
SCIENCE

1 The process of taking in food and utilizing it for the growth and development is known as

- [A] Nutrient [B] Nutrition
[C] Ingredient [D] None of these
-

2 A paste of food item was taken in a test-tube and to it was added a few drops of copper sulphate solution followed by caustic soda solution. A violet colour was observed in the test-tube after few minutes. It shown the presence of which one of the following components in the food sample?

- [A] Protein [B] Carbohydrates
[C] Fats [D] None of these
-

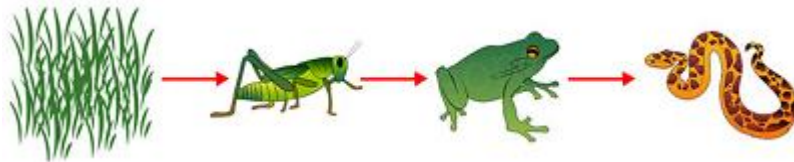
3 Select the process that plays an important role in bringing water back to the earth.

- [A] Evaporation [B] Condensation
[C] Transpiration [D] None of these
-

4 Select the correct statement from the following.

- [A] The planet earth is surrounded by a thin layer of air.
[B] The thin layer of air that surrounds the earth extends only up to two kilometres below the surface of earth
[C] Thin layer of air that surrounds earth is no importance for living beings
[D] All of the above
-

5 A food chain comprising of a snake, grass, frog and insect, the secondary consumer is



- [A] Grass [B] Grasshopper
[C] Frog [D] Snake
-

6 *Read the following statement of assertion and statement of reason carefully and select correct option.*

Assertion: Deer has strong teeth and long ears.

Reason: The speed of deer helps them to run away from prey.

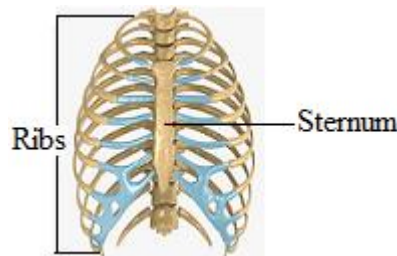
- [A] Assertion is true and Reason is false
[B] Assertion is false and Reason is true
[C] Both Assertion and Reason are true and Reason is the correct explanation of Assertion
[D] Both Assertion and Reason are true and Reason is not the correct explanation of Assertion
-

7 Which of the following is CORRECT about the function of fats in our body?

- [A] They are sources of energy
- [B] They are sources of essential fatty acids
- [C] Both the above
- [D] None of the above

8 The part of human skeleton shown in the figure below protects which of the following

- [A] Heart
- [B] Lungs
- [C] Wind pipe
- [D] All of these



9 Energy flows through the food chain from

- [A] Producers to consumers to decomposers
- [B] Producers to secondary consumers to primary consumers
- [C] Decomposers to consumers to producers
- [D] Secondary consumers to producers

10 Which of the following processes release energy?

- [A] Excretion
- [B] Respiration
- [C] Digestion
- [D] Circulation

11 Which of the following is the first wholly synthetic fibre?

- [A] Teflon
- [B] Wool
- [C] Rayon
- [D] Nylon

12 An object is made from a material that is hard and shiny and that can be hammered into thin sheets.

Which of these is another likely property of the material?

- [A] It dissolves in water
- [B] It has a low boiling point
- [C] It is a good conductor of heat
- [D] Its density is less than that of water

Questions 13 to 16: Read the following passage and answer the questions that follow.

Anything that occupies space and has mass is called matter. Matter can exist in any one of three physical states- Solid, Liquid, or Gas.

Matter exists in nature in the form of Chemical substances. Chemical classification separates matter into two categories – Pure substances and Mixtures. Pure substances are divided into elements and compounds. An element is a pure substance which cannot be broken down into anything by chemical methods. Each element is different from another element.

A compound is a pure substance made up of two or more elements chemically bonded together in a fixed proportion by weight. A chemical compound can be decomposed into constituent elements by chemical methods. The properties of a chemical compound are entirely different from its constituent elements.

A mixture consists of two or more pure substances in any proportion. The constituents of a mixture are not chemically bonded and they retain their properties in the mixture. The components of a mixture can be separated by physical methods. Mixtures are classified into two categories. Mixtures having uniform composition throughout a given sample are called homogeneous mixtures and having a non-uniform composition are called heterogeneous mixtures.

13 The simplest form of a pure substance is

- [A] Ore [B] Atom
[C] Element [D] Compound

14 There are four substances, A, B, C and D. A and C are pure substances. They cannot be broken down into anything simpler by chemical methods. B consists of A and D, which are not chemically bonded together. D is a pure substance. We can decompose D into A and C using chemical methods.

Which of the following is correct in accordance with the information given above?

- [A] Substance D is a chemical compound
[B] Substances A, C and D are elements.
[C] The properties of substance B are different from the properties of substances A and D.
[D] The substance B is a mixture of two elements

15 Carbon dioxide is a compound whereas sea water is a mixture, because

- [A] Carbon dioxide is gas whereas sea water is a liquid.
[B] Carbon dioxide cannot be broken down into simpler substance whereas water can be.
[C] Carbon dioxide is tasteless whereas sea water is salty.
[D] Chemical method is required to break down carbon dioxide but sea water can be separated by physical methods.

16 Which of the following is always true for a homogeneous mixture?

- [A] The components are chemically combined
[B] The components are combined in fixed proportion by weight
[C] The composition is uniform throughout the mixture.
[D] The components cannot be separated by physical methods

17 Which of the following is the correct order of making cotton fabric from cotton ball?

- [A] Ginning → Weaving → Spinning
- [B] Spinning → Ginning → Weaving
- [C] Weaving → Ginning → Spinning
- [D] Ginning → Spinning → Weaving

18 In which property do iron, copper and aluminium differ from wood?

- [A] Appearance
- [B] solubility in water
- [C] Hardness
- [D] None of these

19 *Read the following statement of assertion and statement of reason carefully and select correct option.*

Assertion: Explosion of a bomb is an exothermic change

Reason: Large amount of heat energy is released during the explosion of bomb

- [A] Assertion is true and Reason is false
- [B] Assertion is false and Reason is true
- [C] Both Assertion and Reason are true and Reason is the correct explanation of Assertion
- [D] Both Assertion and Reason are true and Reason is not the correct explanation of Assertion

20 Melting of ice is an example of

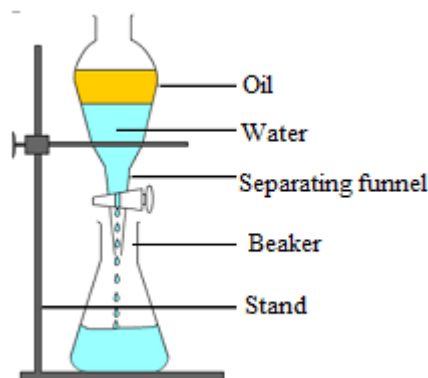
- [A] An exothermic reaction
- [B] An endothermic reaction
- [C] A chemical combination
- [D] A chemical decomposition

21 A substance **X** has fixed shape and volume. If heated, it loses its shape but not volume. What is **X**?

- [A] Solid
- [B] Liquid
- [C] Gas
- [D] None of these

22 Carefully observe the diagram given below and identify the process of separation involved.

- [A] Sedimentation
- [B] Filtration
- [C] Decantation
- [D] Distillation



23 When three substances X, Y and Z were heated, X changed directly into gas, Y started burning and Z melted.

Which of the following statement is TRUE regarding the above experiment?

- [A] X and Y undergo chemical changes that are fast
- [B] Only Y undergoes a chemical change
- [C] Y and Z undergo fast chemical change
- [D] Only X undergoes physical change

24 A pure substance is one which

- [A] Has uniform texture throughout
- [B] Has a fixed boiling point or melting point
- [C] Is made up of only one type of particles
- [D] All of the above

25 Cream is separated from milk by

- [A] Evaporation
- [B] Coagulation
- [C] Distillation
- [D] Centrifugation

26 The length of a planet's day is defined by its:

- [A] Mass.
- [B] Period of rotation.
- [C] Density.
- [D] Period of revolution.

27 Select the one that is different from the others

- [A] Motion of a child on a swing
- [B] Motion of pendulum of clock
- [C] Motion of a rolling ball
- [D] Motion of strings of guitar being played

28 When a screw is turned, its motion is

- [A] Rotatory & circular
- [B] Translatory & curvilinear
- [C] Translatory & periodic
- [D] Rotatory & translatory

29 When the two terminals of a cell are connected directly with a wire, then

- [A] More electrical energy is stored in the cell
- [B] The chemicals get used up very fast
- [C] No current flows
- [D] The cell explodes

30 *Read the following statement of assertion and statement of reason carefully and select correct option.*

Assertion: Motion of moon around the earth is a circular motion

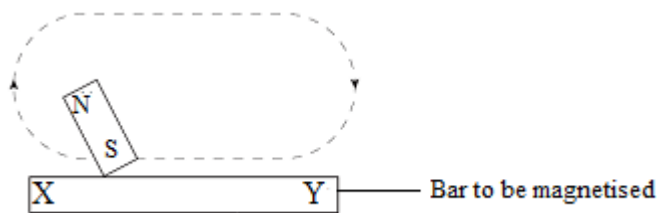
Reason: In a circular motion, the distance of object from a fixed point remains the same

- [A] Assertion is true and Reason is false
- [B] Assertion is false and Reason is true
- [C] Both Assertion and Reason are true and Reason is the correct explanation of Assertion
- [D] Both Assertion and Reason are true and Reason is not the correct explanation of Assertion

31 Pressure is directly proportional to

- [A] Density
- [B] Height or Depth
- [C] Acceleration due to gravity
- [D] All of the above

32 Arjun made a magnet using the *stroking method* as shown below



He started stroking the iron nail at Y with a magnet and continued stroking in the direction shown. What poles does A and B represent?

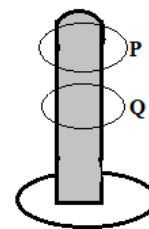
	X	Y
[A]	North pole	South pole
[B]	North pole	North pole
[C]	South pole	North pole
[D]	South pole	South pole

33 An image is formed on a screen when

- [A] A transparent object is placed between the screen and the source of light
- [B] An opaque object is placed between the screen and the source of light
- [C] Both the above are correct
- [D] None of the above is correct

34 Why is the ring magnet **P** floating on ring magnet **Q** in the given figure?

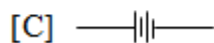
- [A] Magnet P is lighter as compared to magnet Q
- [B] Magnet Q is more powerful as compared to magnet P
- [C] Like poles of magnets P and Q are facing each other
- [D] Unlike poles of magnets P and Q are facing each other



35 The water cycle is the earth's way of

- [A] Getting rid of water
- [B] Recycling water
- [C] Using up all of our water
- [D] Cleaning our water

36 Which of the following is a correct representation of an electric cell?



[D] Both (A) & (B)

37 A plane mirror is in front of you in which you can see your image. It is approaching towards you at a speed of 10cm/sec, then at what speed will your image approach you?

- [A] 10 cm/sec
- [B] 5 cm/sec
- [C] 20 cm/sec
- [D] 15cm/sec

38 When we touch a book and iron rod, both at the same temperature, we feel that the iron rod is colder. This is because

- [A] Paper is a good conductor of heat
- [B] Paper is a bad insulator of heat
- [C] Iron is a good conductor of electricity
- [D] Iron is a good conductor of heat

39 When two magnets are stored with North pole alongside the North pole of the other magnet for a long time, then its

- [A] Magnetic property increases
- [B] Magnetic property decreases
- [C] Magnetic property remains same
- [D] None of the above

40 Read the following three statements carefully and choose the correct option

STATEMENT 1: The length of the shadow formed by sunlight remains constant with time

STATEMENT 2: The speed of light in air is 3×10^8 m/s

STATEMENT 3: Speed of light remains same in all medium

- [A] All the three statements are correct
- [B] All the three statements are incorrect
- [C] Statements (1) & (3) are incorrect while statement (2) is correct
- [D] Statements (1) & (2) are incorrect while (3) is correct

LOGICAL REASONING

41 Find the odd one out

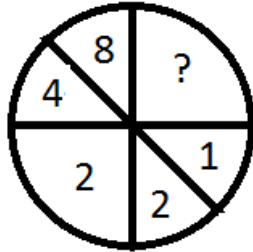
[A] Nurse

[B] Doctor

[C] Teacher

[D] Pharmacist

42 Select the missing number.



[A] 32

[B] 18

[C] 16

[D] 14

43 Mumtaz started the number pattern below

479, 476, 473, 470, ____, ____, ____

Which number could NOT be part of this pattern? Mark your answer.

[A] 464

[B] 467

[C] 466

[D] 461

44 ₹1000 is to be divided among A, B and C so that A gets twice as B and B gets thrice as C. The share of C will be

[A] 600

[B] 300

[C] 200

[D] 100

45 Students placed two identical toy cars on these wooden ramps. The students let the cars roll down the ramps.



This experiment most likely test:

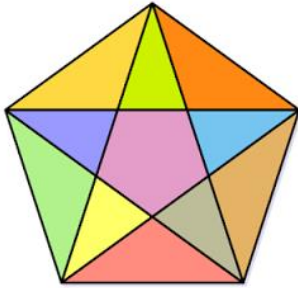
[A] Ramps made of wood make cars roll faster

[B] The height of the ramp affects the speed of the car

[C] The speed of the car is determined by tire size

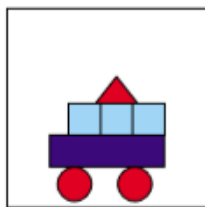
[D] Plastic cars travel faster than metal cars

46 How many triangles are there in the following figure?



- [A] 35
- [B] 25
- [C] 53
- [D] 37

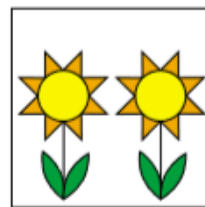
47 Which picture has 3 squares and 2 circles in it?



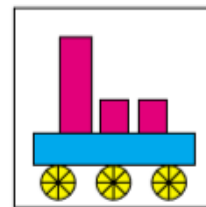
[A]



[B]



[C]



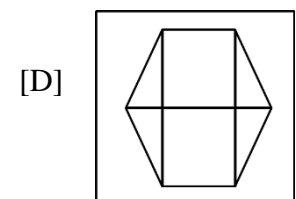
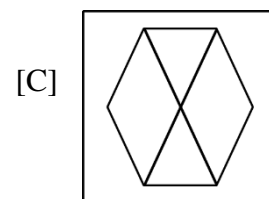
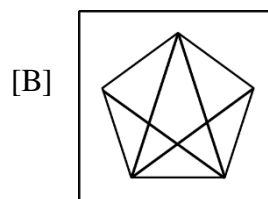
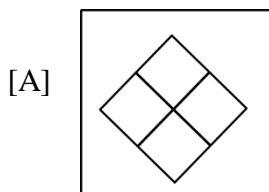
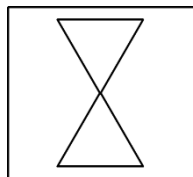
[D]

48 Insert missing number:

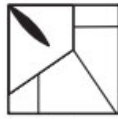
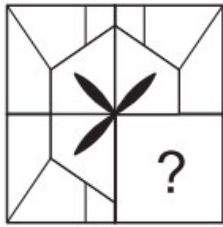
31	13	32	23	33
93	39	?	69	99

- [A] 94
- [B] 66
- [C] 98
- [D] 96

49 Choose the option in which the given figure is embedded:



50 Replace the question mark:



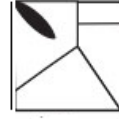
[A]



[B]



[C]



[D]

SPACE FOR ROUGH WORK