Roll Number		

SET C

INDIAN SCHOOL MUSCAT
MID TERM EXAMINATION
SCIENCE

CLASS: IX Sub. Code:086 Time Allotted: 3 Hrs

01.10.2018 Max. Marks: 80

1. A particle is moving in a circular path of radius r. calculate the displacement after completing half a circle. 1

2. What is latent heat of fusion? 1

3. Can displacement be zero? If yes, give two examples of such situations? 2

4. Water sprinkler used for grass lawn begins to rotate as soon as the water is Supplied. Explain the principle on which it works. 2

5. a) Define the term diffusion. 2

   b) Why do gases diffuse at high speed?

6. a) What is meant by boiling point? 2

   b) Write two differences between evaporation & boiling.

7. Give reasons. 2

   a) Solids are rigid substances.

   b) Liquids have definite volume but no definite shape.

8. a) What is the chemical composition of plasma membrane? 2

   b) Why plasma membrane is called selectively permeable membrane?

9. How do apical and lateral meristems differ in their location and function? 2

10. Name the following: 2

    a) Connective tissue with a fluid matrix

    b) Connective tissue that connect muscle to bone

    c) Tissue that transport food in plants

    d) Type of permanent tissue that make seeds and nuts hard

11. To observe osmosis, a student first removed the shells of two eggs by keeping them in dilute hydrochloric acid. He then placed one egg in water and the other egg in concentrated salt solution. 2

    a) State the changes which he will observe in the two eggs.

    b) Explain the reason for the changes he observed.

12. A car travels a certain distance with a speed of 50 km/hr and returns with a speed of 40 km/hr. Calculate average speed for the whole journey. 3

(OR)

A car covers 30km at a uniform speed of 60km/hr and the next 30 km at a

Uniform speed of 40 km/hr. Find the total time taken and average speed.

13. From a rifle of mass 4kg a bullet of mass 50g is fired with an initial velocity of 80 m/s. calculate the recoil velocity of the rifle. 3

14. State Newton's second law of motion. Derive the formula F= mxa 3

15. Give one reason 3

(a) A passenger in a bus tends to fall backward when it starts suddenly.

(b) An athlete runs a certain distance before taking a long jump.

(c) A karate player can break a pile of tiles in a single blow.

16. a) What is a saturated solution? What happens when it is heated? 3

b) Write two advantages of crystallization over evaporation.

(OR)

a) What is meant by concentration of a solution?

b) What mass of sugar is needed to make 250g of 25% sugar solution?

17. a) How will you convert a gas into liquid? 3

b) Why is solid carbon dioxide called dry ice?

c) How does humidity affect the rate of evaporation?

18. a) What is centrifugation? 3

b) Write two applications of centrifugation.

c) Write two properties of true solutions.

19. a) Name two organelles that contain their own genetic material? 3

b) Mention any two functions of Golgi apparatus

(OR)

a) What are the two types of plastids?

b) Mention any two functions of endoplasmic reticulum.

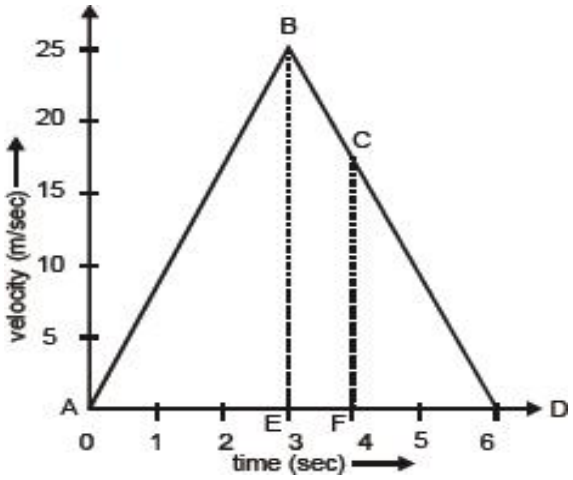
20. a) Which animal tissue covers all body organs externally and all the body cavities? 3

b) How do xylem and phloem tissue differs from each other? State two points.

21. a) How does an amoeba obtain its food? 3

b) Why mitochondria are often known as power house of the cell?

22. Study the velocity-time graph and calculate 5



(a) The acceleration from A to B

(b) The de-acceleration from B to D

(c) The distance covered in the region ABE

(d) Distinguish between uniform motion and non -uniform motion

(OR)

(a) A body starts to slide over a horizontal surface with an initial velocity Of 0.5m/s .Due to friction, its velocity decreases at the rate of $0.05 m/s^2$ (Acceleration = $- 0.05 m/s^2$).How much time will it take for the boy to stop?

(b) An object undergoes an acceleration of $8 m/s^2$ starting from rest. Find the distance travelled in one second.

(c) Under what condition is displacement equal to distance.

23. (i) The mass of the earth is 6×10^{24} kg and that of the moon is 7.4×10^{22} kg .If the distance between the earth and moon is 3.84×10^5 km. Calculate the force exerted by the earth on the moon. [$G = 6.7 \times 10^{-11}$ N m^2 kg^{-2}] 5

(ii) Write any two importance of the universal law of gravitation.

24. a) What is meant by the following terms i) True solution ii) Tyndall effect. 5

b) Classify the following into homogeneous & heterogeneous mixtures.

Milk, Soda water, Muddy water, Sugar solution, Butter, Alloy

(OR)

a) Draw and describe the process of separation of a mixture of ammonium chloride and salt.

b) Write the principle of separation of immiscible liquid mixtures.

25. a) What is a pure substance? 5

b) Write two examples of

i) volatile liquids ii) colloids

c) Write two properties of suspensions.

26. a) Where is nervous tissue present in our body? 5

b) Name the functional unit of this tissue

c) Draw the neat diagram of above structure and label the parts

(OR)

a) Draw a neat labeled diagram of a typical prokaryotic cell

b) Differentiate between prokaryotic cell and eukaryotic cell (three points each)

27. a) Write two differences between the muscles present in the heart and muscles present in the limbs of man. 5

b) Write a note on areolar tissue based on its location and function.(three points are expected based on location and function)

End of the Question Paper