்று: மரம், உண்.

6. பெயர்ப் பகுபதம் எத்தனை வகைப்படும்? அவை யாவை?

பெயர்ப்பகுபதம் ஆறு வகைப்படும். அவை:

பொருள், இடம், காலம், சினை, பண்பு, தொழில்.



हिन्दी वजन - Hindi Consonants

क कमरे Lokar	ख आँसू Rasul	ग गमल Flowerpot	घ घर House	ङ
च चाय Tea	छ छाँटा Umbrella	ज जुग Jug	झ झंडा Flag	ञ
ट टमाटर Tomato	ठ ठाँटी Thief	ड डोना Doughnut	ढ ढोला Lid	ण
त ताँत Wool	थ थर्मामीटर Thermometer	द दाल Dal	ध धनु Bow	न नाल Tap
प पता Leaf	फ फूल Flower	ब बाँस Bamboo	भ भाल Bullock	म मछली Fish
य यात्रा Travel	र रस्ती Road	ल लकड़ी Wood	व वना Forest	
श शुद्ध Pure	ष षाँटी Spoon	स सेब Apple	ह हाथ Hand	
क्ष क्षीर Milk	त्र त्रिशूल Trident	ज्ञ ज्ञानी Wise man	श्र श्रम Labourer	

0	०	शून्य (śhūnyā)
1	१	एक (ek)
2	२	दो (do)
3	३	तीन (tīn)
4	४	चार (chār)
5	५	पाँच (pāñc)
6	६	छह (chaḥ)
7	७	सात (sāt)
8	८	आठ (āṭh)
9	९	नौ (nau)
10	१०	दस (das)
11	११	ग्यारह (gyārah)
12	१२	बारह (bārah)
13	१३	तेरह (tērah)
14	१४	चौदह (chāudah)
15	१५	पन्द्रह (pañdrah)
16	१६	सोलह (solah)
17	१७	सत्रह (satrah)
18	१८	अठारह (aṭṭārah)
19	१९	उन्नीस (unnis)
20	२०	बीस (bīs)
21	२१	इक्कीस (ikkīs)
22	२२	बाईस (bāīs)
23	२३	तेईस (tēīs)
24	२४	चौबीस (chaubīs)
25	२५	पच्चीस (pachcīs)

छत	टहल	परवल	आ + ग
टक	खबर	बरगद	आग
जट	भटक	सरकस	
कम	हवन	बचपन	ब + ा + ल
जड़	दमन	तरकश	बाल
रब	वटन	चखचख	
जग	सफल	उबटन	ह + ा + थ
नल	भजन	काटहल	हाथ
कल	समझ	अन्नबन	
डर	नयन	करवट	क + ा + र
रथ	शहद	नटखट	कार

Different Matra Words

'इ'	'ई'	'उ'	'ऊ'	'ऋ'	'ॠ'
मिल	गरगी	कुकान	फूल	गृह	मेहनत
दिल	कडानी	चुड़िया	सूरज	नृप	शौर
शिव	दीपक	बुलबुल	शुद्ध	ऋषि	पेड़
किन	वाणी	मुरगी	दूध	कृपाण	जेब
बिल	मछली	कुरसी	कबूतर	सृज	जलेबी

'ऐ'	'औ'	'औ'	'ऌ'	'ऍ'	'ऎ'
झींझा	तोता	मौसम	पतंग	ज्ञातः	दौल
केलाइ	घोड़ा	नौका	नारंगी	नामः	पाँच
वैर	रसोई	झोंडना	मंदिर	अतः	बूँद
सौर	जोकर	नों लिथ	जंगल	प्राथः	अँरुठी
मैदान	मोती	पौधा	नंखा	पुनः	बाँसुरी

'र' की मात्राएँ

कर्म

रुक

प्रश्न

धर्म

रूम

क्रम

पुनर्जन्म

शब्द

प्रसन्न

चित्र वर्णन

1. यह क्या है ?

यह कलम है।

2. कलम कहाँ है ?

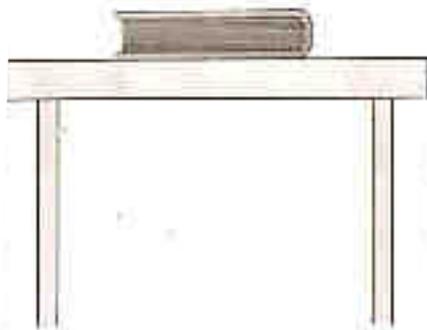
कलम हाथ में है।

3. हाथ में क्या है ?

हाथ में कलम है।

4. कलम का रंग क्या है ?

कलम का रंग काला है।



यह क्या है ?

यह किताब है।

किताब कहाँ है ?

किताब मेज़ पर है।

मेज़ पर क्या है ?

मेज़ पर किताब है।



मेरा लड़का है।

तुम कौन हो?

मेरा नाम अशोक है।

तुम्हारा नाम क्या है?

मेरा घर गोधी नगर में है।

तुम्हारा घर कहाँ है?

मेरे पिताजी का नाम विश्वनाथन है।

तुम्हारे पिताजी का नाम क्या है?

वे दफ्तर में काम करते हैं।

वे कहाँ काम करते हैं?

मेरी माताजी का नाम कल्याणी है।

तुम्हारी माताजी का नाम क्या है?

मेरी छोटी बहन का नाम भाला है।

तुम्हारी छोटी बहन का नाम क्या है?

मेरा स्कूल अण्णा नगर में है।

तुम्हारा स्कूल कहाँ है?

मैं ग्यारह साल का हूँ।

तुम कितने साल के हो?

मैं नौवीं कक्षा में पढ़ता हूँ।

तुम कौन-सी कक्षा में पढ़ते हो?

मैं स्कूल सार्दिकल से जाता हूँ।

तुम स्कूल कैसे आते हो?

मैं सबेर आठ बजे निकलता हूँ।

तुम सबेर कितने बजे निकलते हो?

मैं साढ़े आठ बजे स्कूल पहुँचता हूँ।

तुम कितने बजे स्कूल पहुँचते हो?

मैं पाँच बजे घर लौटता हूँ।

तुम कितने बजे घर लौटते हो?

मैं साढ़े पाँच बजे से साढ़े छह बजे तक

घर कितने बजे से कितने बजे तक खेला करता हूँ।

खेलता हूँ।

तुम कितने बजे से कितने बजे तक पढ़ते हो?

मैं सात बजे से आठ बजे तक पढ़ता हूँ।

तुम रोज कितनी घंटे टी.वी. देखते हो?

मैं रोज थोड़ी देर टी.वी. देखता हूँ।



तुम कौन हो?

तुम्हारा नाम क्या है?

तुम्हारा घर कहाँ है?

तुम्हारे पिताजी का नाम क्या है?

वे कहाँ काम करते हैं?

तुम्हारी माताजी का नाम क्या है?

वे कहाँ काम करती हैं?

तुम्हारे छोटे भाई का नाम क्या है?

तुम कितने साल की हो?

तुम कहाँ पढ़ती हो?

तुम कौन-सी कक्षा में पढ़ती हो?

तुम रोज कितने बजे उठती हो?

तुम कितने बजे स्नान करती हो?

तुम कितने बजे नाश्ता करती हो?

तुम कितने बजे स्कूल जाती हो?

तुम क्या हिंदी सीखती हो?

क्या तुमको हिंदी पसंद है?

हिंदी किसकी राष्ट्रभाषा है?

तुम रात को कितने बजे सोती हो?

मैं लड़की हूँ।

मेरा नाम धिमला है।

मेरा घर सुभाष नगर में है।

मेरे पिताजी का नाम सुंदरेशन है।

वे बंदरगाह में काम करते हैं।

मेरी माताजी का नाम सुमति है।

वे दफ्तर में काम करती हैं।

मेरे छोटे भाई का नाम विजय है।

मैं पंद्रह साल की हूँ।

मैं स्कूल में पढ़ती हूँ।

मैं दसवीं कक्षा में पढ़ती हूँ।

मैं रोज छः बजे उठती हूँ।

मैं साढ़े छः बजे स्नान करती हूँ।

मैं आठ बजे नाश्ता करती हूँ।

मैं साढ़े आठ बजे स्कूल जाती हूँ।

मैं साढ़े पाँच बजे स्कूल से आती हूँ।

मैं शाम को हिंदी सीखती हूँ।

हाँ, मुझे हिंदी पसंद है।

हिंदी हमारी राष्ट्रभाषा है।

मैं रात को नौ बजे सोती हूँ।