



INDIAN SCHOOL SOHAR
PERIODIC TEST II (2019 -20)
SUBJECT: SCIENCE

CLASS: IX

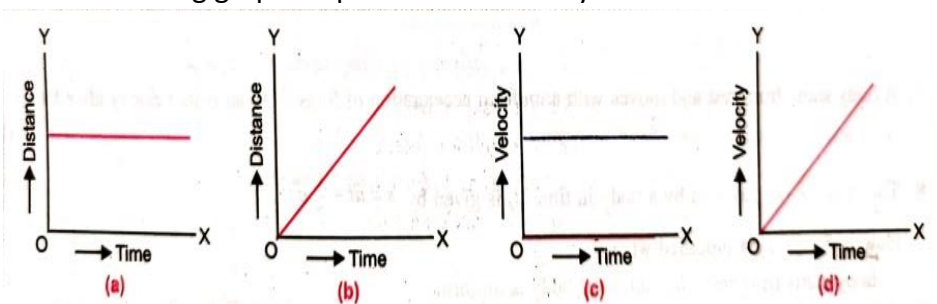
Max. Marks: 80

DATE: 19/09/2019

Duration: 3Hrs

General Instructions:-

- i. The question paper comprises of **three** Sections **A, B** and **C**. You are to attempt **all** the sections.
- ii. The question paper consists of 36 questions. **All** questions are compulsory.
- iii. Question numbers **1 to 20** in Section **A** are of **one** mark each. Question numbers **1 to 10** are MCQs, **11 to 13** are assertion and reasoning type questions and **14 to 20** are very short answer questions. These are to be answered in one word or in one sentence.
- iv. Question numbers **21 to 30** in Section **B** are **three**-marks questions. These are to be answered in about 50 words each.
- v. Question numbers **31 to 36** in Section **C** are **five**-marks questions. These are to be answered in about 70 words each.
- vi. There is no overall choice. However an internal choice will be provided in four questions of **3** marks each, and three questions of **5** marks each. Attempt only one of the choices in such questions.
- vii. Wherever necessary the diagrams drawn should be neat and properly labelled.
- viii. Directions to attempt **Assertion- Reason** questions. In questions (11 to 13), the Assertions (A) and Reason (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following:
 - Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion, then mark **(A)**
 - The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion, then mark **(B)**
 - The Assertion is true but the Reason is false, then mark **(C)**
 - The Assertion is false but the Reason is true, then mark **(D)**
 - Both the statements are false, then mark **(E)**

SECTION A1. Which of the following graphs represent a uniformly accelerated motion? 1

2. What does the speedometer of a car show?

- (a) Average speed (b) Average velocity (c) Instantaneous speed (d) Distance travelled 1

3. An object of mass 2kg is moving with a constant velocity of 4m/s on a frictionless horizontal table.

The force required to keep the object moving with same velocity is _____ 1

- (a) 32 N (b) 0 N (c) 2 N (d) 8 N

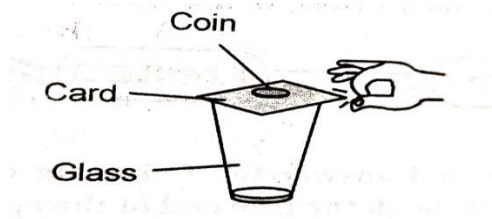
4. The density of water is maximum at _____.

- (a) 0°C (b) 100°C (c) 4°C (d) 273K 1

5. Which of the following has highest kinetic energy?
(a) Particles of ice at 0°C (b) Particles of water at 0°C
(c) Particles of water at 100°C (d) Particles of steam at 100°C 1
6. Tyndall effect will be shown by
(a) Common salt solution (b) Vinegar (c) Milk (d) Copper sulphate solution 1
7. Which of the following is a compound?
(a) Silicon (b) Carbon dioxide (c) Air (d) Sugar solution 1
8. Choose the correct option from the following.
(a) Amoeba, Chlamydomonas, Paramecium are unicellular organisms.
(b) Amoeba, Pinus, Paramecium are unicellular organisms.
(c) Amoeba, Chlamydomonas, Spirogyra are unicellular organisms.
(d) Ulothrix, Chlamydomonas, Paramecium are unicellular organisms. 1
9. Cork cells are characterized by-
(a) Dead, compactly arranged, without intercellular spaces.
(b) Living, compactly arranged, without intercellular spaces.
(c) Dead, compactly arranged, with intercellular spaces.
(d) Dead, loosely arranged, with intercellular spaces. 1
10. The sequence of sub groups of the Hierarchy of classification is-
(a) Kingdom-Phylum-Order-Class-Family-Genus-Species.
(b) Kingdom-Phylum-Class-Family-Order-Genus-Species.
(c) Kingdom-Phylum-Class-Order-Genus-Family-Species.
(d) Kingdom-Phylum-Class-Order-Family-Genus-Species. 1
11. **Assertion (A)** : Force exerted by the ground on the man makes him move forward.
Reason (R) : Force exerted by the ground is an action force. 1
(a) A (b) B (c) C (d) D (e) E
12. **Assertion (A)** : A mixture of kerosene oil and water is separated by separating funnel.
Reason (R) : Kerosene oil and water are immiscible liquids. 1
(a) A (b) B (c) C (d) D (e) E
13. **Assertion (A)** : Bacteria are prokaryotic organism.
Reason (B) : prokaryotes do not possess true nucleus and membrane bound cell organelles. 1
(a) A (b) B (c) C (d) D (e) E
14. Name the physical quantity which is measured by the area occupied below the velocity-time graph? 1
15. Give two applications of centrifugation. 1
16. Which are the dispersed phase and dispersing medium of shaving cream. 1
17. List two identifying feature of the group in which Agaricus, Puccinia, Neurospora belong. 1
18. Viruses illustrate the significance of membrane in living cells. Give one point that states the significance. 1

19. Name the type of plastid commonly seen in
 (a) fruits and flowers (b) leaves of the plant 1

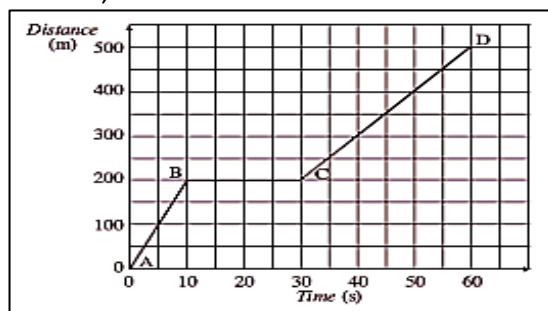
20. In the below experimental setup, a student gives the card a sharp and fast horizontal flick with a finger.



(a) What will happen to the coin? (b) State reason for your answer. 1

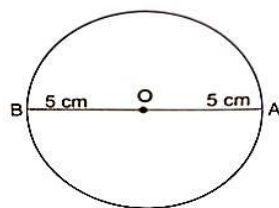
SECTION B

21. The graph given below shows the positions of a body at different times. Calculate the speed of the body as it moves from,



(a) A to B (b) B to C and (c) C to D 3

22. (a) Why is uniform circular motion known as an accelerated motion?
 (b) A particle moves in a circular path with 'O' as centre, and AO & OB as radius of 5cm each, as shown in figure. It starts from A. Calculate,
 i) the distance covered, and
 ii) the displacement, when it reaches B. 3



23. (a) What is the relationship between mass and inertia?
 (b) What is the total momentum of a bullet and a gun before firing and after firing?
 Give reason.
 (c) Explain how a karate player can break a pile of tiles with a single blow of his hand. 3

24. (a) What is meant by concentration of a solution?
 (b) A solution contains 50g common salt in 350g of water. Calculate the concentration of the solution. 3

25. A bullet of mass 10g travelling horizontally with a velocity of 150m/s strikes a stationary wooden block and comes to rest in 0.03s. Calculate the distance of penetration of the bullet into the block. Also calculate the magnitude of force exerted by the wooden block on the bullet.

OR

A motor car of mass 1200kg is moving along a straight line path with a uniform velocity of 90km/h. Its velocity is slowed down to 18km/h in 4s by an unbalanced external force.

- i) Calculate the acceleration and change in momentum.
- ii) Calculate the magnitude of the force required. 3

26. (a) State one similarity and one difference between evaporation and boiling.
 (b) Distinguish between homogeneous and heterogeneous mixture. (Write 2 points) 3

27. Describe an activity to show that the nature of matter is particulate with the help of labelled diagram.

OR

Give reason:-

- (a) The temperature remains constant during the change of state of matter.
- (b) A gas exerts pressure on the walls of the container.
- (c) People sprinkle water on the roof after a hot sunny day. 3

28. Compare and contrast the characteristics of Monera and Protista.(Any three points.) 3

29. Study the table given below and provide information in the space marked.

Type	Smooth muscle	Striated muscle	Cardiac muscle
Location	Present in internal organs	(a).....	Walls of the heart
Function	(b).....	(c).....	Involuntary
Shape of the tissue	(d).....	Cylindrical	(e).....
Nucleus	(f).....	Multinucleated condition	Uninucleated condition

OR

Write three different types of blood cells and give one function of each corpuscles. 3

30. (a)What do you mean by cell division?
 (b) Name the types of cell division seen in animals and write any one difference between the two.

OR

Give reason for the following-

- (a) Mitochondria is called the power house of cell.
- (b) Lysosomes are suicidal bags.
- (c) Osmosis is a special case of diffusion. 3

SECTION C

31. (a) What does the path of an object look like when it is in uniform motion?
 (b) Differentiate between speed and velocity. (Write two points)
 (c) A motor cyclist drives from A to B with a speed of 30km/h and returns back with a speed of 20km/h. Find its average speed. 5

32. (a) State Newton’s second law of motion.
 (b) Using second law of motion, derive the relation between force and acceleration.
 (c) A man pushes a box of mass 50kg with a force of 80N. What will be the acceleration of the box due to this force? What would be the acceleration if the mass were halved?

OR

- (a) Define momentum of an object.
- (b) Prove with the help of Newton’s third law of motion that the total momentum of two objects is conserved during collision provided no external force acts on them.

(c) An object of mass 15kg, travelling at 25m/s collides with another object of mass 10kg travelling at 15m/s in the same direction. After collision, the first object moves at a velocity of 20m/s. Determine the velocity of the second object after collision. 5

33. The brain is connected to the rest of the body through a specialized tissue. With the help of a diagram describe the structure and function of this specialized tissue. 5

34. (a) Draw a neat and labelled diagram of the apparatus used to separate the coloured components of dyes in black ink. Name the process and state the principle involved.

(b) Identify the physical and chemical changes from the following:

- (i) Evaporation of water
- (ii) Burning of magnesium ribbon in air
- (iii) Sublimation of iodine
- (iv) Tarnishing of silver spoon

5

35. (a) "Gas is highly compressible". How is this property useful to us? (Write 2 points)

(b) Crystallisation technique is better than simple evaporation technique. Justify. (Write 2 points)

(c) What is the effect of following on the rate of diffusion?

- (i) Temperature
- (ii) Density of liquid

OR

(a) List the two conditions essential for using distillation as a method of separation of components of two miscible liquids?

(b) Name the gas evolved when we add dilute hydrochloric acid to a mixture of iron filings and sulphur powder. Mention any one property of the gas evolved.

(c) Why do we see water droplets collected on the outer surface of a glass containing ice-cold water?

(d) Name the process involved in the following changes.

- (i) Liquid to Solid
- (iii) Solid to Gas

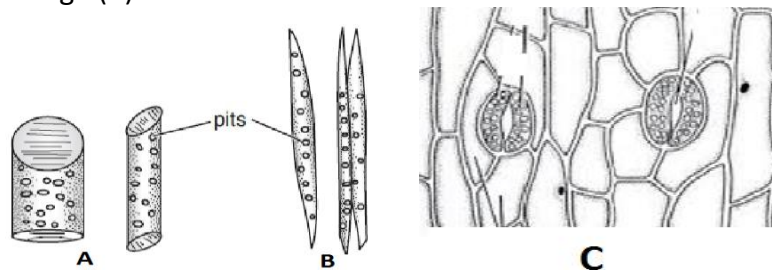
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36. Given below are three images of plant tissue.

(a) Specify the category of complex tissue to which it belongs.

(b) Name the elements in (A) and (B). State their function.

(c) Identify the image (C) and write its function.



OR

Robert Whittaker had proposed the five kingdom classification of the living world.

(a) On what basis did he make the classification?

(b) With the help of a schematic diagram show the classification of Kingdom Plantae.

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