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| **SINDHI HIGH SCHOOL, HEBBAL**  **PERIODIC TEST-II [2023-24]**  **SUBJECT: SCIENCE**  **Grade**: **IX** **Total marks** : **50**  **Date: 30.08.2023 Reading Time: 8:30-8:40am**  **No of Sides: 5 Writing Time: 8:40-10:40am**    **G GENERAL INSTRUCTIONS:**   * This Question Paper has 5 Sections A-E. * Section A has 12 questions carrying one mark each consisting of MCQs and assertion and reasoning * type questions. * Section B has 4 questions carrying 2 marks each. * Section C has 4 questions carrying 3 marks each. * Section D has 2 questions carrying 5 marks. * Section E has 2 case study consisting of 4 questions with an internal choice carrying 1 mark each. |

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|  | **Section A** |  |
|  | **Section A consists of 12 questions of 1 mark each.** |  |
| 1 | The value of acceleration due to gravity  a) is same on equator and poles b) is least on poles  c) is least on equator d) increases from pole to equator | **1** |
| 2 | The acceleration due to gravity on the surface of a planet whose mass and radius are double than the mass and radius of the earth will be  a) ½ g b) g c) ¾ g d) 2g | **1** |
| 3 | If the distance between two masses is doubled, the gravitational attraction between them  a) is doubled b) becomes four times  c) is reduced to half d) is reduced to quarter | **1** |
| 4 | The term concentrated solution, indicates:  (a) Solution containing no solute  (b) Solution with low amount of solute  (c) Solution in which only water is the solvent  (d) Solution with high amount of solute | **1** |
| 5 | Which of the following are not chemical changes?  (i) Decaying of wood (ii) Burning of wood  (iii) Sawing of wood (iv) Hammering of a nail into a piece of wood  (a) (i) and (ii) (b) (ii) and (iii)  (c) (iii) and (iv) (d) (i) and (iv) | **1** |
| 6 | A teacher told three students A, B and C to prepare 25% solution (mass by volume) of KOH. Student A dissolved 25 g of KOH in 100 g of water, student B dissolved 25 g of KOH in 100 mL of water and student C dissolved 25 g KOH in water and made the volume 100 mL. Which one of them has made the solution of desired concentration?  (a) A (b) B (c) C (d) All | **1** |
| 7 | Cork cells are impervious to water and gases because  a. they are meristematic tissues  b. they are living cells  c. their cell walls consists of Suberin  d. their cell walls consists of Cutin | **1** |
| 8 | Identify the organ in which cuboidal tissue is present-  a. Oesophagus b. Lining of mouth  c. Kidney tubules d. Under the skin acting as insulator | **1** |
|  | **Assertion Reason based question:**  **In the following questions a statement of assertion (A) is followed by a statement of Reason(R).Choose the correct option.**  **a) Both A and R are true and R is the correct explanation of A.**  **b) Both A and R are true and R is not the correct explanation of A.**  **c) A is true but R is false.**  **d) A is false but R is true**. |  |
| 9 | **ASSERTION**: If the net external force acting on a body is zero, its acceleration is zero  **REASON:** Acceleration does not depend on force | **1** |
| 10 | **ASSERTION**: True solutions exhibit Tyndall effect.  **REASON:** Particles of solute in a true solution are completely dissolved in the solvent. | **1** |
| 11 | **ASSERTION:** Tendon is an epithelial tissue.  **REASON:** With great strength and limited flexibility, tendons join bone and muscle. | **1** |
| 12 | **ASSERTION**: The growth in plants is limited to certain regions  **REASON:** In plants only the stem cells grow throughout their life. | **1** |
|  | **Section B** |  |
|  | **Section B consists of 4 questions of 2 marks each.** |  |
| 13 | A hammer of mass 0.5 Kg, moving at 50 m/s, strikes a nail. The nail stops the hammer in a very short time of 0.01 s. what is the force of the nail on the hammer? | **2** |
| 14 | a) The value of gravitational constant G on the Earth is 6.67X10-11 Nm2kg-2. What is its value on the surface of the moon?  b) Which force is responsible for the motion of the moon around the earth? What would happen to the motion of the moon if this force suddenly disappeared? | **2** |
| 15 | Draw neat, labelled diagram to show the location of different types of meristematic tissues. | **2** |
| 16 | Give one function for each of the given tissues A, B, C, D  Bone connective tissue - Sciencetopia Identify the connective tissue A shown in diagram.  A B  AP Board 9th Class Biology Solutions Chapter 3 Animal Tissues – AP Board  Solutions AP Board 9th Class Biology Solutions Chapter 3 Animal Tissues 3  C D | **2** |
|  | **Section C** |  |
|  | **Section C consists of 4 questions of 3 marks each.** |  |
| 17 | Using Newton’s laws of motion, prove that linear momentum is conserved in an isolated system where two bodies undergo collision | **3** |
| 18 | (a) Compare mixtures and compounds based on properties and separation methods of their components.  (b) Name (i) a liquid metal (ii) a non-metal which is good conductor of electricity. | **3** |
| 19 | Observe the following diagram and answer the following questions:  Draw a neat diagram of leaf epidermal peel showing stomata Label any two  parts  **A**  i. ‘A’ belongs to which tissue?  ii. Name the associated structures of this tissue.  iii. How does this tissue vary in different plants?  iv. Mention any two functions of ‘A’ | **3** |
| 20 | (a)Give any three differences between xylem and phloem.  (b)Identify the tissue present in the following locations:  i.Stalk of the leaf  ii.Husk of coconut  iii.Storage part of the plant  **Section D consists of 2 question of 5 mark** | **3** |
| 21 | (i) Why does a cricket player move his hand backward while catching the ball?  Justify with relevant formula  (ii) Observe the graphs given below and identify the type of force acting in each  of them  Observe the v - t graphs given above and explain the type of force acting  in the cases given.  (iii) Velocity-time graph for a 50g marble rolling on floor is given below. Find,  a) time in which the body comes to rest  https://hi-static.z-dn.net/files/da5/8b9ac10cc62c45ac5546e7e773165cdf.jpeg  b) acceleration produced in it  c) force acting on the marble | **5** |
| 22 | (a) The teacher instructed Sarika to prepare a 50% (mass by volume) solution of sodium hydroxide (NaOH) in 100ml of water. What amount of sodium hydroxide, she needs to make the solution of desired concentration?  (b) “Milk is a colloid” justify with any two valid points. | **5** |
|  | **SECTION E** |  |
|  | **Section E consists of two Case study of 4 marks** |  |
| 23 | A homogeneous mixture of two or more substance is called a solution. There are solid-solid solution, solid-liquid solution, liquid-liquid solution, and liquid-gas solution. For example, lemonade is a solution of sugar, salt, and lemon juice in water. These four components of solution do not react with each other since each constituent has its own taste in the lemonade. In other words, lemonade tastes the same throughout, which shows that, there is homogeneity at the particle level in the solution so that, particles of sugar or salt are evenly distributed in the solution.  (i) Give one example of each of the following:  (a) A solution of gas in liquid (b) A solution of solid in liquid.  (ii) What are alloys? Give any one example.  (iii) Explain tyndall effect and give two incidences from your daily life where tyndall effect can be observed.  OR  How suspensions and colloids are different based on their stability and filtration? | **4** |
| 24 | Muscle tissue is a specialized tissue found in animals which functions by contracting, thereby applying forces to different parts of the body. Muscle tissue consists of fibres of muscle cells connected in sheets and fibre. Together these sheets and fibres are known as muscles that control the movements of organisms as well as many other contractile functions. Muscle tissue functions as a single unit and is often connected to the same nerve bundles. The nerve impulse is transferred almost instantaneously to all the nerve cells in the muscle tissue, and the entire muscle contracts.  **Nervous tissue** is one of the four types of animal tissue. Nervous tissue is composed of two main types of cells**: neurons**and**glial cells**. Nervous tissue is present in the brain, spinal cord, and nerves all around the body. Nervous tissues perform so many important functions like movement, thought, memory, movement, etc. If nervous tissue does not work properly it leads to some nervous tissue disorders such are: Parkinson’s Disease, Multiple sclerosis, etc.  (1) The muscles are classified based on which characters?  (2) Give any two locations of smooth muscles.  (3) Draw a neat diagram of the tissue which cannot divide and mention one function for any two labelling. | **4** |

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