Hajare Foundation's
PADMAVATI INTERNATIONAL SCHOOL, HOSUR-RABKAVI
PT-I, 2020

Sub: Science **Date: 28/10/2020** **Marks: 80**
Class: IX **Time: 3hrs**

Instructions

1. Question paper comprises 4 sections. A B C. There are over all 34 questions. All questions are compulsory
2. Section A question number 1 to 18 are objective type questions of one mark each.
3. Section B question from 19 to 28 are short answer type questions, carrying 3marks.
4. Section D question from 29 to 34 are long answer type questions, carrying 5 marks.

Section A

1. Which of the following are chemical changes? **[1]**

   a) Melting of ice
   b) The cooking of vegetables.
   c) Freezing of water
   d) Drying of wet clothes in sun light

2. Tincture of iodine has antiseptic properties. This solution is made by dissolving **[1]**

   a) iodine in vaseline
   b) iodine in potassium iodide
   c) iodine in water
   d) iodine in alcohol

3. Match the following with the correct response. **[1]**

(a) Fine mud particles suspended in water	(i) Centrifugation
(b) Purification of water	(ii) Loading & sedimentation
(c) Small pieces of metal in the engine of a car	(iii) Filtration
(d) Tea leaves from tea extract	(iv) Chlorination

   a) (a) - (iii), (b) - (ii), (c) - (iv), (d) - (i)
   b) (a) - (i), (b) - (iii), (c) - (ii), (d) - (iv)
   c) (a) - (iv), (b) - (i), (c) - (iii), (d) - (ii)
   d) (a) - (ii), (b) - (iv), (c) - (i), (d) - (iii)

4. The number of valence electrons determines **[1]**

   a) Both Physical and chemical properties of elements
   b) Neither physical nor chemical properties of elements
   c) Physical properties of elements
   d) Chemical properties of elements

5. The electronic configuration of Cl^- ion is **[1]**

   a) 2, 8, 6
   b) 2, 8, 7
   c) 2, 8, 8, 1
   d) 2, 8, 8

6. The difference between isotopes and isobars **[1]**

   a) Isotopes have same physical properties but isobars have different.
   b) Isobars have same chemical properties but isotopes have different chemical proerties.
   c) Both have same physical properties.
   d) Isotopes have same chemical properties but isobars have different.

7. Which of the following are covered by a single membrane? **[1]**

a) Mitochondria
b) Vacuole
c) Nucleus
d) Plastid

8. The energy currency of the cell is: **[1]**

a) AMP
b) GTP
c) ATP
d) ADP

9. There is no net movement of the water when a cell is placed in a/an _____ medium. **[1]**

a) hypotonic
b) isotonic
c) saturated
d) hypertonic

10. Which of the following is not a function of vacuole? **[1]**

a) Waste excretion
b) Locomotion
c) Providing turgidity and rigidity to the cell
d) Storage

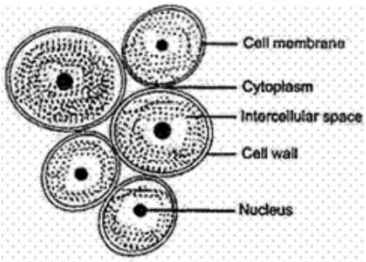
11. The substance found in the cell wall of cork or bark that makes it impervious to water is **[1]**

a) cutin
b) lignin
c) suberin
d) lipids

12. Which of the following tissues has dead cells? **[1]**

a) Collenchyma
b) Epithelial tissue
c) Parenchyma
d) Sclerenchyma

13. Given below is the diagram showing the structure of Parenchyma cell **[1]**



Which marking are wrong?

a) Nucleus and cell wall
b) Cell wall and cell membrane
c) Intercellular space and cytoplasm
d) Cell membrane and nucleus

14. The displacement of the body can be- **[1]**

a) Zero
b) All of these
c) Positive
d) negative

15. A body is said to be in rest when: **[1]**

a) Its position doesn't change with time with respect to the observer.
b) It's position changes with time w.r.t observer.
c) The body moves in uniform motion,
d) None of these.

16. Fill in the blanks: **[3]**
    a) The number of protons present in the nucleus of an atom is the _____ of that atom.
    b) _____ is the outer protective covering of the plant and is usually layered by a cuticle.
    c) An object is said to have _____ motion if it travels unequal distances in equal intervals of time.
17. Which separation techniques will you apply for the separation of the iron pins from sand. **[1]**
18. Define acceleration of a body. **[1]**

Section B

19. Differentiate between a saturated and unsaturated solution. How will you test whether a given solution is saturated or not? **[3]**
20. What is a colloid? What are the various properties of colloids? **[3]**
21. In the following table, the mass numbers and the atomic numbers of certain elements are given. **[3]**

Element	A	B	C	D	E
Mass no.	1	7	14	40	40
At. no.	1	3	17	18	20

    i. Select a pair of isobars from the above table.
    ii. What would be the valency of element C listed in the above table?
    iii. Which two sub-atomic particles are equal in number in a neutral atom?

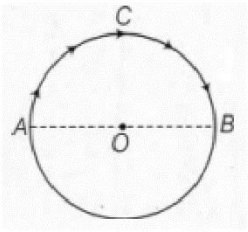
22. Na^+ ion has completely filled K and L shells. Explain. **[3]**
23. What is prokaryotic cell? Differentiate between prokaryotic cell & eukaryotic cell? **[3]**
24. Write an activity describing the process of osmosis. **[3]**
25. Write the differences between xylem and phloem. **[3]**
26. Explain why animals of colder regions and fishes of cold water have thick layer of subcutaneous fat. **[3]**
27. A body is moving with a uniform velocity of 10 ms^{-1}. Find its velocity after 10 s? **[3]**
28. A car acquires a velocity of 72 kmh^{-1} in 10 second after starting from rest. Find (a) the acceleration (b) the average velocity and (c) the distance travelled in this time. **[3]**

Section C

29. i. Write the steps involved in the process of obtaining pure copper sulphate from an impure sample. **[5]**
    ii. Give any one application of this method.
    iii. Why is this technique better than simple evaporation to purify solids?
30. What is the gold foil experiment? Name the scientist who performed this experiment. Write the conclusions and shortcomings of Rutherford's model of atom. **[5]**
31. Explain main functional regions of a cell with the help of a diagram. **[5]**
32. We can control some of the actions of our body, but some are not in our control. Comment on this statement. **[5]**
33. A car accelerates uniformly from 18 km h^{-1} to 36 km h^{-1} in 5 s. Calculate **[5]**

i. the acceleration and

ii. the distance covered by the car in that time.

34. 

[5]

An insect moves along a circular path of radius 10 cm with a constant speed. It takes 1 min to move from a point on the path to the diametrically opposite point, find

i. the distance covered,

ii. the speed,

iii. the displacement and

iv. the average velocity.