

CDT Materials(2019-20)

Class – V

Mathematics



1. Number System: The ways of representation of numbers using digits or other symbols in a consistent manner.

Types of numbers:-

1. **Natural Numbers**- Counting numbers 1,2,3,4,5 are called natural numbers. e.g.,
1,2,3,4,5,6,.....

2. **Whole Numbers**- All counting numbers together with zero form the set of whole numbers.

(i) 0 is the only whole number which is not a natural number.

(ii) Every natural number is a whole number.

3. **Integers**-All natural numbers, 0 and negatives of counting numbers. e.g., 0,-1,-2,-3,1,2,3.....

4. **Even Numbers**- A number divisible by 2 is called an even number, e.g.,2,4,6,8,14, 52 etc.

5. **Odd Numbers**- A number not divisible by 2 is called an odd number. e.g.,1,3,5,7,9,11, etc.

6. **Prime Numbers**- A number greater than 1 is called a prime number, if it has exactly two factors, namely 1 and the number itself. e.g.,3, 11, 7.....

7. **Composite Numbers**- Numbers greater than 1 which are not prime, are known as composite numbers, e.g. 9,10,12, 15, 36 etc.

(i) 1 is neither prime nor composite.

(ii) 2 is the only even number which is prime.

(iii) There are 25 prime numbers between 1 and 100.

8. **Even, Odd Numbers**

A number is even if the remainder is zero when the number is divided by 2.

A number is odd if the remainder is one when the number is divided by 2.



1 2 3 4 5



Place Value and Face Value

Place Value- Place value of a digit in a number is the digit multiplied by its position in the place value chart. It depends upon a digit's position in the number. As the digit moves on to the left, its value increases.

Lakhs Period		Thousands Period		Ones Period		
Ten Lakhs	Lakhs	Ten Thousand	Thousands	Hundreds	Tens	Ones
6	4	5	7	2	8	3

The place value chart has been separated into three groups: The ones period has three places- Hundreds, tens, and ones. The thousands period has two places- Ten thousands and thousands. The next period is the lakh period which includes- Ten lakhs and lakhs.

Use of Commas

If we write the number without using the place value charts, we use comma(,) to separate the periods.

Let us take an example: 64,57,283

First comma is used when the ones period is complete. Second comma is used when thousands period is complete. Next comma is used to separate thousands and lakhs period.

Face Value-

Face value of a digit in a number is the digit itself, irrespective of the position of the digit in the number.

In the number 9843

Face value of 9 = 9

Face value of 8 = 8

Face value of 4 = 4

Face value of 3 = 3

Remember

- 1. The face value of a digit in any number is the digit itself.*
- 2. The place value and face value of a digit in the ones place are always equal.*
- 3. The place value and face value of zero in any number is always zero.*

2. Computation Operations : Addition, Subtraction, Multiplication and Division are most ancient mathematical tools. The fundamental day to day activities are the combination of these four basic mathematics. We must have expertise over the hidden application of these mathematical operations.



✓ **Problems containing addition, subtraction or both.**

Example 1: Add the subtraction of 516 and 132 with 945.

Example 2: There were 512 apples in a stock. One more stock of 452 apples was brought and added to first. In total 65 apples were found not worth to sell so thrown away. How many apples can the stockiest sell ?

✓ **Problems containing multiplication, division and unitary method.**

Example: 1. Words on 25 pages = 825 ; words on 1 page = _____

Example:2. Cost of 16 tickets is Rs. 672. How much will it cost for 9 tickets?

a) Measurement

1. Length

The standard unit for measuring length is a meter. One-meter equals roughly one long step of an adult man. One kilometer equals about 12 minute's walk.



Length of cloth, the height of a wall, the height of a tree, the distance between two objects are all measured on meters. Carpenters use measuring tape for making furniture. Cloth merchant uses a meter rod for measuring length of clothes.

Remember

1 Kilometer = 1000 meter

1 Meter = 100 Centimeter

1 Centimeter = 10 millimeter

Short cut to problem solving for length

- ✓ Always start from 0 while using measuring instruments.
- ✓ Millimeter (mm) and centimeter (cm) are used to measure the small objects.
- ✓ Meter (m) and Kilometer (km) are used to measure large distance.
- ✓ Always convert the length of given objects in to same unit of length before solving them.

2. Weight

The standard unit for measuring mass or weight is a kilogram. We weigh things in kilograms. Lighter objects and smaller quantities of things are weighed in grams. We write Kilogram as kg and gram as gm. We commonly see cast iron weights in vegetable shop used to measure weight of vegetables.

Points to Remember

- ✓ Always start from 0 while using weighing balance.
- ✓ Gram (gm) is used to weigh lighter objects.
- ✓ Kilogram (kg) is used to measure heavier objects.
- ✓ Always convert the weight of given objects in to same unit of weight before adding or subtracting them.

1 Kg = 1000 Gm

Different units of measurement for measurement



Items	Units of measurement	Items	Units of measurement
Height of desk	M or Cm	Distance between two cities	Km
Height of Building	Meter	Height of coconut tree	Meter
Length of saree	Meter	Height of water bottle	CM
Vegetables	Kg or gm	Length of sewing needle	CM

b) Money- Currency is the foundation of national economics.

Conversion of Rupees into Paise:

- ✓ We know that 1 rupee = 100 paise. When we convert rupees into paise, we multiply by 100.



For example, Rs 7.75 = Rs 7 + 75 paise
 = 7 × 100 paise + 75 paise
 = 700 paise + 75 paise
 = 775 paise



Conversion of Paise into Rupees :

- ✓ To convert paise into rupees first we need to count two digits from the right and put a point and also write Rs or Re in the beginning.

Examples : (i) 1450 p = Rs 14.50

(ii) 4155 p = Rs 41.55

(iii) 1 p = Rs 0.01



c) BODMAS

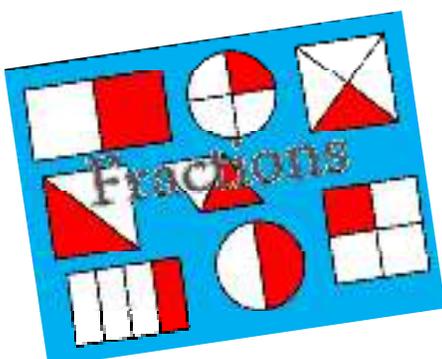
B	O	D	M	A	S
Brackets (...)	Orders \sqrt{x} x^2	Division \div	Multiplication \times	Addition $+$	Subtraction $-$

(a) $(3 + 2) \times 6 - 8$ (brackets first)
 $= 5 \times 6 - 8$ (multiplication second)
 $= 30 - 8$ (subtraction last)
 $= 22$

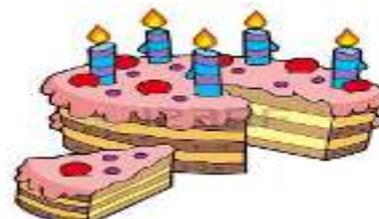
(b) $4 \times 6 + 18 \div 2$ (multiplication and division first)
 $= 24 + 9$
 $= 33$

(c) $(17 - 2) + 5 + 6$ (brackets first)
 $= 15 + 5 + 6$ (addition second)
 $= 20 + 6$ (addition last)
 $= 26$

$+$ $-$ \times \div $\sqrt{\quad}$ $\frac{\quad}{\quad}$ $\frac{\quad}{\quad}$ $\frac{\quad}{\quad}$	$+$ $-$ \times \div $\sqrt{\quad}$ $\frac{\quad}{\quad}$ $\frac{\quad}{\quad}$ $\frac{\quad}{\quad}$
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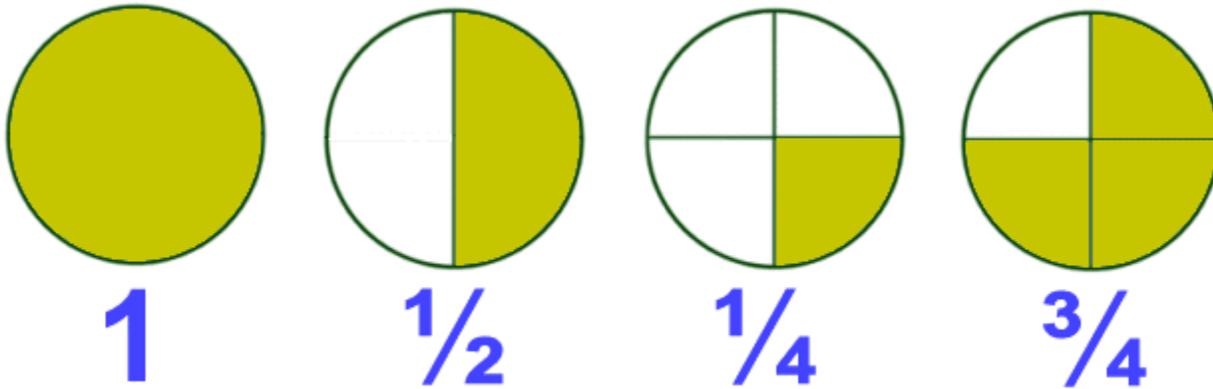


3. Fractions- A Fraction is a part of a whole. The whole can be a region or a collection. A region is a whole when there is only one Object. For example, a cake represents a whole and a slice of it represents a fraction.



Fraction of a Region

- a) **Half-** Half means one of the two equal parts of a whole. Take a square sheet of paper. Fold it exactly into two equal parts crease the folding well and unfold the paper. Both are parts of a whole. The two equal parts are of the same size and each is called a half. It is represented as $\frac{1}{2}$ and is read as one by two.
- b) **Thirds-** Third means three equal parts of a whole. When a whole is divided into three equal parts, then each part represents one-third of the whole. It is represented as $\frac{1}{3}$. If two parts out of three are covered, then it is called as two thirds. It is represented as $\frac{2}{3}$.
- c) **Fourths-** Fourth means four equal parts of a whole. When a whole is divided into four equal parts, then each part represents one fourth or quarter of the whole. It is represented as $\frac{1}{4}$. If three parts are covered, then it is called three fourths. It is represented as $\frac{3}{4}$.



4. Roman Numbers : Numbers in this system are represented by combinations of letters from the Latin alphabet. It originated from ancient Rome and remained the usual way of representing the numbers.

Basics : I II III
IV V



- ✓ Numerals I, V, X, L, C, D, and M are used for 1, 5, 10, 50, 100, 500 and 1000.
- ✓ Repeating a numeral up to three times represents addition of the number. For example, III represents $1 + 1 + 1 = 3$. Only I, X, C, and M can be repeated; V, L, and D cannot be.

- ✓ Writing numerals that decrease from left to right represents addition of the numbers. For example, LX represents $50 + 10 = 60$ and XVI represents $10 + 5 + 1 = 16$.
- ✓ Writing a smaller numeral to the left of a larger numeral represents subtraction but it is applicable only to I, X and C .
- ✓ For larger numbers, a bar over a numeral means to multiply the number by 1000. For example, \overline{D} represents $500 \times 1000 = 500,000$ and \overline{M} represents $1000 \times 1000 = 1,000,000$, one million.

5. Shapes and Symmetry:-

Plane Shape -Any shape that can be drawn in the plane is called a plane shape.



- ✓ A closed shape with only straight sides as edges is called a polygon.
- ✓ Triangle is the simplest polygon.
- ✓ Circles and semicircles are not polygons because they have curved sides.
- ✓ When all the sides of a polygon are equal, it is equilateral .If all the angles of a polygon are equal, it is equiangular. When a polygon is both equilateral and equiangular, it is a regular shape. Equilateral triangles, squares are regular.



Types of Plane shapes:-

Triangles:- A triangle is a closed shape with three sides. It is classified according to its sides or angles, with three kinds each.

Triangles according to sides:-



- ✓ **Equilateral triangles:** These have three sides equal and three angles equal. Their angles are always 60° .
- ✓ **Isosceles triangles:** These are the triangles in which two of the sides are equal. The non-included angles of the sides are also equal.
- ✓ **Scalene triangles :** These have no equivalence at all.

Triangles according to angles:-

- ✓ **Right triangles :** These are the triangles with a right angle. The longest side of such triangles is called a hypotenuse.
- ✓ **Obtuse triangles :** These are the triangles with an obtuse angle.

- ✓ **Acute triangles** : These are the triangles with no right or obtuse angle.

Quadrilaterals :A quadrilateral is a closed shape with four sides. Some common types of quadrilaterals:-

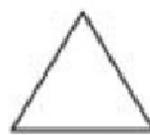


- ✓ **Parallelograms** are shapes where opposite sides and angles are equal.
- ✓ **Rectangles** are parallelograms where all the angles are 90° . Its breadth is the shorter sides, and length is its longer ones.
- ✓ **Rhombuses** are parallelograms where all the sides are equal, and opposite angles are equal.
- ✓ **Squares** are parallelograms that are both rectangles and rhombuses, i.e. all angles are right and all sides are equal.
- ✓ **Trapezium** have two opposite sides that are parallel.

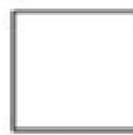
Common names of some polygons with multiple sides.

Number of sides	Name of polygon
3	triangle
4	quadrilateral
5	pentagon
6	hexagon
7	heptagon
8	octagon
9	nonagon
10	decagon
12	dodecagon

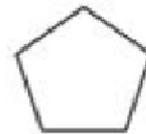
regular polygons



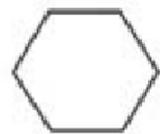
triangle
3 sides



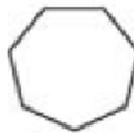
quadrilateral
4 sides



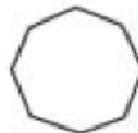
pentagon
5 sides



hexagon
6 sides



heptagon
7 sides



octagon
8 sides



nonagon
9 sides



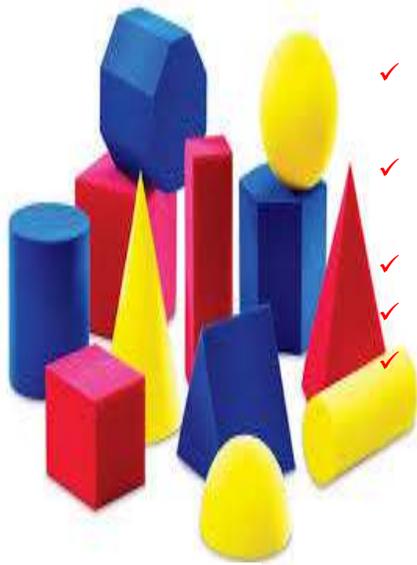
decagon
10 sides

Circles – The corner-less closed figure all the parts of boundary of which are equidistant from a fixed point called center of circle.

Solid Shapes:-A solid shape is a three-dimensional figure that has width, depth and height. Examples of solid shapes include cubes, pyramids and spheres.

Some common solid shapes:-

- ✓ **Cuboids** are solid figures having six faces, that are rectangles. Some examples may include a book, a piece of furniture, or a jewelry box.



- ✓ **Cubes** are just a special case of cuboids. Cubes are solid figures that have six faces that are all squares of the same size.
- ✓ **Cone** is a solid figure that has a circular face on one end, called the base, and a point at the other end where the sides meet.
- ✓ **Cylinder** is a solid figure that has two circular bases and one curved side.
- ✓ **Sphere** is a solid figure that is round and has the shape of a ball.
- ✓ **Pyramid** is a solid figure that has a polygon as its base on one end and triangular faces all meeting at a single point on the other end.

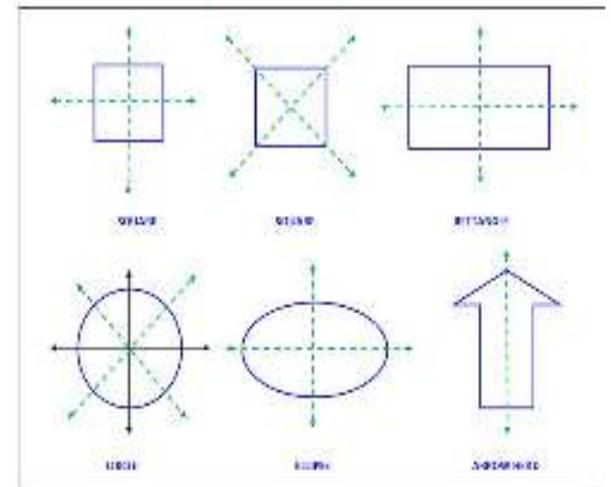
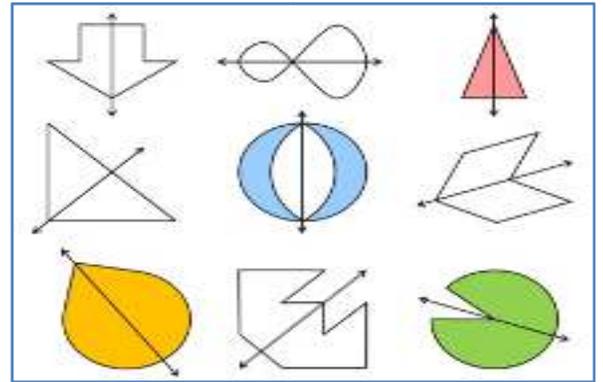
Symmetry

Two figures are called symmetrical, if one-part overlaps the other completely. The line dividing the picture in the middle forms two equal halves. The line is called as the line of symmetry or the axis of symmetry.

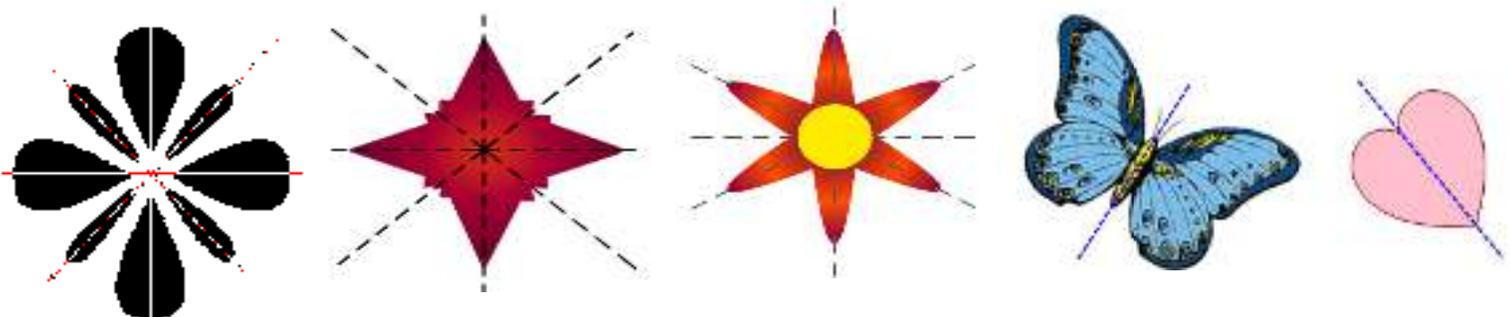
It can be horizontal, vertical or slant.

Axis of Symmetry

The line of symmetry is a straight line which is either Horizontal, vertical or slant. There can be more than One line of symmetry for a plane figure. The triangle has 3 axes of symmetry. A circle has many line of symmetry. The line of symmetry divides the plane figure in to two identical parts. The idea of symmetrical figures is used in origami, which is the art of paper folding and drawing symmetric designs on fabrics, greeting cards, decorative objects etc.



Different designs with the line of symmetry



Alphabets with the line symmetry



Think about any five objects around you which are symmetric

6.Clock and Calendar: Time is the ongoing sequence of events taking place. We

measure time using seconds, minutes, hours, days, weeks, months and years.

Clocks measure time.

To read a clock :



- ✓ Look at the numbers on the perimeter of the clock face. ...
- ✓ Locate the shorter hand, which tells you the hour. ...
- ✓ Find the longer hand, which will point to the minutes. ...
- ✓ Use the longer hand to find individual minutes between numbers. ...
- ✓ Read the time. ...

12 hours and 24 hours clock notations:



- ✓ AM and PM are abbreviations that tell us whether the time occurs in the morning or in the afternoon/evening.
- ✓ AM occurs in the morning. It stands for ante meridiem which means "before midday". You can think of it as "before noon".
- ✓ PM occurs in the afternoon and evening. It stands for post meridiem which means "after midday". You can think of it as "after noon".
- ✓ In the AM/PM system of time, a 12-hour clock is used. That means that the morning goes up until 12:00 noon and it starts over again with 01:00 and goes through 12:00 midnight.
- ✓ In contrast, a 24-hour clock does not start over after 12:00 noon. The next hour (which we normally think of as 1:00 PM) is 13:00, then 14:00 etc. Time goes all

the way up until 24:00 midnight which can also be called 00:00 because it is the start of the next day.

Calendar

There are many ways of measuring time in months, week or days and that is called calendar.

One calendar has 12 months, 52 weeks, 365 days. The leap year has 366 Days in a year. We read the calendar to tell the days and dates. The month Of January, March, May, July, August, October, and December have 31 Days each. The months of April, June, September and November have 30 Days each. Further seven days of the week are Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday.



The Birth of Calendar-

What is a month? Why do we have twelve months in a year? And why doesn't each month have the same number of days? The word month comes from the old English word 'Monath' and 'Monath' comes from Mona which means moon. So, a month is a moon.

Long ago a month really was a moon. That is, a monath was the time from one new moon to the next. But twelve such moons add up to only about 354 days which is the time it takes the earth to go around the sun.

To make the months the same number of days as the sun-year, we have months of different lengths. It regularly adds up to 365 days and a leap year comes to 366 days. In this way, the months keep time with the seasons.

Problem solving based on the calendar-

- a) The 1st term holidays for school started from the 13th of October and students were told that the school reopens on the 25th of October. How many days did they get as holidays?

Leap Year- If the year can be divided by 4, then it is a leap year. In a leap year, February has 29 days.

Find whether the given year are leap or not: 1956, 1947, 1980, 1992, 1998, 1990, 1960, 2000.

7. Pictorial presentation of Data: Representing the information in a table, lists or by means of pictorial form is the smart chart.

Types of Charts:-

1. **Tally Marks** -Tally marks are represented as numbers in groups of five. One vertical line is made for each of the first four numbers; the fifth number is represented by a diagonal line across the four lines.

2. **Pictograph** : Pictorial representation of statistics on a chart, graph or table is pictograph. It is a way of showing data using images.Each image stands for a certain number of things.

3. **Bar Graphs** :A bar graph contains a bar for each category of a set of qualitative data. The bars are arranged in a manner so that the tallest bar represents the highest value.



4. **Pie Chart** : A pie chart displays data in the form of a circular plate also called pie.

8. Series & Patterns: -Things that are arranged systematically and follow a rule are said to be in pattern. Number patterns are numbers ordered in a manner following some rules.

- ✓ Look at the last one or two digits or the first digit to see any special manner.
- ✓ Think about common number patterns, like counting by 2s, 5s, or 10s.
- ✓ Find the difference between the numbers.

Rules of patterns

A pattern can be a shapes, numbers or words that is repeated according to the rule. It can be of different types.

Repetition of shapes with shades

A	B	C	D	E

Here in the given picture option C is the correct answer

Series-

This type of questions can include various types of series and patterns formation- choosing series, odd one out , matching pairs etc.

Example: Find the next letter in the series

Z Y W T P K?

Answer: C

Explanation: The answer is E, because the pattern is to count backwards from the first given letter: first one, then two, then four, and lastly six.

Example: Find the odd one out.

- 1) EHG 2) JML 3) UYX 4) TWV

Answer: 3

Explanation- In all other groups there is a gap of one letter as in the alphabet between first and third letter.

9. Coding and Decoding-

A CODE is a system of signals. Therefore, coding is a method of transmitting a message between the sender and the receiver without a third person knowing it. Decoding is a process to understand a code language.

Types of coding

- a) **Letter coding-** In this type of questions, the real alphabets in a word are replaced by certain other alphabets according to a specific rule to form its code. We are required to detect the common rule and answer the question accordingly.

Example: In a certain code, DOWN is written as FQYP. How is WITH written in that code?

- 1) KYJN 2) IJYK 3) YKVJ 4) JKVY

Answer: 3

- b) **Number Coding-** In this type of questions, either numerical code values are assigned to word or alphabetical code letters are assigned to the numbers. We are required to analyse the code as per the given instructions.

Example: In a certain code, RIPPLE is written as 613382 and LIFE is written as 8192. How is PILLER written in that code?

- 1) 318826 2) 318286 3) 618826 4) 338816

Answer: 1

Sample Questions

1.What is two more than greatest five digit number?

- a) 100000 b)100001 c)100011 d) None of these

2.What is predecessor of smallest five digit number?

- a) 9999 b) 9998 c) 99999 d) None of these20.

3.What is the angle measure between the hands of a clock when the time is 2a.m.?

- a) Acute b) Right c) Obtuse d) Reflex

4. The roman numeral for $300+40+7$ is

- a) CCLXVII b) CCXLVII c) CCCLXVII d) None of this.

5. Find the difference between the place value of 4 in 49,56, 123 & 5,674.

- a) 3999990 b) 3999996 c) 3999999 d) 3999909

6. Write the numeral in Hindu Arabic numeral of LXIX

- a) 44 b) 54 c) 64 d) 69

7. Write the name of the polygon with ten sides.

- a) Hexagon b) Hendecagon c) Dodecagon d) Decagon

8. A TV programme started at 10:30 am & finished at 1:00pm. What was the duration of the programme?

- a) 2 hours b) 2:30 hours c) 3 hours d) 3:30 hours

9. The area of a square field is 100sq.m. What is the cost of putting a fence around the field at Rs.25?

- a) 1000 b) 1001 c) 1010 d) 1100

10. 15 years 5 weeks =----- weeks.

- a) 758 weeks b) 780 weeks c) 785 weeks d) 790 weeks

11. 42 hours 35 minutes =----- minutes

- a) 2505 min b) 2050 min c) 2550 min d) 2555 min

12. Fraction equivalent to $\frac{7}{9}$ with denominator 81 is _____.

- a) $\frac{49}{81}$ b) $\frac{49}{63}$ c) $\frac{63}{81}$ d) $\frac{70}{81}$

13. Cost of 18 tables is Rs.5904. What will be cost of 12 tables?

- a) 3636 b) 3396 c) 3936 d) 3963

14. Which is a method of graphical representation of data using symbol?

- a) Frequency Table b) Bargraph c) Tabular form d) Pictograph

15. Simplify: $76 + 8 \times 3 - 9 + (17-5) = ?$

- a) 113 b) 110 c) 103 d) 100

ANSWER KEY

Questions: 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15.

Answers: b. a. a. d. b. d. d. b. a. c. d. c. c. d. c.

1. ARTICLES

- ❖ An article is a word used with a noun to indicate the type of reference being made by the noun. Articles defines a noun as specific or unspecific.

- **Examples:** (a) I have a book with me.

(b) She is eating an ice cream.

(c) The dress you gave me is really pretty.

(Here 'a', 'an', 'the' are articles.)

➤ Types of Articles

There are two types of article:

1. **Indefinite Articles:** "A" and "An " are indefinite articles which are used with singular nouns.

Examples:(a) That is a glass.

(b) There is an insect under the table.

2. **Definite Article** :“the” is the definite article as it points to a particular object or class . It is used with both singular and plural nouns. It can also be used with countable nouns (like the pencils, the table etc.) as well as with uncountable nouns (like the milk, the courage, the passion etc.).

2. VERBS

- ❖ A verb is word or a group of words that tell us about the action or the state of action of the noun or subject of the sentence.

- **Examples:** He ran to the store. Here, the verb “ran” describes the action performed by the subject “he”.

- ❖ Verbs show what the subject is doing or what the condition of the subject is.

- **Examples:** (a) She is beautiful. (state)

(b) The cat killed the mouse. (action)

(c) The tyre burst in the workshop. (event)

3. TENSES

- ❖ Tenses of a verb show the time of an event or action in a sentence. There are three main tenses: Present, Past and Future. These three main tenses can be further divided into four forms each: Simple, Continuous, Perfect and Perfect Continuous Tense.
- ❖ These tenses can be better explained with the help of examples as given in the following table:

<u>Simple Present</u>	<u>Simple Past</u>	<u>Simple Future</u>
Cats like milk. He drinks milk.	He washed all his clothes yesterday. We lived in Chennai.	She will not sing today. He will go to the market.

<u>Present Continuous</u>	<u>Past Continuous</u>	<u>Future Continuous</u>
You are dancing. They are going to the market.	Gunjan was sleeping. Rishi was playing.	We will be watching TV. Kids will be playing.

<u>Present Perfect</u>	<u>Past Perfect</u>	<u>Future Perfect</u>
I have not seen him. He has gone to the park.	Ronnie had locked the door. She had done her work.	Mother will have cooked the food. She will have done her work.

<u>Tense</u>	<u>Indefinite</u>	<u>Continuous</u>	<u>Perfect</u>	<u>Perfect Continuous</u>
Present	write/writes	am/is/are writing	has/have written	has/have been writing
Past	wrote	was/were writing	had written	had been writing
Future	shall/will write	shall/will be writing	shall/will have written	shall/will have been writing

4. Active and Passive Construction

- ❖ There are two voices: (i) Active voice (ii) Passive voice

a. When the subject of a verb acts or is active, it is said to be in the active voice.

Examples:

- (a) You write a letter. (b) Rama killed Ravana.
- (c) Someone picked my pocket. (d) Sanjay has broken my slate.

b. When subject of a verb is acted upon, it is said to be in the passive voice.

Examples:

- (a) A letter is written by you. (b) Ravana was killed by Rama.
- (c) My pocket was picked. (d) My slate has been broken by Sonia.

Note> Only transitive verbs can be changed into passive voice.

The General rules for Change of Voice:

- (a) The object of the active verb is made the subject of the passive verb.
- (b) The subject of the active verb is made the object of some preposition (generally by)
- (c) The passive voice must contain the past participle (third form) of the principal verb.
- (d) Some form of the verb "to be" (is,am,are,was,were,being,or been) is used according to the tense.

Illustrated examples:

1.Simple Present Tense (Is/am/are + third form of verb)

Active Voice	Passive Voice
(a) The cow eats grass.	Grass is eaten by the cow.
(b) They run a race	A race is run by them.

2. Simple Past Tense (was/were + third form of the verb)

Active Voice	Passive Voice
(a) We crossed the river easily.	The river was easily crossed by us.
(b) She spoke the truth.	The truth was spoken by her.

5. Direct and Indirect narration.

- ❖ The dictionary meaning of the verb "narrate" is "to give an account of something." Thus, narration means giving an account.

- ❖ When the actual words of the speaker are reproduced ,it is called DIRECT NARRATION.
- ❖ When the conversation is repeated without using the speaker’s actual words though the meaning is unchanged, it is called INDIRECT NARRATION.

1. Simple Present into Simple Past

Direct :He said ,” Sita sings very well.”

Indirect : He said that Sita sang very well.

2. Simple Past tense into Past Perfect

Direct : He said,” Ram gave me a pen .“

Indirect :He said that Ram had given him a pen.

6. Vocabulary

- Vocabulary, in general, refers to all the words used in a language.
- A person’s vocabulary refers to the set of words within a language that he/she is familiar with.
- Vocabulary can be described as oral vocabulary or reading vocabulary.
- Oral vocabulary refers to the words , we use in speaking or recognize in listening and reading.
- Reading vocabulary refers to the words we recognize in print.
- The Vocabulary portion contains exercises in correct use of words, spellings, analogy and jumbled words.

7. Jumbled Words and Jumbled Sentences

- ❖ To jumble means mixing things in a confusing manner. The jumbled words exercise comprises changing the order of the letters of a word and it tests a child’s vocabulary. The jumbled sentences exercise teach the child sentence formation.

- **EXAMPLES:** (Jumbled words) **ONMYEK----- MONKEY**

(Jumbled sentences)**milk/gives/milkman/us-----Milkman gives us milk.**

8. SYNONYMS and ANTONYMS

(a) awkward	rough, clumsy
(b) blemish	fault, stigma
(c) contempt	disregard, scorn
(d) judicious	thoughtful, prudent

An antonym is a word which means opposite of the given word. Eg “stop’ has its antonym as “go’

<u>Words</u>	<u>Antonyms</u>
(a) Aversion	affection, fondness
(b) Blemish	purity, spotless
(c) Deliberate	rash, sudden
(d) Lavish	conserve, frugal

9. Idioms and Phrases:

Many verbs, when followed by various prepositions , or adverbs , acquire an idiomatic sense; as,

1. **Hand in:** submit something
2. **Handout:** something free
3. **Out of hand:** not in control
4. **Second hand:** owned by someone else before
5. **Give a hand:** help out
6. **Hand to hand :** close fight
7. **Of and on :**at intervals
I go to meet the children at an orphanage of and on.
8. **Bag and baggage:** with all goods
He left Agra with bag and baggage.
9. **Hither and thither:** here and there
Do not go hither and thither. Just sit at one place and finish your breakfast.
10. **Bread and butter:** material welfare
We all work for bread and butter.



Common Idioms

1. **A Blessing In Disguise:**
Something good that isn't recognized at first.
2. **A Piece of Cake:**
A task that can be accomplished very easily.
3. **A Leopard Can't Change His Spots:**
You cannot change who you are.
4. **Add Fuel To The Fire:**
Whenever something is done to make a bad situation even worse than it is.
5. **Against The Clock:**
Rushed and short on time.
6. **All Bark And No Bite:**
When someone is threatening and/or aggressive but not willing to engage in a fight



- 7. All In The Same Boat:
When everyone is facing the same challenges.
- 8. An Arm And A Leg:
Very expensive. A large amount of money.
- 9. Apple of My Eye:
Someone who is cherished above all others.
- 10. As High As A Kite:
Anything that is high up in the sky.
- 11. A Taste Of Your Own Medicine:
When you are mistreated the same way you mistreat others.

- 12. A Slap on the Wrist:
A very mild punishment.

- 13. Beat A Dead Horse:
To force an issue that has already ended.

- 14. Beating Around The Bush:
Avoiding the main topic. Not speaking directly about the

- 15. Bend Over Backwards:
Do whatever it takes to help. Willing to do anything.

- 16. Between A Rock And A Hard Place:
Stuck between two very bad options.

- 17. Bite Off More Than You Can Chew:
To take on a task that is way to big.

- 18. Bite Your Tongue:
To avoid talking.

- 19. Blood Is Thicker Than Water:
The family bond is closer than anything else.

- 20. Blue Moon:
A rare event or occurrence.

- 21. Cock and Bull Story:
An unbelievable tale.

- 22. Cross Your Fingers:
To hope that something happens the way you want it to

- 23. Cry Over Spilt Milk:
When you complain about a loss from the past.

- 24. Cry Wolf:
Intentionally raise a false alarm.

- 25. Curiosity Killed The Cat:
Being Inquisitive can lead you into a dangerous situation.

- 26. Devil's Advocate:
Someone who takes a position for the sake of argument without believing in that particular side of the



argument. It can also mean one who presents a counter argument for a position they do believe in, to another debater.

27. Don't count your chickens before they hatch:

Don't rely on it until your sure of it.

28. Drastic Times Call For Drastic Measures:

When you are extremely desperate you need to take extremely desperate actions.

29. Drink like a fish:

To drink very heavily.

30. Cock and Bull Story:

An unbelievable tale.



10. Homophones:

In linguistics, a homonym is one of a group of words that share the same spelling and the same pronunciation but have different meanings. This usually happens as a result of the two words having different origins. The state of being a homonym is called homonymy.

A homophone is a word that is pronounced the same as another word but differs in meaning. The words may be spelled the same, such as rose (flower) and rose (past tense of "rise"), or differently, such as carat, caret, and carrot, or to, two and too.

All homonyms are homophones because they sound the same. However, not all homophones are homonyms. Homophones with different spellings are not homonyms.

Some common examples of homophones, including the words used in a sentence, are:

- **brake/break:** When teaching my daughter how to drive, I told her if she didn't hit the *brake* in time she would *break* the car's side mirror.
- **cell/sell:** If you *sell* drugs, you will get arrested and end up in a prison *cell*.
- **cent/scent:** I won't spend one *cent* on a bottle of perfume until I know that I love the *scent*.
- **die/dye:** If you accidentally drank a bottle of fabric *dye*, you might *die*.
- **flour/flower:** To bake a *flower*-shaped cake, you'll need some *flour*.
- **for/four:** I purchased *four* new pairs of shoes *for* my upcoming vacation.
- **heal/heel:** If the *heel* breaks on your shoe, you might fall. However, your injuries will *heal* over time.
- **hear/here:** I wanted to sit *here* so I could *hear* the singer performing without any distractions.
- **hour/our:** We have one *hour* before *our* appointment with the real estate agent.

- **idle/idol:** Being *idle* makes me unhappy, but listening to my *idol* Taylor Swift makes me happy.
- **knight/night:** The *knight* is on his way to the castle, but traveling at *night* is very dangerous.
- **knot/not:** I do *not* know how she learned to tie the *knot* to make that necklace.
- **poor/pour:** I pour drinks at a bar every night. I am poor because I have too many bills and not enough money.
- **right/write:** There is no right way to write a great novel.
- **sea/see:** At my beach house, I love to wake up and see the sea.
- **sole/soul:** I need to get a new sole put on my favorite pair of running shoes. Jogging is good for my soul.
- **son/sun:** My son is 13 years old. He likes to spend time outside in the sun.
- **steal/steel:** Someone who decides to steal a car has committed a crime, but auto parts are made of steel.
- **tail/tale:** My cat was crazily chasing his tail while I read a fairy tale to my children.
- **weather/whether:** I don't know whether to bring a jacket or not. The weather looks unpredictable today.
- **accept/except:** Accept is a [verb](#) that means to take or receive. Except is used as a [preposition](#) or [conjunction](#) to mean but or exclude.
- **affect/effect:** Affect is a verb (in most cases) and indicates influence. Effect is a [noun](#) (in most cases) and is the result of an action or change.
- **compliment/complement:** Compliment means to say something nice about someone or something. Complement means something that enhances or completes.
- **then/than:** Then is a versatile word used as an [adverb](#), noun or [adjective](#) to show the order of how things happened. Than is a [subordinating conjunction](#) you can use to make comparisons.
- **to/too:** To can be a preposition or infinitive when used with a verb. Too is an adverb or a synonym for also.

you're/your: You're is a contraction for you are. Your is a pronoun.

SAMPLE QUESTIONS

A. Fill in the blanks with suitable article from the options given below.(Q 1,2)

Q1. -----Tower of London is -----popular tourist place. (Ans. a)

- (a) The/a (b) an/the (c) A/an (d) The/the

Q2. Where is----- video game I gave you yesterday? (Ans. c)

- (a) an (b) a (c) the (d) no article

B.Fill in the blanks with the most suitable option.

Q3. They regularly----- cricket in the evening. (Ans. b)

- (a)played (b) play (c) playing (d) will play

C.Fill in the blanks with the suitable passive verb forms from the options given below.

Q4 English ----- all over the world. (Ans. c)

- (a) is speak (b) is (c) is spoken(d) None of these

D. Fill in the blanks by choosing the correctly spelt word from the options given below.

Q5. The -----is very pleasant. (Ans. c)

- (a)whether (b)weather (c) weather (d)wether

Ans. Then he or she decides what kind of treatment is needed.

E. Choose the odd one out.

Q6. (a) gloves (b)socks (c) stockings (d) raincoat (Ans. d)

Q7. (a) harmonium (b) guitar (c) flute (d) piano (Ans. c)

F. Correct the sentence by choosing the correct option for the underlined word/phrase. (Q8, 9, 10)

Q8. They are waiting for her since morning. (Ans.a)

- (a) have been waiting (b) were waiting (c)wait (d) is waiting

Q9. No sooner had he entered the police station when the SHO began to beat him.(Ans.a)

- (a) than (b) before (c) since (d) if

Q10. The greater the demand, higher the price. (Ans.c)

- (a) high (b) the high (c) the higher (d) highest

G. Find the suitable synonym for the underlined word in the sentence from the given options.

Q11. i. It is very difficult to understand a foreign language. **(Ans. b)**

- (a) simple (b) challenging (c) tricky (d) easy

H. The parts of each sentence have been jumbled and marked as P,Q,R,S. Rearrange the parts to form a correct sentence and select the option accordingly. (Q 12, 13)

Q12. everyone (P)/follow (Q)/should(R)/traffic rules(S) **(Ans.. b)**

- (a) P R S Q (b) P R Q S (c) R P S Q (d) None of these

Q13. want me (P)/ at the airport (Q)/ do you (R) /to see you off (S) **(Ans.b)**

- (a) Q P R S (b) R P S Q (c) Q R P S (d) R S Q P

I. In the questions given below, select the option which is punctuated accurately. (Q 14, 15)

Q14(a) She didn't hear childrens cries. **(Ans. b)**

- (b) She didn't hear children's cries.
(c) She didn't hear children cries.
(d) She didn't hear childrens cries.

Q15. (a) The dogs bark was far worse than it's bite. **(Ans. c)**

- (b) The dog's bark was far worse than it's bite.
(c) The dog's bark was far worse than its bite.
(d) The dogs bark was far worse than it's bite.

I. Choose the alternative which best expresses the meaning of the given idiom / phrase.

16. **To put two and two together**

- (d) to bear the brunt of
(e) to conclude from obvious fact
(f) to put off
(g) to put on a false appearance

Ans : b

17. **To read between the lines**

- (a) to suspect

- (b) to read carefully
- (c) to understand the hidden meaning of the word
- (d) to do useless things

Ans: c

18. **To leave no stone unturned**

- (a) to keep clean and tidy
- (b) to try utmost
- (c) to work enthusiastically
- (d) to change the things

Ans : b

19. **Through thick and thin**

- (a) big and small
- (b) large object
- (c) under all conditions
- (d) thin and fat

Ans : c

20. **To be born with a silver spoon in one's mouth**

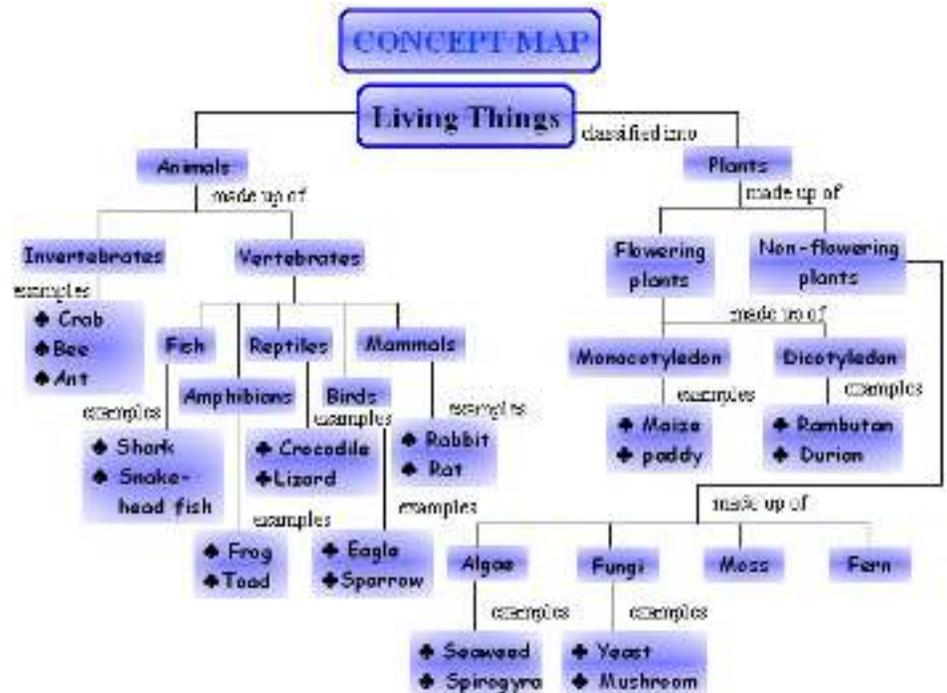
- (a) to be born in a rich home
- (b) to be born in jeweller 's home
- (c) to be a first born child
- (d) to be fed milk with a silver spoon

Ans : a

EVS and GK

LIVING WORLD

- Living things are called organisms including plants, animals and human beings. The organisms get everything from environment in order to survive.
- The characteristics shared by every living organism on this planet are: Are made of cells • Are organized on different levels • Use energy (metabolism) • Reproduce • Maintain stable internal conditions (homeostasis) • Have inherited traits (heredity)
- Animals and plants respond to things in their environment and many can adapt in order to survive. All living things grow and develop. However, there are living organisms that do not move, such as coral, and there are many nonliving things to do move, such as a car and clouds. The study of organisms interacting with their environment is the science of ecology.
- Some more common characteristics



are movement, response to the environment, growth and development.

- All living organisms are classified into groups based on very basic, shared characteristics. Organisms within each group are then further divided into smaller groups. These smaller groups are based on more detailed similarities within each larger group. This grouping system makes it easier for scientists to study certain groups of organisms. Characteristics such as appearance, reproduction, mobility, and functionality are just a few ways in which living organisms are grouped together. These specialized groups are collectively called the classification of living things.

LOCOMOTORY SYSTEMS OF HUMANS:

- Locomotion means movement of an organism from one place to another. Various organisms have different organs for their movement and these are called locomotory organs. The coordination for the movement in our body is done by skeletal system, muscular system and nervous system.

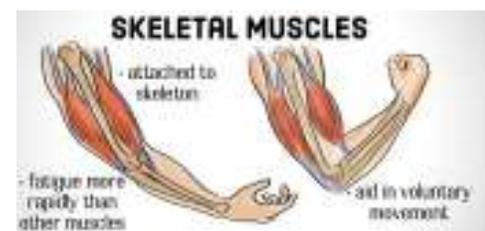
A) Skeletal System:

- The skeletal system in humans is the mineralized internal framework and scaffolding of the body consisting of bones, joints and associated cartilages. An adult human has 206 bones in their body and variety of different joints.
- From our head to our toes, bones provide support for our bodies and help form our shape. The skull protects the brain and forms the shape of our face. The spinal cord, a pathway for messages between the brain and the body, is protected by the backbone, or spinal column.
- The ribs form a cage that shelters the heart, lungs, liver, and spleen, and the pelvis helps protect the bladder, intestines, and in women, the reproductive organs.
- Three bones in the inner ear, called malleus, incus and stapes, the smallest bone in the human body. The thigh bone or femur, is the largest bone.
- Newborn babies have about 300 bones. Many of these bones fuse together to form the 206 bones of the adult.
- Joints are formed when bones meet each other.
- Bones are made up of calcium, phosphorus, sodium, and other minerals, as well as the protein collagen.
- The **six types** of freely movable joint include ball and socket, saddle, hinge, condyloid, pivot and gliding.



B) Muscular system:

- Our human body consists of more than 600 muscles which help us move our limbs and even help other internal organs in their functional movements.
- There are two types of muscles...voluntary muscles and involuntary muscles. Voluntary muscles act according to our wish. Examples-Muscles of arms and legs. Involuntary muscles are those which do not act according to



our wish.Examples-Muscles of heart, stomach and brain.

C) **Nervous system :**

- The brain is the most complex part of the human body. It is the center of consciousness and also controls all voluntary and involuntary movements and bodily functions. It communicates with each part of the body through the nervous system, a network of channels that carry electrochemical signals.
- The organs of nervous system are brain, spinal cord and nerves.
- Your brain makes your muscles move by sending tiny electrical signals to them through your nerves. Neurons are the nerve cells that are really long and are all bunched together. Those really long neurons each send a small electrical shock to your muscles, which makes them move, moving your body.
- The brain and spinal cord are inside your skull and vertebrae (the vertebrae make up your backbone). These bones protect the Central Nervous System when you get into accidents.



FOOD SOURCES AND DEFICIENCY DISEASES:

- Our body requires different types of essential nutrients for the normal growth , development and preventing diseases. These essential nutrients include both micronutrients and macronutrients.
- Micronutrients are the group of nutrients which are required in trace amounts as it cannot be produced naturally by our body.
- Macronutrients are the group of nutrients which are required by the body in large amounts for body building, growth and energy.
- The inadequacy of these nutrients lead to a variety of deficiency diseases.

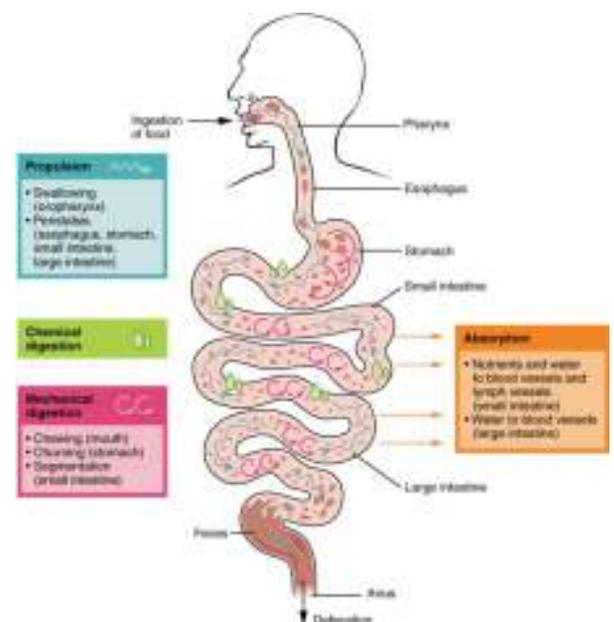
Here is the list of all essential nutrients, their sources, and their deficiency.

Nutrients	Food Sources	Deficiency Diseases
Carbohydrates	Cereal, whole grains, legumes, potatoes, cheese, pasta, etc.	Hypoglycaemia and Ketoacidosis.
Proteins	Almonds, eggs, chicken, yogurt, cottage cheese, oats, seafood, beans and pulses, milk and other dairy products.	Kwashiorkor and Marasmus.
Iodine	Eggs, nuts, bread, seaweed, dairy products, and iodized table salt.	Goitre, (swollen gland in throat) Hypothyroidism.
Iron	Green leafy vegetables,meat,fish,eggs, beans, Pulses, dry fruits and whole grains.	Anaemia
Calcium	Dates, spinach, almonds, soyabeans eggs, beans, lentils milk, and all other dairy products.	Muscle spasms, low bone density, and Hypocalcaemia.

Sodium	Onions, cabbage, sweet potato, broccoli, pumpkin seeds, eggs and milk	Gastrointestinal Distress, the Improper functioning of nerves and muscles.
Phosphorous	Milk, yogurt, soy products, beans, whole grain food products, potatoes, peas, etc.	Weak bones and muscles, joint pains, nervous system disorders, obesity, etc.
Vitamin – A	Green leafy vegetables, yellow colored fruits, milk, nuts, tomatoes, carrots, broccoli, etc.	Night Blindness and other vision problems.
Vitamin -B	Whole-grain foods, legumes eggs, green leafy vegetables milk and milk products, etc.	Beriberi.
Vitamin -C	Citrus fruits, broccoli, milk, and chestnuts.	Gum bleeding and Scurvy.
Vitamin -D	Fish, liver, egg yolks, cheese, citrus fruit juices, soy milk, cereals, etc.	Improper growth of bones and Rickets.
Vitamin -E	Potatoes, turnip, pumpkin, avocado, guava, olives, mango, olives, milk, nuts, seeds etc.	Heart problems and Haemolysis.
Vitamin -K	Tomatoes, chestnuts, broccoli, beef, cashew nuts, lamb, mangoes, etc.	Haemorrhage.

LIFE PROCESS:

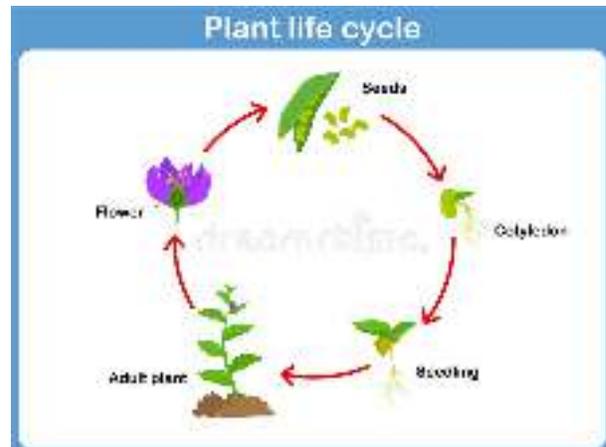
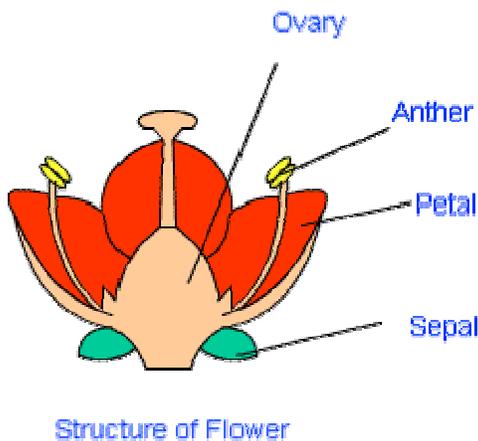
- Various functions carried out by living beings within their bodies to survive are called life processes.
- They are movement, reproduction, sensitivity, nutrition, excretion, respiration and growth and reproduction.
- Different life processes of an organism, like growth and maintenance, require energy which is obtained from food by a process called nutrition. Different organisms have varied nutritional processes depending on their environment and specific food requirements.
- Here we are going to refer about process of digestion in humans and types of reproduction in plants and animals.
- **Digestion:** The process of breaking down of complex component of food into simpler substances is called digestion.
- The process of digestion begins from the mouth and is completed in the small intestine. When we consume food, it travels from our mouth and reaches our stomach through a long tube called as an alimentary canal or the gastrointestinal tract.
- During the movement of food particles from mouth to the stomach and to the small intestine, it gets digested gradually as they travel through various compartments of the gastrointestinal tract. The process of digestion begins from the mouth cavity and ends in the anus.
- The food undergoes many chemical reactions in our body during the process of digestion.



- *There are special proteins in our cells that make things happen very fast. These special proteins are called **enzymes** and their job is to speed up chemical reactions.*
- *Few enzymes help us to digest the food we eat. For example, salivary amylase is an enzyme found in saliva, which is the fluid in your mouth. This enzyme helps break down carbohydrates. When you eat a carbohydrate, like a potato, salivary amylase breaks the bonds that hold the carbohydrate together.*
- *As the bits of potato continue to move through your digestive tract, they get broken down by even more enzymes until they are small enough to get absorbed by your body.*

Reproduction: All living things produce young ones like themselves so that life on Earth can continue.

- The process by which plants and animals produce their young ones (offsprings) is called reproduction.
- There are two major classifications, **sexual** and **asexual** reproductions. Each has its own advantages and disadvantages and each is appropriate for different species, humans are almost exclusively sexual in their reproduction. Many simpler animals are asexual.
- In the case of animals two types of methods are there for reproducing young ones.
- *Plants also reproduce in both sexual and asexual methods. The asexual reproduction of plants is also called vegetative reproduction. Plants are capable of producing from their vegetative parts like stem, leaves and roots.*
- *The reproductive part of the plant is flower. It has both the male part (anther) and the female part (ovary) in it*



- The ovary of the flower develops into a fruit while ovules develop into seeds. Within the seed, the growing embryo develops and matures into a new plant.

• **ADAPTATIONS IN PLANTS AND ANIMALS:**

A natural process by which plants and animals adjust to the surroundings is called adaptation.

Terrestrial plants: a. In Mountains: The trees are tall and straight. The branches often slope downwards for the snow to fall off easily. They have needle like leaves with a waxy coating. It helps to prevent loss of water and allows rain or snow to slide off easily.

Terrestrial Plants

2. Plants on Mountains

- These plants are usually tall, straight and have a cone shape.
- They are flowerless
- They have cones with seeds inside them.
- Leaves of these plants are needle-like
- Have a waxy coating to prevent any damage from snow.
- Example: Pine, Deodar and Fir



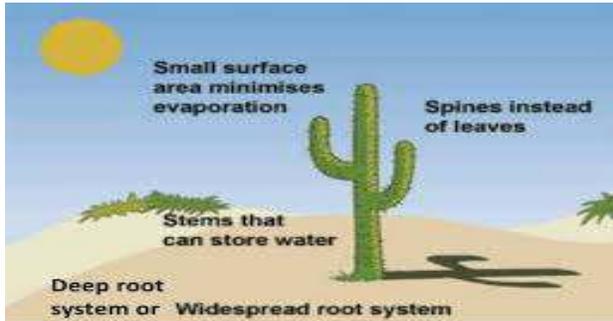
Firs

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REFLECTIVE

b. In Plains: The trees which grow in hot areas have lots of branches and leaves. Deciduous trees shed all their leaves at the same time once in a year. Example: Peepal, Banyan, Neem etc. Evergreen trees grow in hot and damp places, with a lot of rainfall. Example : Rubber, pepper etc.

c. In Deserts: Most desert plants have very few leaves with a waxy coating. In some plants the leaves are modified into spines. The spines prevent loss of water and protect the plants from animals.



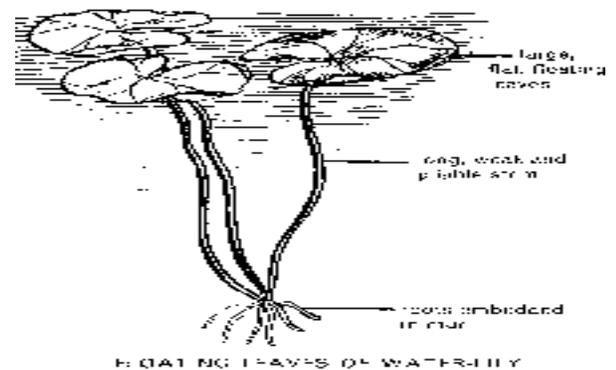
d. Marshy Areas: Plants of marshy areas have breathing roots which grow out of the soil to breathe.

Aquatic Plants:

a. Floating Plants: Plants like water hyacinth float on water. These plants are spongy and filled with air.

b. Fixed Plants: Some plants like lotus and water lily have roots that fix the plant to the bottom of the pond. Their stems are hollow and have air spaces.

c. Underwater Plants: Plants like hydrilla grow under water and are completely submerged. The leaves and stems are thin and flexible. This allows them to move with water currents.



ADAPTATIONS IN ANIMALS:

a. Terrestrial Animals: These are the animals which live on land. They have lungs to breathe, but insects have spiracles instead. Well developed sense organ is also present.

Animals which live on forests and grasslands have strong legs to run fast.

Animals like horses and cows have toes in the form of hoofs to move on soft and wet land.

Burrowing animals have sharp claws to dig the ground.

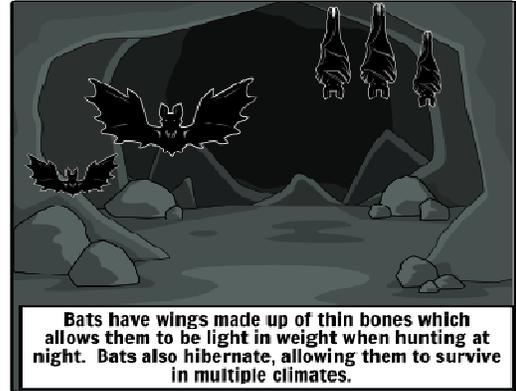
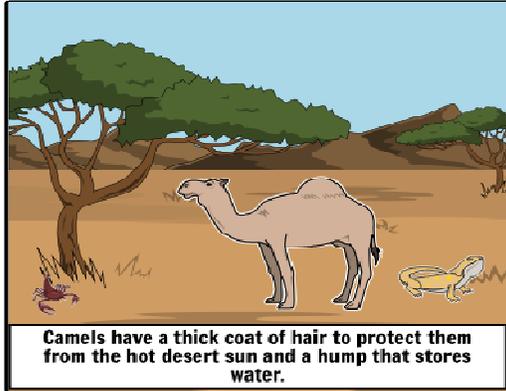
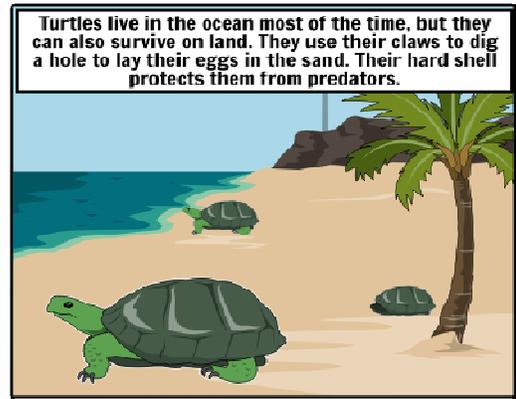
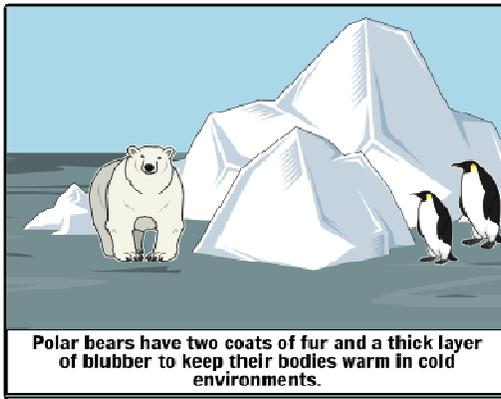
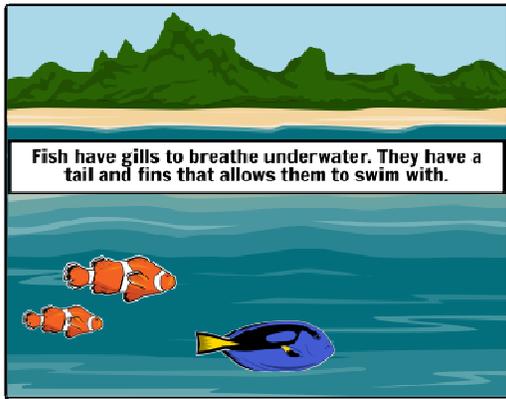
Animals which live in mountains have thick coat of hair to protect against severe cold.

Desert animals like camels have extra food and water changed into fat and stored in hump.

Some animals mimic the colour of their surroundings to protect from enemies. It is called camouflage.

Example Polar Bear.

Birds fly as their bones are hollow and light.



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Abbreviations and Acronyms.

<u>Sl.</u>	<u>Short form</u>	<u>Full form</u>
1.	AICTE	All India Council Of Technical Education.
2.	ASEAN	Association Of South East Asian Nations.
3.	BARC	Bhabha Atomic Research Centre.
4.	BHEL	Bharat Heavy Electricals Ltd.
5.	BIMSTEC	Bangladesh, India, Myanmar, Srilanka, Thailand Economic Cooperation
6.	CAG	Comptroller and Auditor General Of India.
7.	CBDT	Central Board Of Direct Taxes.
8.	DNA	Deoxyribo-nucliec Acid
9.	DTP	Desktop Publishing
10.	FIR	First Information Report
11.	GATE	Graduate Aptitude Test in Engineering
12.	GSLV	Geo-Synchronous Satellite Launch Vehicle

13.	GSM	Global System for Mobile Communications
14.	IPC	Indian Penal Code
15.	LASER	Light Amplification by Stimulated Emmission of Radiation
16.	NABARD	National Bank for Agriculture and Rural Development.
17.	NATO	North Atlantic Treaty Organization.
18.	ONGC	Oil and Natural Gas Corporation.
19.	SEBI	Securities and Exchange Board of India.
20.	WWW	World Wide Web

Books and Authors

<u>Sl.</u>	<u>Book</u>	<u>Author</u>
1.	Akbarnama	Abul Fazal
2.	Chitra	Rabindra Nath Tagore
3.	Gitanjali	Rabindra Nath Tagore
4.	Godan	Prem Chand
5.	Guide	R K Narayan
6.	Hamlet	William Shakespare
7.	Harvest	Manjula Padmanabhan
8.	Jungle Book	Rudyard Kipling
9.	Saket	Maithili Sharan Gupta
10.	The Dairy of a Young Girl	Anne Frank

Important dates and days

<u>Sl.</u>	<u>Days</u>	<u>Event</u>
1.	January 30	Martyr's Day
2.	March 22	World Day for Water
3.	April 7	World Health Day

4.	April 22	Earth Day
5.	July 11	World Population Day
6.	August 29	National Sports Day
7.	September 15	Engineer's Day
8.	September 27	World Tourism Day
9.	October 9	World Post Day
10	October 16	World Food Day

Important awards and honors.

<u>Sl.</u>	<u>Awards</u>	<u>Concerned Field</u>
1.	Bhartaiya Jnanpith Award	Literary Award for Indian Languages
2.	Sahitya Akademi Award	Outstanding Literary Contribution
3.	Saraswati Samman	Outstanding Literary Contribution
4.	Kalinga Prize	Popularising Science
5.	Dada Saheb Phalke Award	Film
6.	Tulsi Samman	Traditional and folk arts.
7.	Arjuna Award	Sports
8.	Dronacharya Award	Coaches to different games
9.	Booker Prize	Novels in English
10	Roman Magsaysay Award	Outstanding Contribution to Public Services.

Scientific Instruments and Uses

Some of the important scientific instruments are listed below.

<u>Sl.</u>	<u>Instruments</u>	<u>Uses</u>
1.	Altimeter	In aircraft to measure altitude.
2.	Ammeter	Electric current.
3.	Audiometer	Intensity of sound
4.	Barometer	Atmospheric pressure
5.	Cardiogram	Tracing movement of heart
6.	Dynamo	Mechanical energy to electrical energy

7.	Galvanometer	Small current
8.	Hydrometer	Specific gravity of liquids
9.	Lactometer	Purity of milk
10	Odometer	Electric or mechanical vibrations
11.	Rain gauge	Rainfall at a place
12.	Stethoscope	Movements and condition of heart and lungs.
13.	Telescope	To view distant objects.
14	Transformer	High voltage to low voltage and vice-versa.
15.	Xylophone	Musical instruments with tuned wooden bars of different dimensions.

Sample Questions

1. The study of organisms interacting with their environment is the science of
a) Physiology b) ecology c) geology d) social studies **Ans: b**

2. These are inside our skull and vertebrae
a) Kidney and heart b) lungs and heart c) stomach and kidneys d) brain and spinal cord **Ans: d**

3. The type of signals that are carried by network of channels through which the brain communicates with the body parts are
a) Electrochemical b) chemical c) electrical d) physical **Ans: a**

4. In the process of digestion the breaking down of food components is from
a) Complex to simple b) simple to complex c) simple to simple d) complex to complex **Ans: a**

5. The job of enzymes is to _____ the chemical reactions
a) Speed up b) stop c) slow down d) react with **Ans: a**

6. Which type of animal is a dog?
a) Oviparous b) viviparous c) both d) none **Ans: b**

7. The type of reproduction through which the plants are capable of producing new plants from leaves, root and stem is called
a) Sexual reproduction b) growth c) vegetative reproduction d) plant movement **Ans: c**

8. The sexually reproducing part of the plant is
a) Stem b) leaf c) root d) flower **Ans: d**

9. The gastrointestinal tract or digestive tract of humans starts from
a) Food pipe to large intestine b) mouth to stomach c) liver to anus d) mouth to anus **Ans: d**

10. The group of nutrients that are required by the body in large amounts are
a) Macro nutrients b) mixed nutrients c) trace elements b) micro nutrients **Ans: a**

11. Our bones are made up of by these minerals

- a) Iron and iodine b) iron and phosphorous c) iodine and calcium d) calcium and phosphorous

Ans: d

12. Deficiency of the vitamin A in our body leads to

- a) Night blindness b) rickets c) Scurvy d) Beriberi

Ans: a

13. The moon is Earth's

- a) Artificial satellite b) orbit c) natural satellite d) star

Ans: c

14. Any natural body outside the Earth's atmosphere is called

- a) Geographical body b) celestial body c) biological object d) aquatic body

Ans: b

15. The largest bone in our body is

- a) Collar bone b) rib cage c) hip bone d)Thigh bone or Femur

Ans :d

16. Which of the following award is given for contribution in public services?

- a) Kalinga Prize b). Lata Mangeshkar Prize
c). Booker Prize d). Roman Magsaysay Award

Ans: d

17. Which Day is celebrated as World Health Day?

- a). 30 January b). 1 April
c) 7 August d). 7 April

Ans: d
