

Science (Question Paper) Class IX

Periodic Test -2 (2017-2018)

Maxm. Marks:80

Time:3hrs

Q1. Convert  $373^{\circ}\text{C}$  to Kelvin scale. (1)

Q2. Define uniform acceleration. (1)

Q3. Name the process in which diffusion take place through a selectively permeable membrane. (1)

Q4. The industries in an area used up the tube well water excessively. It was found that most of the trees in that area dried up. What could be the cause for this? (1)

Q5. Smoke and fog both are aerosols. In what way are they different? (2)

Q6. Differentiate between physical and chemical changes.(Any 2 points) (2)

Q7. When salt is kept in a jar, it takes the shape of jar. Are they solid? Justify (2)

Q8. A car acquires a velocity of  $72\text{km/hr}$  in 10s starting from rest. Find:

a) Acceleration. b) Distance travelled in this time. (2)

Q9. Mention 2 examples which can be explained on the basis of third law of motion. (2)

Q10. How much would a  $70\text{kg}$  man weigh on Moon? What will be his mass on Earth and Moon? (2)

Q 11.What is meant by the depletion of ozone layer? State (a) two causes and

(b) two effects of depletion of ozone layer in the atmosphere. (2)

Q12. Give reasons: (2+1=3)

i) Solids are rigid and incompressible

ii) Camphor disappears with time without leaving any solid

Q13. A solution contains  $40\text{g}$  of sodium chloride in  $400\text{g}$  of water. Calculate the concentration in terms of mass by mass percentage of the solution. (3)

Q14. Draw the graph for the following situations: (3)

a) Speed-time graph for a body moving with constant speed.

b) Velocity-time graph when the velocity of the body decreases uniformly to zero.

c) Distance-time graph for uniform motion.

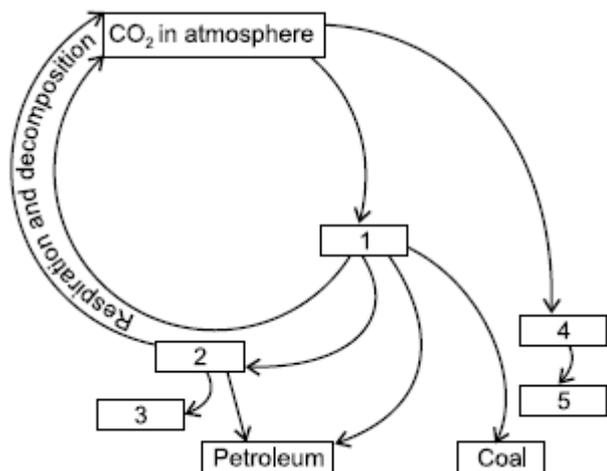
Q15. Give reason for the following: (3)

a) When a motor car makes a sharp turn at a high speed, we tend to get thrown to one side.

b) In the athletic event 'High jump' the athletes are made to fall on a sand bed.

Q16. (a) Name the gas which is used in the process of photosynthesis. (3)

b) Complete the following cycle.



Q17. Name the following and give one characteristic of each. (3)

- (a) Living tissue that provides mechanical support in plants.
- (b) Highly specialized cells for being stimulated and then transmitting the stimulus very rapidly within the body of animals.
- (c) Animal tissue with elongated cells and contractile proteins responsible for movement.

Q18. (a) You can very easily bend the stem of a plant without breaking it. Name the tissue in the plant which makes it possible. Where is it located? State any two characteristic features of the cells of this tissue.

(b) Draw a labelled diagram of the transverse section of this tissue. (3)

Q19. Which separation technique will you apply for the separation of the following: (5)

- i) Iron pins from sand
- ii) Butter from curd
- iii) Oil from water
- iv) Tea leaves and Tea
- v) Pigments from an extract of flower petals

Q20.. A) Which of the following will show Tyndall Effect (1.5+1.5+2=5)

- i) Copper sulphate solution
- ii) Mist
- iii) Starch solution
- iv) Salt solution
- v) Milk

B) Classify the following into element, compound or mixture

- i) Calcium carbonate    ii) Silicon    iii) Blood

C) Explain why the particles of colloidal solutions do not settle down when left undisturbed while in case of a suspension they do?

Q21. State and derive the Law of Conservation of Momentum. (5)

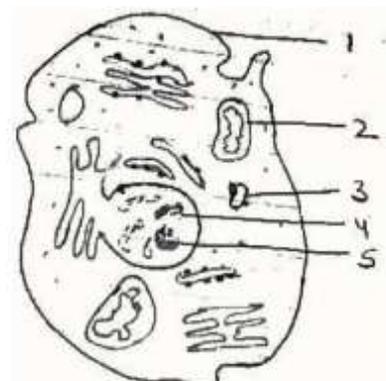
A bullet of mass 20gm is fired horizontally with a velocity of 150m/s and from a pistol of mass 2kg. What is the recoil velocity of the pistol?

Q22.State Universal Law of Gravitation. Give value of G in S.I units. (5)

If a planet existed whose mass was twice that of the Earth and whose radius is 3 times greater than how much will a 1kg mass weigh on the planet.

Q23. Observe the diagram of the cell below – answer the following questions. (5)

- Label the parts of the cell
- what function does part 1 perform ?
- If the organelle 2 is removed from the cell, what effect is it going to make on the functions of the cell ?
- Identify, whether it is plant cell or animal cell
- Which structure is called 'Power house of the cells'?



Q24 (a) Explain the formation of complex permanent tissue in plants. Mention two types of complex tissues and write their functions.

(b) How simple permanent tissues are different from complex permanent tissues?(5)

Q25. What is a nervous tissue? Give its functions. Explain the structure of a neuron with a diagram. (5)

### Practical based questions:

Q26. What is the density of a piece of wood that has a mass of 25.0 grams and a volume of 29.4 cm<sup>3</sup>? (2)

Q27.a)Identify which of the following solution is opaque and unstable and mention its type. (2)

- Salt in water
- Soil in water
- Starch in water

b) Why is the mixture stirred constantly while adding starch to boiling water?

Q28.What precautions will you take while preparing a temporary slide of onion peel cells? (2)

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