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SET B



INDIAN SCHOOL MUSCAT HALF YEARLY EXAMINATION SCIENCE

CLASS: IX

Sub. Code: 086

Time Allotted: 3 Hrs

17.09.2019

Max. Marks: 80

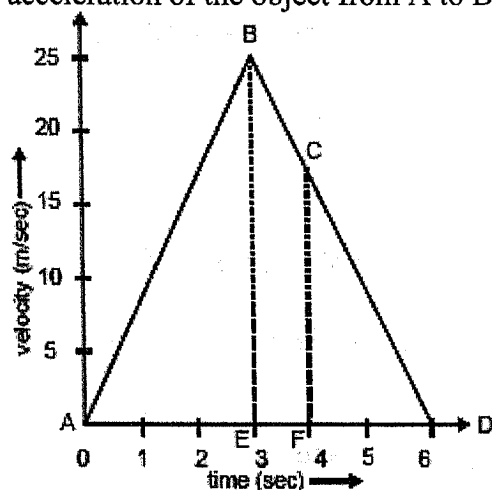
General Instructions:

- (i) The question paper consists of Two sections – A and B. You are to attempt all the sections.
- (ii) All questions are compulsory.
- (iii) Internal choice is given in section B.
- (iv) Question numbers 1 to 20 in Section-A are one-mark questions.
- (v) Question numbers 21 to 30 in Section- B are three marks questions. These need to be answered in about 50 words each.
- (vi) Question numbers 31 to 36 in Section-B are 5 marks questions. These need to be answered in about 70 words each.

Section - A

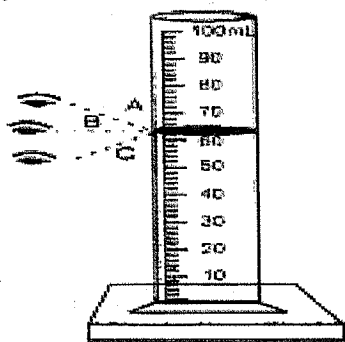
1. A superfast train is moving with a speed of 540km/h. What is its speed in m/s 1
 a) 54m/s b) 100m/s c) 150m/s d) 200m/s

2. The velocity-time graph of an object moving with non-uniform velocity is shown below. The acceleration of the object from A to B. 1



- a) 25m/s^2 b) 8.3m/s^2 c) 3m/s^2 d) -2m/s^2
3. Newton's first law of motion is also known as 1
 a) law of momentum b) law of force
 c) law of inertia d) law of conservation of momentum

4. Three students A, B and C noted the water level reading in the measuring cylinder, as shown in figure. The correct way of taking reading is of:



- a) A and C b) Only B c) Only C d) A and B
5. Which one of the following is a heterogeneous mixture?
a) Vinegar b) Milk c) Salt water d) Dry ice
6. The process by which a gas or vapour changes into liquid at a constant temperature under atmospheric pressure is known as:
a) condensation b) solidification c) melting d) sublimation
7. A gas can be converted into a liquid at:
a) high pressure and low temperature b) high pressure and high temperature
c) low pressure and low temperature d) low pressure and high temperature
8. Which one of the following mixtures can show Tyndall effect?
a) milk and water b) salt and water c) sugar and water d) alcohol and water
9. The cell inclusion which provides turgidity and rigidity to the plant cell
a) Mitochondria b) Vacuole c) Nucleus d) Golgi apparatus
10. The matrix of cartilage is composed of:
a) Proteins and lipids b) Proteins and sugar
c) Sugar and lipids d) Fat and lipids
11. Write any two observations you make while observing the prepared slide of an onion peel.
12. While preparing temporary mount of animal cell, we scrap our cheek cells. Write two things we should take care while doing this?
13. Write one character which separates the unicellular Monerans and Protistans.
14. Read the statements carefully and select the appropriate option given from the general instructions:
Assertion: Cotyledons are called the seed leaves in angiosperms
Reason: In many instances cotyledons emerge and become green.
15. In a spring balance the space between 0 and 25g marks is divided into 10 equal parts. What is the least count of spring balance?

16. Define momentum of an object. Write S.I. unit of momentum. 1
17. When a carpet is beaten with a stick, dust comes out of it. Explain. 1
18. What is meant by boiling point? What happens to the boiling point of distilled water when some salt is added to it?
19. Define the term element. Give one example.
20. Why do we wear cotton clothes during summer?

Section - B

21. When are the forces acting on a body said to be balanced? Give an example. What type of change can the balanced forces bring about in an object? 3

OR

- a) Differentiate between balanced and unbalanced force.
 b) Name the principle on which a gun recoils.
 c) Name the physical quantity which is determined by the rate of change of momentum.
22. Two objects A and B, having mass 100 kg and 75 kg, moving with velocity 40 km/hr and 6 km/hr respectively. Answer the following: 1+1+1
 a) Which will have greater inertia?
 b) Which will have greater momentum?
 c) Which will travel greater distance?
23. The speedometer readings of a car are shown below. Find the acceleration of the car and its displacement. 3

Time	Speedometer
9:15 am	36 km/h
9:45 am	72 km/h

OR

The following table gives the data about motion of a car.

Time (h)	11.00	11.30	12.00	12.30	1.00
Distance (km)	0	30	30	66	100

- a) Find the speed of the car between 12.00 hours and 12.30 hours.
 b) What is the average speed of the car?
 c) Is the car's motion an example of uniform motion? Justify.
24. a) What is diffusion? Explain why diffusion occurs more quickly in a gas than in a liquid. b) Why do gases exert pressure?

OR

- a) Name the apparatus you would use to separate a mixture of kerosene oil and water.
- b) Draw the diagram of the apparatus and write the principle of separation of such mixtures.

25. a) Give one example for:
 - i) a liquid metal ii) a liquid non-metal iii) a metalloid
- b) What is a compound? Give one example.

26. What is meant by the term concentration?
 - a) 20g sugar is added to 140g water and stirred to get a solution. Find the percentage mass concentration of the solution.

OR

- a) What is a saturated solution? What happens when it is heated?
- b) Name the solute present in soda water?
- c) Name the process by which we separate a mixture of ammonium chloride & sand.

27. If we keep a cell with cell wall in hypertonic and hypotonic solutions the effect is different. What change you can observe in that cell in both the conditions. Name two organisms with cell wall with which can with stand very dilute medium.

OR

Nucleus is considered as the important part of the cell. Why? Write any two points in favor of this statement. What is the name given to an undefined nuclear region? In which type of cell such an undefined nuclear region is present.

28. Yeast and Amoeba are unicellular Eukaryotic organisms. But they are placed under two different kingdoms. Name their respective kingdoms. Write any one specific character of these two organisms which separate them.

29. Name the specific tissue in animal body to which the following functions are assigned:
 - a) Carrying the sensation of pain to the brain when our skin is burned.
 - b) Forming a framework that supports the body.
 - c) Prevents wear and tear of the skin.
 - d) Clearing the mucus in the respiratory tract
 - e) Relaxation and contraction movements of the heart.
 - f) Transportation of food and gases

30. What are the three basis on which Plant kingdom is further classified?

31. a) Draw velocity –time graph for a uniformly accelerated object. Using velocity- time graph, derive $V = U + at$.

- b) A train starting from rest attains a velocity of 72 km/h in 5 minutes. Assuming the acceleration is uniform, find

- (i) the acceleration
- (ii) the distance travelled by the train for attaining this velocity

3+2

OR

- a) Draw velocity –time graph for a uniformly accelerated object. Using velocity- time graph, derive $V^2 - U^2 = 2aS$.

- (b) A train is travelling at a speed of 90kmph. Brakes are applied so as to produce a uniform acceleration of -0.5ms^{-2} . Find how far the train will go before it is brought to rest.

32. a) Define recoil velocity. Derive an expression for recoil velocity. 3+2
b) A bullet of mass 20g is horizontally fired with a velocity 150ms^{-1} from a pistol of mass 2Kg. What is the recoil velocity of the pistol?

33. a) Write three differences between evaporation and boiling
b) Write four factors which can affect the speed of evaporation.
c) Name the physical state in which the particles possess:
i) minimum attraction
ii) minimum kinetic energy
iii) maximum space

OR

- a) Write three characteristics of particles of matter.
b) Explain why
i) liquids have definite volume but no definite shape.
ii) diffusion is fastest in gases.
c) What is dry ice? What happens when it is exposed to air?

34. a) Write two properties of colloids.
b) Give one example for a solution formed by
i) two solids ii) two liquids
c) Give the expansion of LPG & CNG

35. a) Define differentiation.
b) Why Xylem and Phloem are called conductive tissues
c) Write one function each of any three simple permanent tissues in plants.

OR

- a) Compare and contrast skeletal and smooth muscles based on their structure, function and location.
b) Write the function of cartilage tissue
c) Write two locations where areolar connective tissue is present.

36. Draw a neat labelled diagram of animal cell. Write any two functions of Golgi apparatus.

End of the Question Paper

