ANUSHKA
9 - C
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FIRST TERM EXAMINATION - (2025-26)

TIME: 3 Hrs **CLASS IX: SCIENCE- (SET-1)** **No. of Pages:7**
M.M:80

GENERAL INSTRUCTIONS:

(i)This question paper consists of 39 questions in 3 sections. Section A is Biology, Section B is Chemistry and Section C is Physics.

(ii) All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.

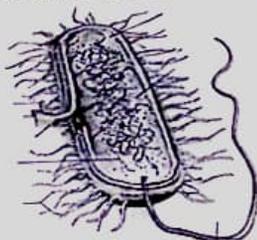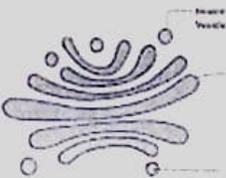| Q No:	SECTION-A	Marks
1.	How endoplasmic reticulum helps transport protein between various regions of the cytoplasm? (a)By forming a network of membrane bound tubes in the cytoplasm. (b)By directing all cell organelles to perform the same biochemical activity. (c)By occupying most of the space in the cytoplasm. (d)By generating electric impulse throughout the cell.	1
2.	The image shows the stem of a plant. Which type of meristematic tissue is present at the labelled part 'X'? (a)Lateral meristem (b)Intercalary meristem (c)Apical meristem (d)Both apical and lateral meristem	1
3.	Identify the statement that is not true about the given structure. (a) Nuclear region is undefined. (b) It may contain vesicles carrying the pigment chlorophyll. (c) It has more than one chromosome. (d) Membrane bound organelles are absent.	1

P.T.O

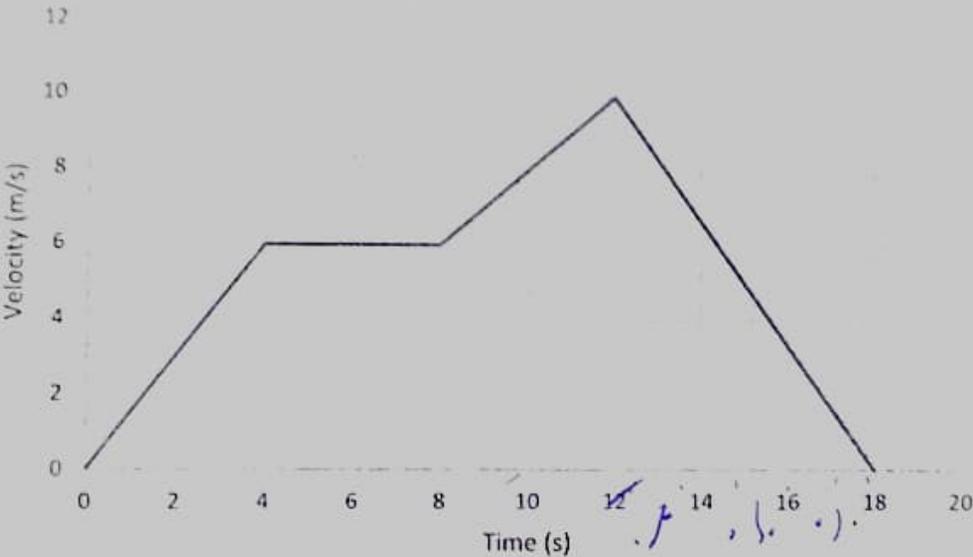| 4.	Anil has bacterial infection. _____ part of the cell will help him eliminate bacteria from his body and this part is formed from_____. (a)Nucleoid, Vacuole (b)Lysosomes, E.R (c)Golgi bodies, Lysosomes (d)Lysosomes, Golgi bodies	1
5.	In desert plants, loss of water is reduced due to: (a)Cutin (b)Stomata (c)Lignin (d)Suberin	1
6.	**Assertion and Reason Ques:** The following question consist of two statements. Answer the question selecting the appropriate options given below: A. Both A and R are true and R is the correct explanation of A B. Both A and R are true but R is not the correct explanation of A. C. A is true but R is false D. A is false but R is true **Assertion(A)** : All the plant tissues divide throughout their life. **Reason(R)** : Meristematic tissues are localized in certain regions.	1
7.	Which type of cell division is required for repair of body and which type is involved in reproduction? How the daughter cells produced by these divisions differ in number of chromosomes?	2
8.	Give reason: **(a)**SER plays a crucial role in vertebrates. **(b)**Inner membrane of mitochondria is deeply folded inside.	2
9.	Meristematic tissue are very active. List any four features of the cells of Meristematic tissue. **OR** Give reason: (i)Branches of a tree move and bend freely in high wind velocity. (ii)We get a crunchy and granular feeling when we chew pear fruit.	2
10.	Give a well labelled diagram of Chloroplast.	3
11.	Differentiate between Meristematic and Permanent tissue. (Any 3 points).	3
12.	**(Case based Ques)**	

The *Golgi apparatus* (G.A) also known as the *Golgi complex, Golgi body*, or simply the Golgi, is an organelle found in most eukaryotic cells. Owing to its large size and distinctive structure, the Golgi apparatus was one of the first organelles to be discovered and observed in detail.

(i) _____ first described Golgi apparatus?

(a)Meselson Golgi   (b)Leeuwenhoek

(c)Camillo Golgi   (d)Watson & Crick

(ii)System of membrane bound vesicles arranged parallel to each other in G.A is:

(a)Lamellae   (b)Cisterns   (c)Stroma   (d)Grana

(iii)Why Golgi apparatus is usually found near endoplasmic reticulum? How E.R help in membrane biogenesis?

OR

(iii)What would happen to the cell if there was no Golgi apparatus? (2 points). | **4**

13. (a)Cork act as a protective layer. Give any four characteristics which enable it to function as a protective tissue. How are they formed?

(b)The root tips of a plant were cut and the plant was replanted. What will happen to the plant and why? | **5**

SECTION-B

14. The melting point of four substances A, B, C and D are $78°C$, $262°C$, $100°C$ and $168°C$ respectively. The increasing order of their interparticle forces of attraction is

(a) A, C, D, B   (b)A, B, D, C

(c) A, C, B, D   (d)A, D, B, C | **1**

15. Clothes do not dry quickly when there is high humidity in air. What explains this observation?

(a)High humidity decreases the rate of evaporation.

(b)High humidity increases the rate of evaporation.

(c)High humidity decreases the rate of condensation.

(d)High humidity increases the rate of condensation. | **1**

16. Two substances X and Y combine together to form a product Z which contains both X and Y. $X+Y \rightarrow Z$

X and Y cannot be broken down into simpler substances by simple chemical reaction. Which of the following statements about X,Y and Z are correct?

(I)   Z is a compound   (II)   X and Y are compounds

(III)   X and Y are elements   (IV)   Z has fixed composition

(a)(I) (II) and (III)   (b)(I) (II) and (IV)

(c)(II) (III) and (IV)   (d)(I) (III) and (IV) | **1**

17. Which of the following elements is a metalloid?

(a)Silver   (b)Aluminium

(c)Boron   (d)Chlorine

                                               P.T.O | **1**

18.	Which one of the following sets of phenomena would increase on raising the temperature? (a)Diffusion, evaporation, compression of gases. (b)Evaporation, compression of gases, solubility (c)Evaporation, diffusion, expansion of gases. (d)Evaporation, solubility, diffusion, compression of gases	1
19.	Tincture of iodine has antiseptic properties. This solution is made by dissolving (a)Iodine in potassium iodide (b)Iodine in Vaseline (c)Iodine in water (d)Iodine in alcohol	1
20.	The following question consists of two statements- Assertion (A) and Reason(R). Answer the question selecting the appropriate option given below: (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true but R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true. **Assertion (A):** Dust particles in air form aerosol. **Reason (R):** Dust particle form dispersion medium and air is dispersed phase.	1
21.	Give reason for the following (a)We can easily move our hand in air but not through liquid or solid (b)A gas fills a vessel completely.	2
22.	How much water should be added to 15g of common salt to obtain 15% salt solution?	2
23.	(a)What is Tyndall effect? Why is tyndall effect not exhibited by true solution? (b)What would you observe when a saturated solution of Potassium chloride prepared at 60°C is allowed to cool to room temperature? **OR** (a)Give two important differences between mixture and compounds (b)Define solubility.	3
24.	Explain the following: (a)A desert cooler cool better on a hot dry day. (b)We wear cotton clothes in summer. (c)Our palm feels cold when we put some perfume on it	3
25.	Read the following passage and answer the questions that follow: The students performed an activity - one group of students mixed filings with sulphur and the other group made iron sulphide by heating iron filings with Sulphur. Both the groups moved the magnet over the material they got. In case of iron and Sulphur mixture, iron filings got attracted to the magnet and no change was observed in case of iron sulphide. They wanted to check the action of carbon disulphide and dilute sulphuric acid on both the types of materials and observed that they reacted in a different manner. Now answer the question. (i)Why no change was observed when the magnet was moved over iron sulphide?	

	(ii)In which case does sulphur dissolved in carbon disulphide (ii)Name the gases liberated when dilute sulphuric acid was added to iron and sulphur mixture and to iron sulphide compound. **OR** (iii)Why were different gases obtained on the addition of dilute sulphuric acid to the mixture of iron and sulphur and to iron sulphide. (1+1+2=4)	4

26.	(a)Give two reason to justify that water is a compound
	(b)How do sol and gel differ from each other? Give one example for each
	(c)Classify the following as chemical or physical changes.
	    (i)Making a fruit salad with raw fruits.
	    (ii)Burning of a candle.
		5

<div align="center">**SECTION-C**</div>

27.	Which of the following can be explained using the property of inertia of a body? (a) When water boils its temperature increases. (b) When a moving bus comes to halt suddenly the passengers tend to move in the forward direction. (c) Water rises in a capillary tube (d) When a motorcar makes a sharp turn at a high speed, the person sitting in the motorcar tends to get thrown to one side. (i) Both (a) and (c) (ii) Both (a) and (d) (iii) Both (b) and (c) (iv) Both (b) and (d)	1
28.	A body is moving with a velocity of 24 m/s. The velocity of the body increases to 54 m/s in 10 s. What is the acceleration of the body? (i) 7.8 m/s² (ii) 78 m/s² (iii) 3 m/s² (iv) 30 m/s²	1
29.	The rate of change of velocity of a body is directly proportional to which physical quantity: (i) Momentum (ii) Displacement (iii) time (iv) acceleration	1
30.	A boy moves on a circular track of radius 'r' and comes back to its starting point, repeats the procedure for 4 times, then the distance travelled will be : (i) $2\pi r$ (ii) $8\pi r$ (iii) zero (iv) None of these	1
31.	Slope of a displacement time graph represents a physical quantity whose units are: (i) m/s² (ii) m/s (iii) m² (iv) m³	1
32.	If the displacement-time graph is a straight line parallel to the time axis, what can be said about the force acting on the object? (i) The net force acting is zero. (ii) The net force acting is greater than zero. (iii) The net force acting is less than zero. (iv) The net force is first greater than zero and then less than zero.	1

<div align="right">**P.T.O**</div>

33.	The following question consists of two statements- Assertion (A) and Reason(R). Answer the question selecting the appropriate option given below: (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true but R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true. **Assertion (A):** The average speed of a body is equal to the average velocity of the body in case of uniform motion in a straight line. **Reason(R) :** In case of uniform motion in a straight line, the distance covered by the body is equal to the displacement of the body.	1
34.	Define force. Write it's S.I. unit. **OR** Write any four differences between displacement and distance.	2
35.	A boy runs for 10 minutes at a uniform speed of 9 km/h. At what speed should he run for the next 20 minutes so that the average speed becomes 12 km/h.	3
36.	For the following velocity time graph for a body: Calculate: (i) The distance travelled by the body in the first four seconds. (ii) The distance travelled by the body between 8 seconds and 10 seconds. (iii) The distance travelled by the body in the last 6 seconds.	3
37.	A bullet of mass 25 g travelling with a velocity of 36 km/h penetrates a sand bag and comes to rest in it in 1/20 s. Find: (i) the distance through which it penetrates in the sand bag. (ii) the value of the retarding force of sand.	3

38.	**CASE STUDY** The second law of motion states that the rate of change of momentum of an object is proportional to the applied unbalanced force in the direction of force. A football player kicks a ball towards the goal. The goalkeeper of the opposing team jumps and catches the ball, stopping it instantly. The ball was initially moving with a speed of 15 m/s before coming to rest in the goalkeeper's hands in 0.2 s. (i)Which physical quantity changes when the goal keeper catches the football? (ii)Explain why the goalkeeper pulls his hands backward while catching the ball. (iii)Calculate the force exerted by the goal keeper on the ball if its mass is 0.5 kg. <center>**OR**</center> <center>Derive the Newton's second Law of motion.</center>	4
39.	(a) There are three solids made up of aluminium, steel and wood, of the same shape and same volume. Which of them would have highest inertia and why? (1 Mark) (b) Why does a person tend to move forward when a moving bus suddenly comes to a halt? (1 Mark) (c) A constant force applied on an object of mass 2 kg for 10 s, increases its velocity from 5 m/s to 10 m/s. Find the magnitude of the applied force. If the same force is applied for 15 s, what will be the final velocity of the object? / (3 Marks)	5

The End