

AMITY INSTITUTE

FOR COMPETITIVE EXAMINATIONS

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SynConnect Programme

UNIT TEST - 1

CLASS - IX

SCIENCE

Time: 50 Minutes

Date: 05.05.2016

Maximum Marks: 60

GENERAL INSTRUCTIONS:

Phy : Motion
Chem : Matter in our Surroundings
Bio : Cell: The Unit of Life

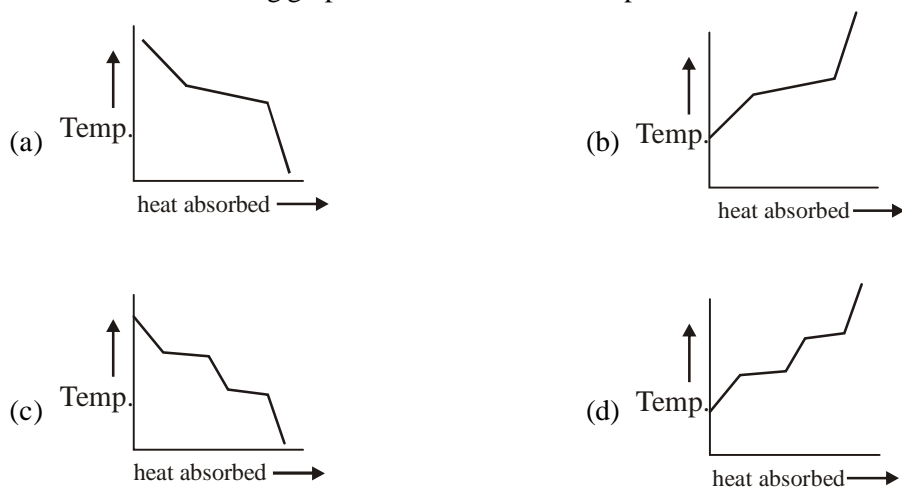
1. Fill in the response sheet with your Name, Class, School etc, in the respective columns, using a blue pen
 2. Only one choice (a), (b), (c), (d) is correct for each question. Shade the alphabet of your choice in the response sheet
 3. For each correct response you will get **2 marks**; for each incorrect response you will lose **1 mark**. However if the question is unanswered no marks will be deducted.
 4. Use only HB pencil/Ball point pen for Shading.
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1. A body travels half of a certain distance with uniform velocity 4 m/s and other half of the distance in the two equal time intervals with velocity 5.5 m/s and 6.5 m/s. Average velocity is:
(a) $\frac{16}{3}$ m/s (b) 2.4 m.s (c) 4.8 m/s (d) $\sqrt{4 \times 5.5 \times 6.5}$ m/s
 2. A body goes from P to Q with a velocity of 2m/s and comes back to P with a velocity of 3 m/s. Its average velocity during entire journey is:
(a) 2.5 m/s (b) 2 m/s (c) 2.4 m/s (d) zero
 3. A train is travelling at a speed of 90 km/h. Brakes are applied so as to produce a uniform acceleration of -0.5 m/s^2 . Find how far the train will go before it is brought to rest?
(a) 600 m (b) 625 m (c) 400 m (d) 425 m
 4. An athlete completes one round of a circular track of diameter 200 m in 40s. What will be the distance covered and the displacement at the end of 2 minutes 20s?
(a) 2200 m, 200 m (b) 2200 m, 0 (c) 100 m, 0 (d) 0, 0
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11. Based on the statements given here choose the correct answer:
 P. Gases can be cooled and converted into liquid below its critical temperature by increasing pressure on it
 Q. Above the critical temperature, a gas, cannot be liquified however high the pressure it is subjected to
 (a) Both P and Q are true and Q explains P (b) Both P and Q are true but Q does not explain P
 (c) Only P is true (d) Q is true only if P is false
12. As the pressure of air decreases, the boiling point of a liquid
 (a) increases (b) decreases (c) remains fixed (d) None of these
13. When a gas jar full of air is placed upside down on a gas jar full of bromine vapours, the red brown vapours of bromine from the lower jar go upward into the jar containing air. In this experiment
 (a) air is heavier than bromine
 (b) both air and bromine have the same density
 (c) bromine is heavier than air
 (d) bromine cannot be heavier than air because it is going upwards against gravity.
14. In which of the following conditions, the distance between the molecules of hydrogen gas would increase?
 i) Increasing pressure on hydrogen contained in a closed container.
 ii) Some hydrogen gas leaking out of the container
 iii) Increasing the volume of the container of hydrogen gas
 iv) Adding more hydrogen gas to the container without increasing the volume of the container.
 (a) (i) and (iii) (b) (i) and (iv) (c) (ii) and (iii) (d) (ii) and (iv)
15. Which of the following do not undergo sublimation?
 (a) Sodium chloride (b) Iodine
 (c) Ammonium chloride (d) Camphor
16. The table show the melting points and boiling points of some substances. Which substance is solid at 30°C?

Substance	Melting point (°C)	Boiling point (°C)
(a)	-142	-68
(b)	90	189
(c)	-95	4
(d)	-66	42

17. Which of the following graph shows variation in temperature when a solid is converted into gas?



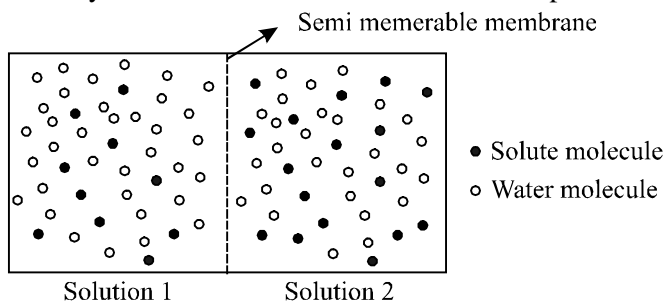
18. In which of the following processes, heat is released ?
 (i) Condensation (ii) Vaporization (iii) Freezing (iv) Melting
 (a) Only (i) (b) Only (iv) (c) (i) and (iii) (d) (ii) and (iv)
19. Which of the following factors are responsible for change in state of dry ice (solid CO₂) when exposed to air ?
 (i) Increase in pressure (ii) Increase in temperature
 (iii) Decrease in pressure (iv) Decrease in temperature
 (a) (i) and (ii) (b) (i) and (iii) (c) (ii) and (iii) (d) (ii) and (iv)

20. Following table represents the boiling points of various compounds

Compounds	Boiling point (°C)
A	200
B	50
C	500
D	150

What is the increasing order of their intermolecular force of attraction between the particles of these compound?

- (a) $A < B < C < D$ (b) $B < D < A < C$ (c) $B > A > D > C$ (d) $D > A > C > B$
21. “*Ommis cellula e cellula*” an idea of Rudolf Virchow means that:
 (a) All organisms are composed of cells
 (b) All living cells arise from pre-existing cells
 (c) Cell is the basic unit of life
 (d) Every organism starts its life as a single cell
22. Which of the following statements are incorrect regarding prokaryotic cell?
 (i) The nuclear contents may concentrate in the cell in a region called nucleoid.
 (ii) DNA is associated with a protein called histone.
 (iii) Ribosomes are larger as compared to those of eukaryotes.
 (iv) Nuclear membrane is absent
 (a) (ii) and (iv) (b) (i) and (ii) (c) (ii) and (iii) (d) (i) and (iii)
23. A plant cell is put in very dilute external media. In such media, which of the following things could happen?
 (a) The cell is likely to swell up without bursting
 (b) The cell will stay the same size
 (c) The cell will shrink
 (d) The cell is likely to swell up and eventually burst
24. Study the given figure carefully. The net movement of water will take place in which direction?



- (a) From solution 1 to solution 2 (b) From solution 2 to solution 1
 (c) Either (a) or (b) (d) No movement will take place

25. Who proposed the “sandwich model” of plasma membrane?
(a) Gorter and Grendel (b) J.D. Robertson
(c) Danielli and Davson (d) Nageli and Cramer
26. Meristematic cells in plants and embryonic stem cells in animals are a type of:
(a) Dedifferentiated cells (b) Eukaryotic cells
(c) Undifferentiated cells (d) Differentiated cells
27. The study of structure of cells with their functions including the life processes of the cells is known as
(a) Oncology (b) Histology (c) Microbiology (d) Cytology
28. The single smallest cell which is popularly known as “Joker of Plant Kingdom” is:
(a) *Mycoplasma* (b) *Acetabularia* (c) *Amoeba* (d) Neuron
29. In plasma membrane, which among the following type of lipids is maximally present?
(a) Phospholipid (b) Glycolipid
(c) Lecithin (d) Cholesterol
30. Which among the following is an example of selectively permeable membrane?
(a) Parchment membrane (b) All biological membranes
(c) Cellulosic cell wall (d) Cutinized cell wall

