Class: IX   Max. Marks: 80
Date: 28-08-2017   Time: 3hr

General Instructions:

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i) **The question paper comprises of two sections A and B.**
ii) All questions are compulsory.
iii) Questions **1** and **2** are very short answer questions and carry **1** mark each.
iv) Questions **3** to **5** are short answer questions and carry **2** marks each.
v)   Questions **6** to **14** are long answer questions and carry **3** marks each.
vi . Question number 15 is a value based question of three marks
vii) Questions **16** to **21** are long answer questions and carry **5** marks each.
viii) Question number 22 to 27 are practical based questions and carry 2 marks each.

SECTION -A

1.   How acute disease is different from chronic disease?   1

2.   What can you say about the motion of an object whose distance –time graph is a straight line   1
     parallel to x –axis?

3.   Define the following: 2
        (a) Latent heat of fusion   (b) Solubility

4.   State Newton's universal law of gravitation and write an expression for it.   2

5.   Differentiate acceleration due to gravity(g) and universal gravitational constant(G).   2

6.   (a) Write any two differences between mixtures and compounds.   3
     (b) Identify the dispersed phase and dispersion medium of emulsion.
                                              OR
     (a) Write the principle behind distillation and centrifugation techniques.
     (b) What do you mean by a saturated solution?

7.   a) Steam causes more severe burns than boiling water at the same temperature.   3
        Why?
     (b) How does a gas exert pressure on the walls of the container?
     (c) Why does evaporation cause cooling?

8. Which cell organelle is called as control center of a cell? Draw the labeled diagram and mention any two functions   3

9. Differentiate between striated, unstriated and cardiac muscles on the basis of their structure and location on the body. for school carnival, but he refuses and decides to stay back home   3

10. What are complex tissue ? Name the two types of complex permanent tissue present in plants ? Give one function of each complex tissue.   3

OR

Name the following
a)Tissue that connects muscle to bone in humans
b)Tissue that stores fat in our body.
c)Tissue that present in the brain

11. Calculate the force required to impart a velocity of 30m/s to a car in 10seconds.The mass of the car is 1500kg   3

12. Define momentum. Write its SI unit.   3
A Ball weighing 500g is thrown vertically upward with a speed of 10m/s. What will be its momentum:
a)Initially
b)At the highest point?

13. A force of 5N gives a mass m_1,an acceleration of 10m/s^2 and a mass m_2 ,an acceleration of 20m/s^2.What acceleration would it give if both the masses were tied together ?   3

14. a)What is weightlessness? Under what condition our weight becomes zero?   3
 b)A man weighs 600Non the earth, What is his mass on the moon?

15. Aditya was suffering from chicken pox for two weeks . Friends call him and insist him to join for school carnival, but he refuses and decides to stay back home   3

1. What is the cause of chicken pox?

2. Give one more disease that spread through samemode of transmission .

3. What two values did Aditya exhibit by notjoining his friends for school carnival.

16. (a) How can we obtain different gases from air? Explain with the help of a flow diagram.   5
(b) A solution contains 20 gm of sugar in 180 gm of water. Calculate the concentration in terms of mass by mass percentage method.
(c) Name the process associated with the following:
    (i) Dry ice is kept at room temperature and at one atmospheric pressure.
    (ii) Fine beam of light entering through a small hole in a dark room, illuminate the particles in its path.

17. a) Explain any two factors affecting evaporation.   5
(b) For any substance, why does the temperature remain constant during the change of state?
(c) Convert the following temperatures.

(i) 300 K (To Celsius scale)   (ii) 250°C (To Kelvin scale)
(d) Tabulate the differences in the following characteristics of solids and liquids.
(i) Compressibility   (ii) Kinetic energy of particles

18. a)Find the total displacement of the body from the following graph: 5
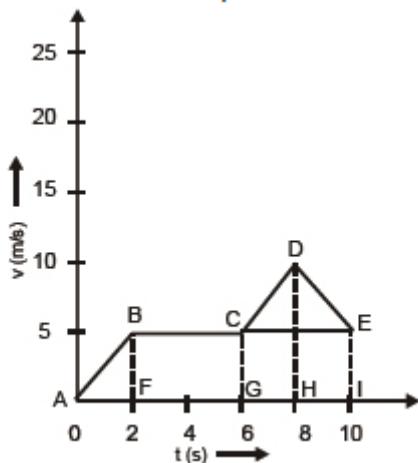
b)Identify the type of motion from A to B,B to C and D to E

OR

a)Derive third equation of motion using velocity time graph of uniform motion.

b)Draw distance time graph for uniform and non-uniform motion.

19. a)Explain various modes of transmission of infectious diseases.   5
b)Write the causative organisms of the following diseases.
i)Kala –azar
ii)Tuberculosis
iii)AIDS
iv)Sleeping sickness

20. Differentiate between parenchyma, collenchyma and sclrenchyma based on structure and   5
function, with help of diagram .

21. a) Why Newton's first law of motion is also known as law of inertia?   5
b) Explain why the leaves may get detached from tree if we vigorously shake its branch?.
c) Derive the mathematical formula for second law of motion.

SECTION -B

22. What happens when: 2
(a) Magnesium ribbon is burnt in air?
(b) Copper sulphate is heated in a test tube?

23. Name the processes that are used to separate a mixture of sand, common salt and ammonium   2
chloride.

24. In an experiment to determine the boiling point of water, mention any two precautions to be 2
taken.

25. In which category-homogeneous mixture or heterogeneous mixture would you place suspensions? Also write any two important properties of suspensions. 2

26. 1. In which cell is cell wall present. 2
     2. Mention the function of cell wall.
     3. Name the complex carbohydrate present in cell wall.
     4. Name the stain used to stain cheek cell.

27.   2
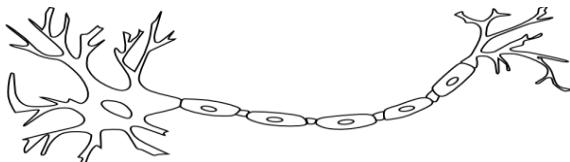
   a) Identify the given tissue
   b) label any two parts
   c) Mention its function.