

Roll No Candidates must write the Set No.
on the title page of the answer book.

DAV PUBLIC SCHOOLS, ODISHA ZONE-1
PERIODIC TEST – II, 2017-18

- Check that this question paper contains 5 printed pages.
- Set number given on the right hand side of the question paper should be written on the title page of the answer book by the candidate.
- Check that this question paper contains 27 questions.
- Write down Serial Number of the question paper before attempting it.
- 15 minutes cooling time has been allotted to read the question paper only and don't write any answer on the answer book during this period.

CLASS-IX

SUB: SCIENCE

Time: 3Hrs

Maximum Marks: 80

General Instructions:

1. The question paper comprises of two sections, A and B. You are to attempt both the sections.
2. All questions are compulsory.
3. All questions of section A and all Questions of section B are to be attempt separately.
4. Question numbers 1 and 2 in section A are 1 mark questions. These are to be answered in one word or one sentence.
5. Question numbers 3 to 5 in section A are 2 mark questions. These are to be answered in about 30 words each.
6. Question numbers 6 to 15 in section A are 3 mark questions. These are to be answered in about 50 words each.
7. Question numbers 16 to 21 in section A are 5 marks questions. These are to be answered in about 70 words each.
8. Question numbers 22 to 27 in section B are 2 marks questions based on practical skills.

SECTION - A

1. A glass jar containing air is inverted over another containing NO_2 gas which is brown in colour and heavier than air. After sometime brown colour is seen in the inverted glass jar too. Identify the phenomenon associated with this observation. [1]

2. Which crop is generally grown between two cereal crops to restore the fertility of soil? [1]
3. Two identical bullets are fired one by one by a light rifle and another by a heavy rifle with the same force. Which rifle will hurt the shoulder more and why? [2]
4. The weight of any person on the moon is about $\frac{1}{6}$ times that on the earth. He can lift a mass of 15kg on the earth. What will be the maximum mass, which can be lifted by the same force applied by the person on the moon? [2]
5. A ball is gently dropped from a height of 20m. If its velocity increases uniformly at the rate of 10m/s^2 , with what velocity will it strike the ground? [2]
6. (a) Define average speed. [1]
(b) A bus travels a distance of 120 km with a speed of 40 km/h and returns with a speed of 30 km/h. calculate the average speed for the entire journey. [2]
7. Explain the followings briefly. [3]
(a) A cricket ball causes much severe injury than a tennis ball on hitting a spectator.
(b) An applied unbalanced force causes a change in momentum
(c) A greater force is required to impart greater velocity on an object.
8. A 8000 kg engine pulls a train of 5 wagons, each of 2000kg along a horizontal track. If the engine exerts a force of 40,000 N and the track offers a frictional force of 5000 N, then calculate: [3]
(a) the net accelerating force
(b) the acceleration of the train
(c) the force of wagon 1 on wagon 2.
9. Name the technique (s) to separate: [3]
i) Butter and Curd ii) Salt from Sea water iii) Oil from water
iv) Kerosene and Petrol v) Tea leaves from tea
vi) Different pigments from an extract of leaves
10. With the help of a labelled diagram, describe an activity to show that particles of matter are very small. Use the following materials that have been provided to you. 4 beakers, spatula, 4 test tubes, distilled water and few crystals of Potassium Permanganate. [3]

11. Give two reasons to justify the following observations: [3]

- (a) Water at room temperature is a liquid.
- (b) An iron almirah is solid at room temperature.
- (c) Naphthalene balls disappear with time without leaving any solid.

Or

Define evaporation. Explain how the following factors affect the rate of evaporation of a liquid.

- (a) temperature of the liquid
- (b) surface area
- (c) humidity
- (d) increase in wind speed

12. Explain composite fish culture with the help of example [3]

Or

Name three different types of blood cells and give their functions.

13. Explain the ways by which crop-production can be increased? [3]

14. Your father bought few fruits from the market and asked everyday to wash it properly before eating. Your sister was in a hurry and hence she ate an apple without washing it. [3]

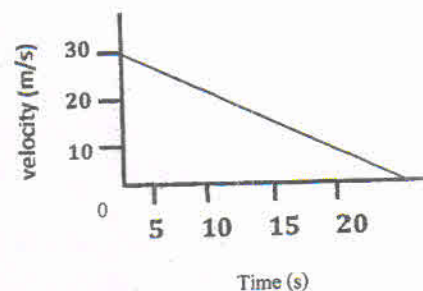
- (a) Why did your father ask to wash the fruits before eating?
- (b) List the constituents of the phloem. What will happen if the phloem at the base of a branch is removed
- (c) Should the government ban pesticide?

15. State three differences between cell wall and cell membrane. [3]

16. (a) State the law that provides the formula for measuring force. [2]

(b) Velocity- time graph of a 50 g marble rolling on floor is given below. Find [3]

- (i) time in which it stops
- (ii) negative acceleration produced in it
- (iii) positive force acting on the marble



Or

State and prove law of conservation of linear momentum.

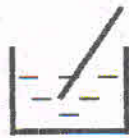
17. (a) Differentiate between acceleration due to gravity and Universal gravitational constant. [2]
 (b) Derive a relation between g and G . [2]
 (b) State Universal law of Gravitation. [1]
- 18 (a) You are given a mixture of Sodium Chloride and ammonium chloride. Name and define the technique, which can be used to obtain ammonium chloride from the above mixture [2]
 (b) Draw a neat well-labelled diagram of the above process. [3]
19. (i) Why is it not possible to distinguish particles of a solute from the solvent in solution? [2]
 (ii) To make a saturated solution, 36g of NaCl is dissolved in 100g of water at 293K. Find its concentration at this temperature. [2]
 (iii) What is the effect of temperature on the solubility of a solid in liquid? [1]
20. (i) Define osmosis and mention its types. [2]
 (ii) What do you mean by diffusion? [1]
 (iii) How is osmosis different from diffusion? [2]
- Or
- (i) How does plasma membrane act as a semi permeable membrane? Explain. [3]
 (ii) What is membrane biogenesis? Explain. [2]
21. (a) Define meristematic tissue? Mention its location. [2]
 (b) Distinguish among voluntary, involuntary and cardiac muscle [3]

SECTION-B

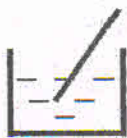
22. Define relative density of a substance. Relative density of silver is 10.8. The density of water is 1000 kg/m^3 . What is the density of silver in SI unit? [2]
23. A student prepared two solutions – a solution of salt and soil in water. Can you distinguish between the two on the basis of transparency and stability? Explain. [2]

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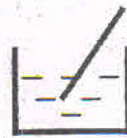
24. Four students A, B, C and D are asked to prepare colloidal solutions. The following diagrams show the preparation done by them. Name the student who will be able to prepare colloidal solution. Write one property of colloidal solution. [2]



A
Starch



B
Sugar



C
Salt



D
Egg albumin

25. What will happen if a mixture of iron fillings and sulphur is heated gently in a test tube? Write the name and colour of the product. [2]

26. Why is Parenchyma called as storing tissue? Mention its location. [2]

27. Sclerenchyma is a hard and dead tissue. Justify and where it is found? [2]

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