

CBSE Class 9 Science Sample Paper

SUBJECT: SCIENCE

CLASS : IX

MAX. MARKS : 80

DURATION : 3 HRS

General Instructions:

1. The question paper comprises of five sections – A, B, C, D and E. You are to attempt all the sections.
 2. All questions are compulsory.
 3. Internal choice is given in sections B, C, D and E.
 4. Question numbers 1 and 2 in **Section-A** are one mark questions. They are to be answered in one word or in one sentence.
 5. Question numbers 3 to 5 in **Section- B** are two marks questions. These are to be answered in about 30 words each.
 6. Question numbers 6 to 15 in **Section-C** are three marks questions. These are to be answered in about 50 words each.
 7. Question numbers 16 to 21 in **Section-D** are 5 marks questions. These are to be answered in about 70 words each.
 8. Question numbers 22 to 27 in **Section- E** are based on practical skills. Each question is a two marks question. These are to be answered in brief.
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SECTION – A

1. Draw a displacement-time graph for a body moving with uniform velocity.
2. Identify the kind of energy possessed by a running athlete.

SECTION – B

3. (a) What are concentrates in animal feed?
(b) Name two internal parasites that cause diseases in animals?

OR

What is mixed farming? How does it help a farmer?

4. Name the abiotic factors responsible for the damage of food grains during storage.
5. (a) State the principle on which the working of a hydrometer is based.
(b) A sharp knife is more effective than a blunt knife. Why?

SECTION – C

6. (a) Which is greater, the attraction of the earth for 1 kg of iron or the attraction of 1 kg iron for the earth? Why?
(b) A boy throws a ball vertically upwards and catches it back in 10 s. Calculate
(i) the velocity with which it was thrown up and
(ii) maximum height attained by the ball. (Take $g = 10 \text{ m/s}^2$)
7. A circular track has a circumference of 3140 m with AB as one of its diameter. A scooterist moves from A to B along the circular path with a uniform speed of 10 m/s. Find
(a) distance covered by the scooterist,
(b) displacement of the scooterist, and
(c) time taken by the scooterist in reaching from A to B.

8. How are Phanerogamae divided into sub-divisions?

OR

What is the difference between plasma membrane and cell wall? Give the functions of each one.

9. Navin travels along a straight road 500 m long and returns back 100 m. Find his average speed and average velocity if he takes a time of half an hour.

OR

The brakes applied to a car produce an acceleration of 6 m/s^2 in the opposite direction to the motion. If the car takes 2 s to stop after the application of brakes, calculate the distance it travels during this time.

10. (a) Write two points of difference between nuclear region of a bacterial cell and nuclear region of an animal cell.
(b) Which structure present in the nuclear region of a living cell bear genes?
11. (a) Why are liquids and gases called fluids?
(b) Why are aquatic species more comfortable in cold water than hot water?
(c) Why do we feel more cold after taking bath with hot Water than cold water?
12. List any three properties on the basis of which a colloidal solution can be differentiated from true solution and suspension.

OR

An atom of an element has 7 electrons in its L shell.

- (a) What is its atomic number? (b) State its valency. (c) Identify the element.
13. (a) What is meant by saturated solution?
(b) Calculate mass of glucose to be dissolved to prepare 200 g of 5% solution of glucose by mass.
14. Ayushman was watching his favourite TV show on a Sunday morning when his mother was cooking food. His mother noticed that the garbage bin had become full and asked Ayushman to empty the content in the public garbage bin. Since the public bin was located little far, Ayushman emptied all the content of this bin in the drain just in front of his house and rushed back home to watch his favourite TV show. His friend Aryaman who was disposing garbage at the public bin, noticed the act of Ayushman. He therefore went to meet Ayushman and explained him the problems, the society may face due the his way of garbage disposal.
(a) Whose act of disposal of garbage is appreciable. Ayushman or Aryaman?
(b) What problem can Ayushman's way of disposal of garbage do to the society?
15. (a) What is soil erosion? Give two methods of reducing it.
(b) Name two biologically important compounds that contain both oxygen and nitrogen.

SECTION – D

16. (a) While verifying the law of conservation of mass, a student carried out a reaction between sodium chloride and silver nitrate in a conical flask. Name the compound which will form as precipitate.
(b) Define formula unit mass of a compound. Calculate the formula unit mass of the following compound:
(i) $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ (ii) CuSO_4 [At. mass of Na = 23, C = 12, O = 16, Cu = 63.5, S = 32 u]
(c) What is meant by unified mass.

OR

- (a) State one similarity and one difference between evaporation and boiling.
(b) Account for the following:
(i) We wear cotton clothes in summer.
(ii) A wet handkerchief is placed on the forehead of a person suffering from high fever.
(iii) Wet clothes dry slowly during rainy season.
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17. (a) Why was gold foil chosen by Rutherford instead of any other metal?
(b) An ion M^{2+} contains 10 electrons and 12 neutrons. What is its atomic number and mass number of element M?
(c) What do you understand by valence electrons?
(d) Define isotopes. State two properties of isotopes.

18. (a) Name the property of bodies to resist a change in their velocity.
(b) What is the relationship between force and acceleration?
(c) What name is given to the product of mass and velocity of a body?
(d) Which physical quantity corresponds to the rate of change of momentum?
(e) Name the principle on which a rocket works.

OR

- (a) The stone is dropped from a tower of 500 m height into a pond of water at the base of the tower. When is the splash heard at the top? (given $g = 10 \text{ m/s}^2$ and speed of sound = 340 m/s)
(b) How do the sound waves cause vibrations in the eardrum of human ear?

19. (a) What do you mean by acceleration due to gravity?
(b) Prove that acceleration due to gravity is independent of mass of the falling body.
(c) List two differences between 'G' and 'g'.

20. Differentiate between striated, unstriated and cardiac muscles on the basis of their structure and site location in the body.

21. State the conditions responsible for the spread of malaria and measures to prevent and control it.

OR

A person is suffering from chest pain, breathlessness, loss of body weight, persistent cough and produces blood stained sputum.

- (a) Name the disease and its causative agent.
(b) Mention two means of its transmission.
(c) Name the vaccine used to prevent this disease.
(d) Who discovered the causative agent of disease?

SECTION – E

22. What happens when magnesium ribbon burns in air? Write the nature of product formed. How will you test it.

OR

What mass of sodium sulphate will react with 5.22 g of Barium chloride to produce 6.10 g of sodium chloride and 2.8 g of barium sulphate? Name the law which govern your answer. Write the balanced chemical equation.

23. Give one precaution for each in determining melting and boiling point of water.

24. On what factors does buoyant force exerted by a fluid depend and how?

25. State the laws of reflection of sound.

OR

“The disturbance created by a source of sound in the medium travels through the medium and not the particles of the medium.” Justify this statement.

26. Give any two characteristics of bony fish on the basis of which it is placed in class Pisces.

OR

Give the main differences between Bryophyta and Pteridophyta.

27. Give any two points of differences between dicot and monocot plants.
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