

## Class9 Science Sample Question Paper (07) 2017-18

Time allowed: 03 Hours

Science Class – IX

Maximum

Marks: 80

### SECTION — A

1. Give one reason to justify that water is a liquid at room temperature.
2. What are the products of bee keeping?
3. Write the chemical formulae of: (a) Aluminium hydroxide (b) Hydrogen sulphide
4. State Archimedes' principle. Explain the reason that a cork floats in the water whereas an iron nail sinks.
5. Two boys A and B do the same work in 5 minutes and 6 minutes respectively. Which of the two has more power and why?
6. Explain interconversion of three states of matter with the help of flow chart. Name the process of each interconversion.

**OR,**

You are given the following substances with their melting and boiling points.

Substance	Melting point ( $^{\circ}\text{C}$ )	Boiling point ( $^{\circ}\text{C}$ )
X	-219	-183
Y	119	445
Z	-15	78

Identify the physical states of X, Y and Z at room temperature ( $30^{\circ}\text{C}$ ).

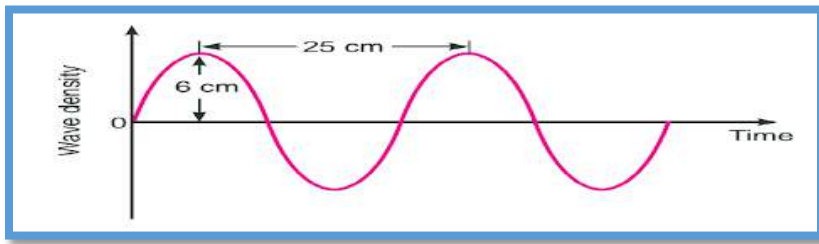
7. Differentiate between aerosol, emulsion and gel.
8. What is the fundamental unit of life? Who discovered it? How can they be observed?
9. Complete the given table:

Disease	Causative organism	Mode of transmission
Dengue fever	------(a)-----	------(b)-----
------(c)-----	Vibrio cholerae	Contaminated food and water
------(d)-----	HIV	------(e)-----

10. Neha swims in a 100 m long pool. She covers 200 m in one minute and forty seconds by swimming from one end to the other and back along the same straight path. Find the average speed and average velocity of Neha.

11. (a) Differentiate between gravitational constant 'C' and acceleration due to gravity 'g'
- (b) Is the force of gravity stronger on a piece of iron than on a piece of wood if both have the same mass?

12. Waves of frequency 150 Hz are produced in a string. Find the (a) wavelength, (b) amplitude and (c) velocity of the waves in SI units.



13. While driving in the countryside, Kapil saw square panels attached on the street lights along the road. He found out that these were photovoltaic solar panels which trapped solar energy and converted it to electrical energy to make the street lights function. He liked this idea so much that he got similar solar panels installed at his residence also. Answer the following questions based on the above information:

- In what respects is the installation of solar panels useful to Kapil?
- Which values is Kapil promoting by installing solar panels?
- How can Kapil promote similar values to other in the neighbourhood?

14. Explain why is there a change in the wind direction in coastal areas during the day and at night.

**OR,** How are CFCs harmful for the environment and living beings?

15. (a) Name the devices which are used for catching marine fish. (b) How is the yield of marine fish increased?

16. (a) Define Atomic Mass Unit. State how do atoms exist.

(b) The atomic mass of calcium is 40u. What will be the number of calcium atoms in 0.4u of calcium?

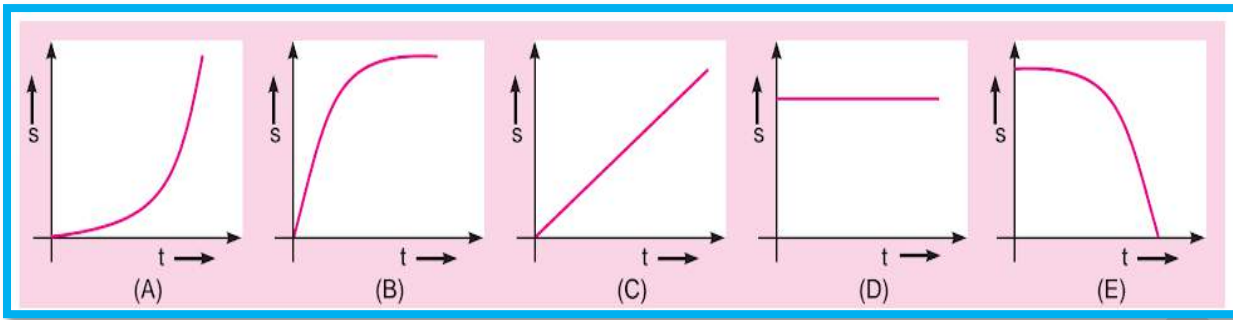
17. An atom of an element has 4 electrons in the outermost M shell. What will be the atomic number of this element? Name this element. Find the valency of this element. Draw a schematic diagram of its atom showing the distribution of electrons in its shells.

18. Name the tissue whose cells are highly specialised for being stimulated and then transmitting the stimulus from one place to another within the body. Mention three organs in our body which are composed of this tissue. What are the cells of this tissue called? Name two tissues in animals the combination of which enables animals to move rapidly in response to stimuli.

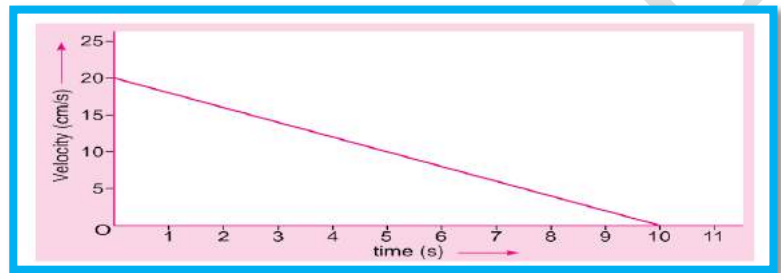
19. Identify the phylum of kingdom Animalia in which the animal has:

- A pseudocoelom
- A water-driven tube system
- Jointed legs
- Pores in the body leading to a canal system
- Notochord at some stages of their life.

20. Describe the nature of force acting in the given displacement-time graphs.



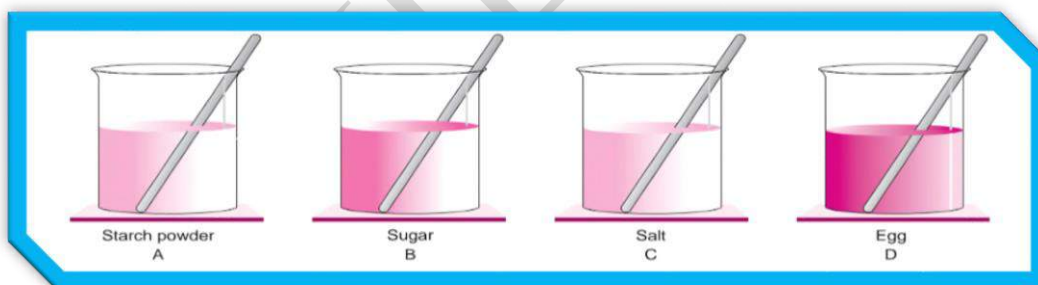
OR, The velocity-time graph of a ball of mass 20 g moving along a straight line on a long table is given in figure. How much force does the table exert on the ball to bring it to rest?



21. (a) Name two forms of mechanical energy. Define the SI unit of energy.  
 (b) A man of mass 50 kg jumps from a height of 0.5 m. If  $g = 10\text{m/s}^2$ , what will be his energy at the highest point? (c) Calculate the energy of a body of mass 20 kg moving with velocity of 0.1 m/s.

**SECTION—B**

22. For noting down the melting point of ice, state the correct method of taking the thermometer reading.  
 23. 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 solutions. Write two properties of colloidal solutions.



24. What are the features that best describe the cells of parenchyma?  
 25. State any two ways by which earthworm's body is adapted to live in soil.  
 26. Ryan while verifying the laws of reflection of sound measured the angle between the incident sound wave and reflected sound wave to be  $130^\circ$ . What is the angle of incidence?  
 27. If two balls made of iron and aluminium of equal volumes are immersed in a liquid, then will they experience equal up thrust? Justify your answer