II-PERIODIC TEST : 2022-23

CLASS - IX (CBSE)

SCIENCE

Time: 2 hrs. M.M.: 50

General Instructions :

i) **The question paper comprises of four sections A, B, C and D.**
ii) **All questions are compulsory.**
iii) **Section–A consists of 1 mark questions, Section–B consists of 1 marks questions, Section–C contains 2 marks questions and Section–D contains 5 mark questions.**

SECTION – A [20 Marks]

Competency Based Questions (MCQ and Case Based Type Questions)

Q.1. Microscope which employees two lens unit sin working position at one time is called : [1]
a) simple microscope
b) compound microscope
c) both a and b
d) neither a nor b

2. Which of the following helps in repair of tissue and fills up the space inside the organ : [1]
a) tendon
b) adipose tissue
c) areolar
d) cartilage

3. Intestine absorbs the digested food materials. What type of epithelial cells are responsible for that : [1]
a) stratified squamous epithelium
b) columnar epithelium
c) spindle fibres
d) cuboidal epithelium

4. Which of the following is/are colloid : [1]
a) milk b) blood
c) both d) none

5. Which out of the following is a heterogeneous mixture.
a) air b) iodised table salt
c) steel d) None of these

6. When we heat iron and sulphur together at high temperature : [1]
a) mixture of iron and sulphur is obtained
b) they do not react
c) yellow coloured iron sulphide is formed
d) black coloured FeS is formed

7. Which of the following is true if 2 objects of different masses fall freely on the surface of the moon ? [1]
a) They both have different accelerations.
b) They have the same velocities at any instant.
c) They experience forces of the same magnitude .
d) They change their inertia.

8. The law of gravitation describes the gravitational force between : [1]
a) any two bodies having mass.
b) earth and point mass only.
c) earth and Sun only.
d) two charged bodies only.

9. According to the third law of motion, action and reaction : [1]
a) always act on the same body.
b) always act on different bodies in opposite directions.
c) have same magnitude and directions .
d) act on either body at normal to each other.

10. The masses of two bodies are in ratio 5 : 6 and their velocities are in ratio 1 : 2. Their linear momentum will be in the ratio : [1]

a) 5 : 6 b) 1 : 2 c) 12 : 5 d) 5 : 12

CASE STUDY BASED QUESTIONS [Q. 11 TO Q. 13]

11. A group of students took an old shoe box and covered it with a black paper from all sides. They fix a source of light (a torch) at one end of the box by making a hole in it and made another hole on the other side to view the light. They placed a milk sample contained in a beaker in the box and they were amazed to see that milk taken in the beaker was illuminated. They tried the same activity by taking a salt solution but found the light simply passed through it : [1×4=4]

i) Phenomenon of scattering of light by the colloidal particles is known as :
   a) Raman effect b) Newton's ring
   c) Spectral effect d) Tyndall effect

ii) When light enters the atmosphere it strikes on extremely fine particle, which deflects the rays of light in all possible direction, this is due to ?
   a) reflection of light
   b) atmospheric refraction
   c) scattering of light
   d) dispersion of light

iii) The solutions used for studying the scattering of light are known s . . . .
   a) colloidal solution
   b) aqueous solution
   c) non aqueous solution
   d) ordinary solution

iv) While driving in winter, through dense fog, one can see some rays from headlights emitted by vehicle reaching towards us is due to . . ..
   a) scattering of light
   b) atmospheric refraction
   c) reflection of light
   d) dispersion of light

12. There is no atmosphere on the moon. This is because gas molecules need a certain amount of force of attraction to be retained on a heavenly body. The force of attraction of the moon is less than the required force, hence no atmosphere can exist. [1×3=3]

i) The value of g on moon is . . . . . times that of earth
   a) 1/3 b) 3 c) 6 d) 1/6

ii) Mass of the moon is . . . . that of earth :
   a) more than b) less than
   c) equal to d) can't say

iii) If the mass of an object is 60 kg on earth then, its mass on moon will be .....
   a) 10 kg b) 60 kg c) 120 kg d) 360 kg

13. Plant cells, in addition to the plasma membrane, have another rigid outer covering called the cell wall. The cell wall lies outside the plasma membrane. The plant cell wall is mainly composed of cellulose. Cellulose is a complex substance and provides structural strength to plants. When a living plant cell loses water through osmosis there is shrinkage or contraction of the contents of the cell away from the cell wall. [1×3=3]

i) What is mean by plasmolysis ?
ii) What is the reason behind structural strength of plant cell ?
iii) What are the constituents of plasma membrane.

SECTION-B [10 Marks]

Fill in the blanks [Q. 14 to 23]

14. The intermixing of particles of two different types of matter on their own is called ____ [1]
15. Gases can be liquefied by applying ____ and lowering ____ . [1]
16. Ice water and water vapour look diffeent and display different ____ properties but they are the same ____ . [1]
17. The important complex vascular tissues of vascular plants are ____ and ____ . [1]
18. Muscular tisse is grouped into ____ types of muscules, namely, striated muscles smooth muscles and ____ muscles. [1]

19. ____ and ____ are present in plant cells but absent in animal cells. [1]

20. Golgi complex was discovered by ____ in 1898. [1]

21. The value of g on surface of earth changes due to the variation in Earth's ____ . [1]

22. In velocity -time graph if line of graph is parallel to time axis then motion of body will be ____ motion. [1]

23. In seperation between two masses is halved, the gravitational force of attraction between them will increase ____ times. [1]

SECTION-C [10 Marks]
(SHORT TYPE QUESTIONS)

24. Calculate the magnitude of gravitational force between earth and an object of 1 kg. [2]

25. What are the two types of cell division ? [2]

26. Name the phenomenon which occurs in following processes : [2]
    a) formation of clouds
    b) drying of wet clothes

27. 20 grams of sodium chloride is dissolved in 100 ml of water. How will you test whether it is saturated or unsaturated at a given temperature. [2]

28. What is meant by plasma ? How are BEC formed ? [2]

OR

Write dispersed phase and dispersion medium in emulsion.

SECTION-D [10 Marks]
(LONG ANSWERTYPE QESTIONS)

29. i) Distinguish between the following : [3+2=5]
    a) cartilage and bone
    b) blood and lymph
    c) smooth and cardiac muscles
    ii) Draw a well labelled diagram of nerve cell.

OR

Describe the structure and function of different types of epithelial tissues. Draw the diagram for each type epithelial tissues.

30. i) State law of conservation of momentum and give it's mathematical expression. [2+3=5]
    ii) A bullet of mass 20 g is fired from a gun of 8 kg. If initial velocity of the bullet is 200 m/s then calculate the recoil velocity of the gun.

OR

Derive the unit of force using second law of motion. A force of 5 N produces an acceleration of 8 m sec^{-2} on a mass m_1. The same force produces an acceleration of 24 m sec^{-2} on a mass m_2. What will be the acceleration produced if both the masses are tied together and same force acts on them. [2+3=5]

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