

JB Academy, Faizabad
Half Yearly Examination 2017-18
Class IX (Science)

Time Allowed : 3 hours

M.M:80

General Instruction:

1. The question paper comprises of two sections, A and B.
 2. All questions are compulsory.
 3. All questions of Section-A and Section-B are to be attempted separately.
 4. Draw diagrams wherever required.
 5. Show calculation parts in solution of numericals.
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SECTION –A

1. What will be the weight of an object at the center of the earth whose mass is 10kg? (1)
2. Arrange the gases present in air in increasing order of their boiling points. (1)
3. Presence of which chemical in cork cells makes them impervious to water and gases (1)
4. Define plasmodesmata. (1)
5. What temperature in Kelvin scale is equal to 50°C? (1)
6. Name and define the physical quantity on which the inertia of a body depends. (1)
7. Establish velocity position relation graphically. (2)
8. Give reasons for the following: (2)
 - a) When a carpet is beaten with a stick, dust comes out of it.
 - b) A boy weighs more at the poles than at equator.
9. Write two points of difference between Rabi and Kharif crops. (2)
10. Give reasons: (2)
 - a) The cells of meristematic tissue have dense cytoplasm thin walls and prominent nuclei.
 - b) Vacuoles are absent here in this tissue.
11. a) Latent heat of vapourisation of two liquids A & B are 100kJ/kg & 150kJ/kg respectively. Which can produce more cooling effect and why?
b) How do liquid and gas differ from each other in terms of compressibility & Why? (2)
13. Identify and explain the factors responsible for the change of rate of evaporation in the following situations- (2)
 - a) We spread out wet clothes.
 - b) Water cooler are not effective on a rainy day.
12. Give reason for the following: (3)
 - a) Solid CO₂ is known as dry ice.
 - b) People sprinkle water on the roof top/open grounds on a hot sunny day.
 - c) Crystallisation is better technique than evaporation

13. a) Define momentum. State its unit.
b) An object of mass 50kg is accelerated uniformly from a velocity of 4m/s to 8m/s in 8s. Calculate initial momentum, final momentum and change in momentum of an object. Also find magnitude of force exerted by the object. (3)
14. a) Name a device that measures distance travelled by automobiles.
b) A body travels a distance of 15m from A to B and then moves a distance of 20m at right angle to AB. Calculate the total distance travelled and the displacement. (3)
15. Establish the relation $g_m = g_e/6$ (with proper calculation) (3)
16. Name the following and give one example of each: (3)
- a) Animal tissue which has elongated cells and contractile proteins responsible for movement.
b) Dead tissue that provides mechanical support to plants
c) Highly specialized cells for being stimulated and then transmitting stimulus very rapidly within body of animals
17. What are weeds? Explain why removals of weeds are necessary from cultivated fields. Mention two methods to remove weeds. (3)
18. Pradeep's uncle was maintaining a poultry farm with his fields. Pradeep advised him that the leftover grains after harvesting which were unfit for human consumption be given to the fowls. His uncle accepted his advice but was not convinced. Pradeep explained him the advantage of this practice.
(i) Poultry is India's most efficient converter of low fibre foodstuff into highly nutritious animal protein food' Justify the statement.
(ii) Write the nomenclature used for the birds which are reared for eggs and those which are reared for meat.
(iii) Which values of Pradeep helped his uncle in earning profit? (3)
18. What do you mean by concentration of a solution? A solution is made by dissolving 50 g of glucose in 250 g of water calculate the concentration of this solution. (3)
19. On dissolving mud in water, what type of substance is obtained? Give three reasons to support your answer. How can a saturated solution be made unsaturated, list two ways. (3)
20. a) Define G. Write its unit and dimension.
b) Differentiate between g and G.
c) A person weighs 110.84N on moon surface. Calculate - (value of $g = 9.8 \text{ m/s}^2$)
(i) Gravity on the moon
(ii) Mass of a person on moon.

(iii) Weight of person on the earth.

(1.5+2+1.5=5)

21. a) State Newton's second law and derive the first law of Newton mathematically from Newton's second law

b) A 8000kg engine pulls a train of 5 wagons, each of 2000kg, along a horizontal track offers a force of friction of 5000N, then calculate-

(i) The net accelerating force

(ii) Acceleration of the train.

(3+2=5)

22.a) A housewife churned full cream milk with a churner-

(i) What did she observe after churning the milk?

(ii) What could be the possible reason for the observation.

(iii) Name the method.

(iv) State the principle of this method.

b) Identify the dispersed phase and dispersion medium in-

(i) face cream

(ii) butter

(4+1=5)

23. a) Mention three different types of blood cells with their functions. Draw diagrams also.

b) State two differences between blood and lymph.

(3+2=5)

24. A student visited a fish farm where he found catla, Rohu, Mrigal, common carp and grass cultured in the same field.

a) Name this type of fish farming.

b) Mention two advantages of such a farming system.

c) What is the main problem in fish farming?

d) How do farmers overcome this problem?

(1+2+1+1=5)

SECTION-B (MCQ)

1. Name the plant tissue present in seed coat of almond.
a) collenchyma b) parenchyma c) sclerenchyma tissue d) vascular
2. When a cell is placed in a Hypertonic solution the water is withdrawn from the cell to the outer-side medium. It is called as
a) exosmosis b) endosmosis c) reverse osmosis d) both (a) & (b)
3. Mrinalika added only two drops of iodine to a rice extract in test tube P. Another student Vicky added a little rice extract to iodine solution in test tube Q. They would observe
a) a change of color to blue black in test tube P but not in Q
b) a change of color to blue black in test tube Q but not in P
c) change of color in both P & Q
d) no color change in any test tube
4. A student mixed the egg white with water & stirred it well. What will he observe after sometime-
a) a transparent solution is obtained
b) a translucent mixture is formed
c) egg white floats on the surface
d) egg white settles down at the bottom
5. When a magnet is rolled in a compound of Iron sulphide then-
a) iron particles are attracted towards magnet
b) iron sulphide clings to the magnet
c) iron do not cling to the magnet
d) none of the above
6. Which of the following substance can not be separated by the method of sublimation-
a) sodium chloride b) ammonium chloride
c) camphor d) iodine
- 7a) Which stain will you prefer to prepare a temporary mount of onion peel?
b) Why glycerine is used to prepare temporary mount of onion peel? (2)
8. Mention the correct procedure for preparing a colloidal solution of starch in the lab with the help of a flow diagram. (1)
9. What do you mean by least count? (1)