CBSE Class 9 Science
Half Yearly Examination
SESSION 2017-2018

General Instructions:

- All the questions are compulsory.
- Draw a diagrams wherever necessary.
- Questions 1 to 2 are very short answer type questions and carry one mark each.
- Questions 3 to 5 are short answer type (I) question and carry two marks each.
- Questions 6 to 15 are Short Answer Question (type II) question and carry three marks each.
- Questions 16 to 21 are Long Answer Question and carry five marks each.
- Questions 22 to 27 are practical based Question and carry Two marks each.

1. Describe endoplasmic reticulum.
2. What is the name given to the product of mass and acceleration of a body?
3. Describe the difference between eukaryote and prokaryote.

OR

Explain the structure of neurons.

4. A train starting from rest attains a velocity of 72 km/hr is 5 min find the acceleration

OR

Distinguish between distance and displacement.

5. Convert the following temperature to the Celsius scale
   a. 300 K
   b. 573 K

OR

How will you bring about the following separation?

a. Fine mud particle floating in water.
b. Carbon particle present in smoke.

6. Draw a neat and labelled diagram of Xylem and Phloem.

OR

Explain the different types of permanent tissues.

7. How plant tissues differ from animal tissues? Write the differences in tabular form.

OR

How does a substance like CO2 and H2O move in and out of the cell?

8. Explain the different types of meristematic tissues.

OR

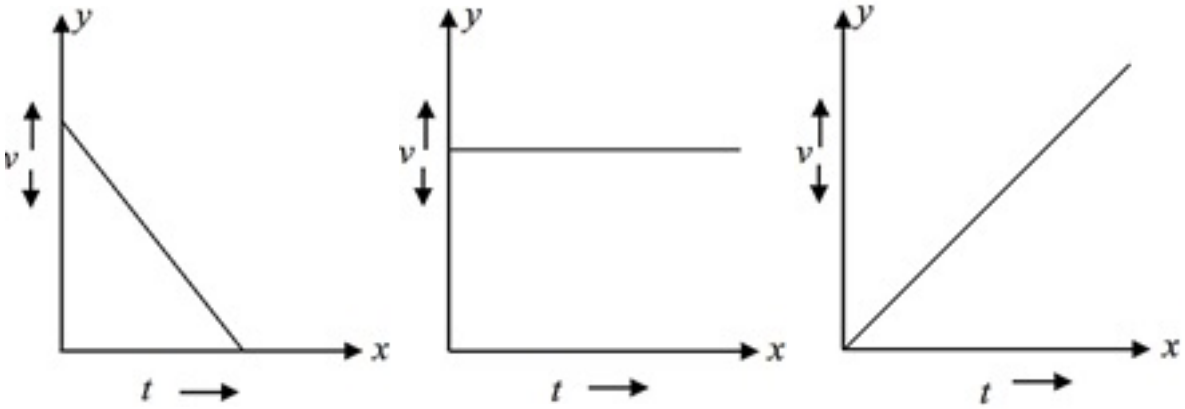
Draw the neat and labelled structure of plant cell.

9. Using velocity- time graph derive equation of motion $S = ut + \frac{1}{2}at^2$

OR

Explain the three types of inertia with example.

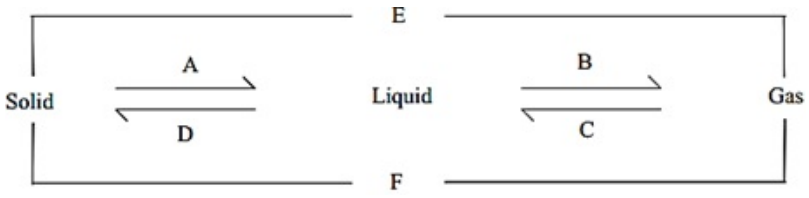
10. What Conclusion do you draw about the nature of motion of the body from the following velocity- time graph?



11. An athlete completes one round of a circular track of diameter 200 m in 40 sec. What will be the distance covered and the displacement at the end of 2 min 20 sec?

12. Most of the road accident occurred due to the over speed by the drivers of the bus, truck, or any other vehicles. Anita advised college principal for arranging a road sign showing the speed limit of 40 km/hr in college area.It cautions to drive vehicles within the specified limit and so it will keep students and others safe to cross the road.
    a. Which values are displayed by Anita in taking initiative?
    b. Why drivers are caution to keep speed within the specified limit in a particular area?
    c. Suggest one other activity to promote such values.

13. Name A B C D E and F in the following diagram showing change in state.



OR

Comment upon the following: Rigidity, Compressibility, Fluidity, Kinetic energy.

14. List the points of difference between homogeneous and heterogeneous mixtures with examples.

OR

How are sol, solution and suspension different from each other?

15. What is meant by sublimation? Explain the process of sublimation with labelled diagram.

OR

Write the steps you would use for making tea. Use the words solution, solvent, solute, dissolve, soluble, insoluble, filtrate and residue.

16. With the help of neat labeled diagrams describe the various kinds of connective tissues.

OR

Explain muscular tissues and its types.

17. Explain different types of epithelial tissues.

OR

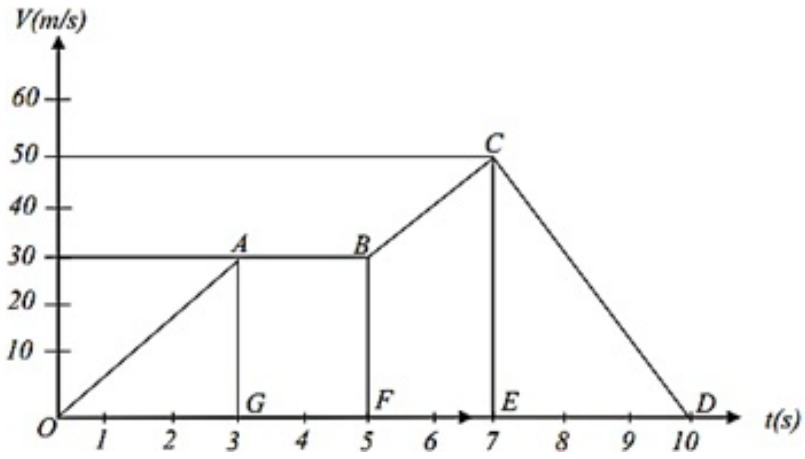
Explain the structure of animal cell with the help of diagram.

18. a. Using velocity- time graph drive the equation of motion V = u + at
    b. A motor boat starting from rest on a lake accelerates in a straight line at a constant rate of 3 m/s^2 for 8 sec. How far does the boat travel during this time?

OR

a. Explain balanced and unbalanced forces with example.
b. State Newton's first law of motion.

19. Figure shows that the velocity –time graph of the motion of a body



a. State the type of motion in each of following cases.
    i. OA
    ii. AB
b. What is the maximum velocity reached by the body?
c. Calculate the acceleration in the first 3 sec.
d. Calculate the retardation.
e. State the interval during which the body is moving with a uniform velocity

OR

a. An object moves with an initial velocity of 10 m/s and uniform acceleration of 0.5 m/s^2. Calculate the velocity after 10 sec and distance travelled in this time.
b. Define Inertia and state SI unit of force and Inertia.

20. Explain the following giving examples:
    a. Saturated solution
    b. Pure substances
    c. Colloid
    d. Suspension
    e. Unsaturated solution

OR

Which separation technique will you apply for the separation of the following?
    a. Sodium chloride from its solution in water.
    b. Ammonium chloride from a mixture containing Sodium chloride and Ammonium chloride.
    c. Small piece of metals in the engine oil of a car.
    d. Butter from curd
    e. Oil from water

21. Give reasons:
    a. A gas fills completely the vessel in which it is kept.
    b. A gas exerts pressure on the walls of the container.
    c. A wooden table should be called a solid.
    d. We can easily move our hand in air but to do the same through a solid block of wood, we need a karate expert.
    e. The smell of hot sizzling food reaches you several metered away but to get smell from the cold food you have to go close.

OR

Give reasons for the following observations:
    a. Naphthalene balls disappear with time without leaving any solid.
    b. We can get the smell of perfume sitting several meters away.
    c. An iron almirah is solid at room temperature.
    d. Water at room temperature is a solid.
    e. Why are we able to sip hot tea or milk faster from a saucer rather than a cup?

22. Explain the procedures of temporary stained mount of onion peel.

23. Mention functions of Objective lens, course adjustment, fine adjustment used in compound microscope.

24. A train starting from a railway station and moving with uniform acceleration attains a speed 40 km/hr in 10 minutes. Find its acceleration?

25. The odometer of a car reads 2000 km at the start of a trip and 2400 km at the end of the trip if the trip took 8 hour. Calculate the average speed of the car in kmh^{-1}

26. Classify the following as true solution, Colloid or suspension.
Milk, Soda water, Sugar solution, Brine, Sand in water, Blood.

27. a. What happens when a Zinc strip is placed in Copper sulphate solution?
    b. When iron filling is added to copper sulphate solution, reddish brown precipitate of copper appears why it happens? write your observation.