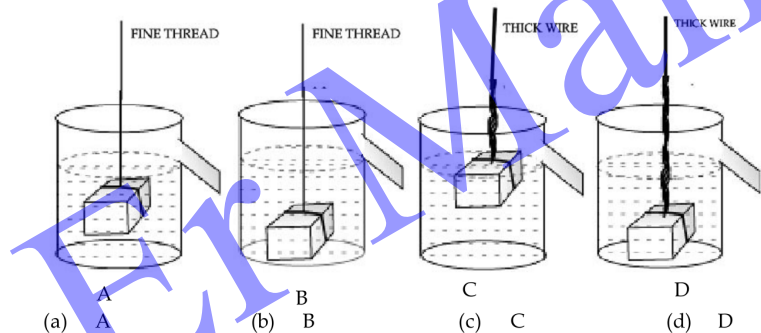


Section B (MCQs)

25. Needle like leaves are the characteristics of :
(a) Moss (b) Fern (c) Pinus (d) Mustard
26. The characteristic not common between bony fish and pigeon is -
(a) Vertebral Column (b) Streamlined body
(c) Warm blooded (d) Lay eggs
27. The body of a cockroach is divided into :
(a) thorax and abdomen (b) head, wings and legs
(c) head, abdomen and tail (d) head, thorax and abdomen
28. Earthworm mainly feeds on :
(a) dried leaves (b) soil rich in humus
(c) small insects (d) plant sap
29. The highest evolved among the following are :
(a) Thallophytes (b) Bryophytes
(c) Gymnosperms (d) Angiosperms
30. Pick the odd one out.
(a) Cockroach (b) Annelida (c) Arthropoda (d) Compound eyes
31. The mass of a solid iron cube of side 3 cm is to be determined using a spring balance. If the density of iron is approximately 8.5 g cm^{-3} , the best suited spring balance for determining weight of the solid would be of :
(a) Range 0 - 250 gwt ; Least count 1 gwt
(b) Range 0 - 250 gwt ; Least count 5 gwt
(c) Range 0 - 1000 gwt ; Least count 5 gwt
(d) Range 0 - 1000 gwt ; Least count 10 gwt
32. The correct set up shown for an experiment to establish relationship between loss in weight of an immersed solid with the weight of water displaced by it is :



9th CBSE Science

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Mega Test - 1

TIME : 3 Hrs

9th CBSE Science

MM : 90

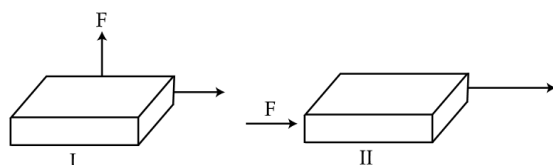
GENERAL INSTRUCTIONS

- The question paper comprises of two sections, A and B. You are to attempt both the sections.
- All questions are compulsory.
- There is no overall choice. However, internal choice has been provided in all the five questions of five marks category. Only one option in such questions is to be attempted.
- All questions of section A and all questions of section B are to be attempted separately.
- Questions 1 to 3 in section A are one mark questions. These are to be answered in one word or in one sentence.
- Questions 4 to 7 in section A are two marks questions. These are to be answered in about 30 words each.
- Questions 8 to 19 in section A are three marks questions. These are to be answered in about 50 words each.
- Questions 20 to 24 in section A are five marks questions. These are to be answered in about 70 words each.
- Questions 25 to 42 in section B are multiple choice questions based on practical skills. Each question is a one mark question. You are to select one most appropriate response out of the four provided to you.

Section A

- Define atomic mass unit.
 - A flowering plant whose embryo possesses single cotyledon (Give scientific term)
 - A unicellular, eukaryotic aquatic organism (Name the kingdom)
- Name the carbon compounds responsible for causing ozone hole in the atmosphere.
- Which organisms are called primitive ? How are they different from the advanced organisms ?
- Why are antibiotics effective against bacteria but not against viruses ?
 - Why does a block of wood held under water rise to the surface when released ?
 - An object of weight 200 N is floating in a liquid. What is the magnitude of buoyant force acting on it ?

7. In each of the following a force F , is acting on an object of mass m . The direction of displacement is from west to east shown by longer arrow. Observe the diagrams carefully and state whether work done by force is -ve,+ve or 0.



8. (a) What is the law of constant proportions ? Explain with the help of an example.
 (b) Which postulate of Dalton's atomic theory is in agreement with this law ?
9. If K and L shells of an atom are full, then what would be the total number of electrons in the atom ? What is the valency of this element ?
10. State **two main** postulates of Thomson's model of an atom.
11. List three groups of plants. Which plants are referred to as vascular plants ? Out of these which group is further classified on the basis of number of cotyledon ? State its two characteristics.
12. (i) What are vertebrates ?
 (ii) Name four sub groups of vertebrates.
13. What will be the symptoms of a disease if the target organs are :
 (i) lungs
 (ii) liver
 (iii) brain
14. (a) A floating boat displaces water weighing 6000 N.
 (i) What is the buoyant force on the boat.
 (ii) What is the weight of the boat.
 (b) What happens to the buoyant force as more and more volume of a solid object is immersed in a liquid.
15. (a) The potential energy of a freely falling object decreases progressively. Does this violate the law of conservation of energy ? Why ?
 (b) An object is dropped from a height h . When is its
 (i) potential energy maximum
 (ii) kinetic energy maximum
16. Calculate the electricity bill amount for a month of April, if 4 bulbs of 40W for 5hrs, 4 tube lights of 60W for 5hrs, a T.V of 100W for 6hrs, a washing machine of 400W for 3hrs are used per day. The cost per unit is Rs 1.80.
17. Write any three differences between transverse and longitudinal wave.
18. What causes Acid rain ? Mention any damage caused by it on living organism.
19. (a) Why does moon have very cold and very hot temperature variations i.e from -190°C to 110°C even though it is at the same distance from the sun as earth ?
 (b) Why does Mathura refinery pose problem to the Taj Mahal ?
20. When 3.0 g of carbon is burnt in 8.0 g of oxygen, 11.0 g of carbon dioxide is produced. What mass of carbon dioxide will be formed when 3.0 g of carbon is burnt in 50.00 g of oxygen ? Which law of chemical combination will govern your answer ? State the law.

Or

Using criss cross method, write the chemical formula of Copper Chloride, Calcium Sulphate, Sodium Phosphate.

21. (I)
 Differentiate between the following , giving one main point of difference .
 (a) Gymnosperm and Angiosperm
 (b) Diploblastic and Triploblastic animals
 (c) Dicotyledons and Monocotyledons.
 (II)
 Who proposed the five kingdom classification ? What is the basis of this classification ?

OR

- (I)
 (a) What are the two adaptive features of birds ?
 (b) What is the scientific name of ostrich ?
 (II)
 To which group do the following organism belong and give one reason for each.

(a) Cyanobacteria (b) Euglena (c) Ulothrix

22. Define work, energy and power. Give the SI units for each of these quantities. A man whose mass is 80 kg climbs up 30 steps of the stairs in 30 s. If each step is 12.5 cm in height, calculate the power used in climbing the stairs. ($g = 10 \text{ m/s}^2$)

OR

- (a) Define the S.I unit of power.
 (b) Establish a relationship between S.I unit and commercial unit of energy.
 (c) A car of weight 20000 N climbs up a hill at a steady speed of 8 m/s gaining a height of 120 m in 100 s

Calculate ;

- (i) work done by the car.
 (ii) power of engine of car.

23. (a) How do our ears permit us to receive the sound ?
 (b) Explain the structure and working of human ear with labelled diagram.

OR

- (a) Mention two practical applications of reflection of sound waves.
 (b) How is the pressure variation in a sound wave amplified in human ear ?
 (c) In a ripple tank, ten ripples are produced per second. If the distance between a trough and a neighbouring crest is 12 cm, calculate the frequency, wavelength and velocity of the wave.

24. (a) What percentage of elemental form of oxygen is found in earth's atmosphere and by which process oxygen is returned back to the atmosphere
 (b) What are the two forms of oxygen found in atmosphere.
 (c) Represent oxygen cycle that is operating in nature diagrammatically.

OR

How do clouds formed in the sky ? Draw the biogeochemical cycle involved in it. What are the different states in which water is found the water cycle ?

- (b) Concentrate into a powerful beam
 (c) Have multiple reflections and prevent spreading of sound
 (d) None of these

39. A pulse was created in a stretched string of length 5 m by four students A, B, C and D. They observed that the pulse returned after reflection at the point of creation 5 times in 10 seconds and calculated the speed as given in the table below.

Student	A	B	C	D
Speed m/s	0.5	2.5	5	10

The student who has reported the speed correctly is :

- (a) A (b) B (c) C (d) D
40. Sound waves can travel :
- (a) in a material medium only
 (b) in vacuum only
 (c) in vacuum as well as in a material medium
 (d) neither in vacuum nor in material medium
41. A student noted down the following precautions for the experiment "To verify the law of conservation of mass in a chemical reaction."
- The spring balance should be held vertical while in use.
 - Before making use of the spring balance it must be ensured that its pointer is at zero mark.
 - The reading of the balance should be noted only when its pointer comes to rest.
 - Mixing of two solutions be done quickly.
 - Chemical reaction should be exothermic.

The precautions which need modifications are

- a. I and II (b) II and III
 c. III and IV (d) IV and V
42. For the verification of the law of conservation of mass in a chemical reaction four students A, B, C and D performed the following reactions.

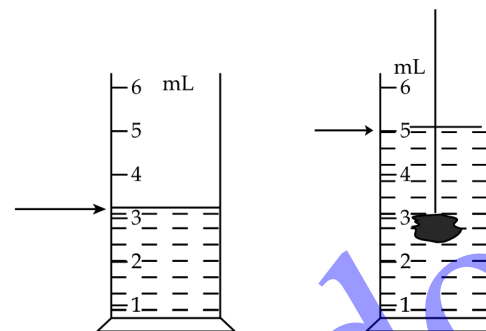
- (A) Added calcium oxide to water.
 (B) Heated ferrous sulphate crystals in a test tube.
 (C) Dipped iron nails in copper sulphate solution.
 (D) Added barium chloride (aq) to sodium sulphate (aq)

The student who is likely to get best results is

- (a) A (b) B
 (c) C (d) D

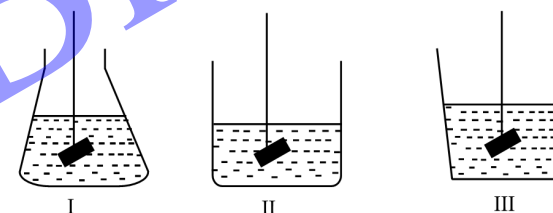


33. Observe the figure below :



The volume of stone immersed in the liquid is :

- (a) 1 mL (b) 2 mL (c) 3 mL (d) 5 mL
34. An object weighing 5 N in air, weighs 4.5 N in a liquid. The buoyant force experienced by the object is :
- (a) 5/4.5 N (b) 4.5/5 N (c) 0.5 N (d) (5+4.5) N
35. A body is weighed in liquid by immersing it fully in each of the three containers shown. The apparent weight of the solid will be :



- (a) Least in I (b) Least in II (c) Least in III (d) Equal in all
36. To observe and compare the pressure exerted by three different faces of a cuboid on sand, the following Cuboid is available to you :
- (A) wooden cuboid of dimension 20 cm × 30 cm × 50 cm
 (B) aluminium cuboid of dimension 3 cm × 6 cm × 12 cm
 (C) Iron cuboid of dimensions 5 cm × 10 cm × 15 cm
 (D) Iron cuboid of dimensions 20 cm × 30 cm × 50 cm
- The best choice from the practical point of view would be :
- (a) A (b) B (c) C (d) D
37. For studying the reflection of sound, the best reflector out of the following would be :
- (a) A thermocole sheet (b) A cushioned sheet
 (c) A polished metallic sheet (d) A thick and rough curtain
38. Narrow tubes are used in the verification of laws of reflection of sound. The narrow tubes are used because they make sound waves to :
- (a) Move in a straight line