

Bhavan's Tripura Vidyamandir

Pre-Board Test : (2024-2025)

Class:- 9

Time:- 2 hrs

Subject:-Science

Total :- 50 Marks

Name of the student :

Roll:

Section:

GENERAL INSTRUCTIONS

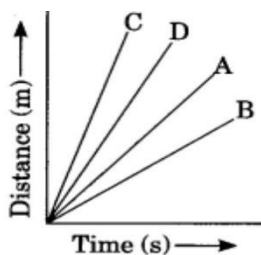
1. There are 26 questions in this question paper with internal choices.
2. SECTION A consists of 14 multiple choice questions carrying 1 mark each.
3. SECTION B consists of 6 very short answer questions carrying 2 marks each.
4. SECTION C consists of 3 short answer questions carrying 3 marks each.
5. SECTION D consists of 3 long answer questions carrying 5 marks each.
6. All questions are compulsory.

SECTION A

(Select and write the most appropriate option out of the four options given for each of the questions 1 - 14. There is no negative mark for incorrect response.)

1. In the compound NaCl the valency of Cl is 1 then what will be the valency of Na?
a) 2
b) 1
c) 3
d) 4
2. The ratio by mass of the combining elements in Carbon dioxide is
a) Oxygen & hydrogen with 14:3
b) Carbon & oxygen with 3:8
c) Hydrogen & carbon with 1:8
d) Carbon & nitrogen with 11:8
3. The change of gaseous state directly to solid state without going through liquid state is
a) Decomposition
b) Evaporation
c) Condensation
d) Deposition
4. Brass is an alloy of-
a) 30% zinc & 70% chromium
b) 30% copper & 70% zinc
c) 40% zinc & 60% Iron
d) 30% zinc & 70% copper
5. Identify as homogeneous mixture among them-
a) Tincture of iodine
b) Milk
c) Saw dust & water
d) All of these
6. Which one of the following includes only micronutrients:
a) Iron, copper, manganese
b) Iron, zinc, calcium
c) Molybdenum, copper, Sulphur
d) Boron, copper, potassium
7. Which method involves growing two or more crops in a definite pattern?
a) Crop rotation
b) Mixed cropping
c) Intercropping
d) Organic cropping.
8. Which one of the following is not an example of weeds?
a) Parthenium
b) Xanthium
c) Motha
d) Lobia.
9. Choose the correctly matched pair.
a) Inner lining of salivary ducts - Ciliated epithelium
b) Moist surface of buccal cavity - Glandular epithelium
c) lining of kidney tubules- Cuboidal epithelium
d) Inner surface of bronchioles - squamous epithelium

10. Four cars A, B, C and D are moving on a levelled road. Their distance versus time graphs are shown in the adjacent figure.



Choose the correct statement.

- | | |
|---------------------------------|---------------------------|
| (a) Car A is faster than car D. | (b) Car B is the slowest. |
| (c) Car D is faster than car C. | (d) Car C is the slowest. |
11. When a person jumps from a boat to the shore, the boat moves backward due to:
- | | |
|---------------------------|-------------------------|
| (a) Action-reaction force | (b) Gravitational force |
| (c) Frictional force | (d) Buoyant force |
12. The ball is thrown up, the value of 'g' will be
- | | |
|--------------|----------------|
| (a) Zero | (b) positive |
| (c) negative | (d) negligible |
13. A body of mass 1kg is attracted by the earth with a force which is equal to
- | | |
|----------|---------------------------|
| (a) 9.8N | (b) 6.67×10^{11} |
| (c) 1 N | (d) 9.8m/s |
14. If the angle between force and displacement is 90° , then work done is:
- | | |
|-------------|--------------|
| (a) Maximum | (b) Minimum |
| (c) Zero | (d) Negative |

SECTION B

15. To make a saturated solution, 36 g of sodium chloride is dissolved in 150 g of water at 293 K. Find its concentration at this temperature. (2)
16. Write down the chemical formula of the following compounds:- (0.5×4=2)
- | | |
|-----------------------|-------------------------|
| a. Calcium sulphate | b. Copper nitrate |
| c. Magnesium chloride | d. Carbon tetrachloride |
17. State any two differences between tendon and ligament.
18. How do biotic and abiotic factors affect crop production?
19. Why does an object float or sink when placed on the surface of water?
20. What do you mean by positive and negative acceleration?

SECTION C

21. Mix and crush iron filings and sulphur powder. Heat this mixture strongly till red hot. Write down the name of the compound formed after cooling down. Mention two differences between mixture & compound. (1+2)

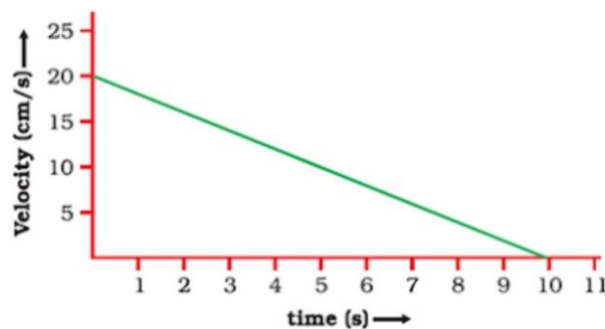
Or,

- | | |
|--|---------|
| (a) Calculate the relative molecular mass of water (H_2O). | |
| (b) Calculate the molecular mass of H_2SO_4 | |
| (c) Two examples of polyatomic ions. | (1+1+1) |
22. What is genetic manipulation? How is it useful in agricultural practices? (1.5+1.5)

Or,

Name the two organelles that contain their own genetic material. What would happen if the plasma membrane ruptures? (1+2)

23. The velocity-time graph of a ball of mass 20 g moving along a straight line on a long table is given in fig.



How much force does the table exert on the ball to bring it to rest? (3)

Or,

A 8000 kg engine pulls a train of 5 wagons, each of 2000 kg, along a horizontal track. If the engine exerts a force of 40000 N and the track offers a friction force of 5000 N, then calculate:

(a) the net accelerating force and

(b) the acceleration of the train. (1.5+1.5)

SECTION D

24. Give the names of the elements present in the following compounds.

- Caustic soda
- Hydrogen bromide
- Baking powder
- Potassium sulphate.

Write down three important points of Dalton's atomic theory. (0.5×4=2)+3

Or,

Write down the differences between homogeneous mixture and heterogeneous mixture.

When 3.0 g of carbon is burnt in 8.00 g oxygen, 11.00 g of carbon dioxide is produced. What mass of carbon dioxide will be formed when 3.00 g of carbon is burnt in 150.00 g of oxygen? Which law of chemical combination will govern your answer. (3+2)

25. Dinesh has been cultivating wheat crops year after year in the same field. Recently, he observed a decline in the yield despite the best inputs. Even he observed infections in the crops. One of his friends suggested him to sow soybeans for one year or two years before again using the field for wheat crops.

- Which types of crops are wheat and soybean? (1)
- What are the possible causes for declining in the yield of wheat crops? (2)
- What are the reasons behind the suggestion? (2)

Or,

- Differentiate between parenchyma, collenchyma, and sclerenchyma based on their cell wall (three points each). (3)
- Draw a labeled diagram of phloem tissue and its parts. (2)

26. Find the expression for kinetic energy. A rocket is moving up with velocity v . If the velocity of the rocket is tripled, what will be the ratio of kinetic energies? (3+2)

Or,

State and prove work energy theorem. If energy is neither created nor destroyed, then from where do we get energy? (1+3+1)