THE VILLAGE
INTERNATIONAL SCHOOL
"We Nurture Dreams"

Date:15-09-2023 GRADE: X	Term 1 (2023-24) SCIENCE (086)	Max marks : 80 Time: 3 hours

General Instructions:

i. This question paper consists of 39 questions in 5 sections.
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.
iii. Section A consists of 20 objective type questions carrying 1 mark each.
iv. Section B consists of 6 Very Short questions carrying 02 marks each. Answers to these questions should be in the range of 30 to 50 words.
v. Section C consists of 7 Short Answer type questions carrying 03 marks each. Answers to these questions should be in the range of 50 to 80 words.
vi. Section D consists of 3 Long Answer type questions carrying 05 marks each. Answer to these questions should be in the range of 80 to 120 words.
vii. Section E consists of 3 source-based/case-based units of assessment of 04 marks each with sub-parts.

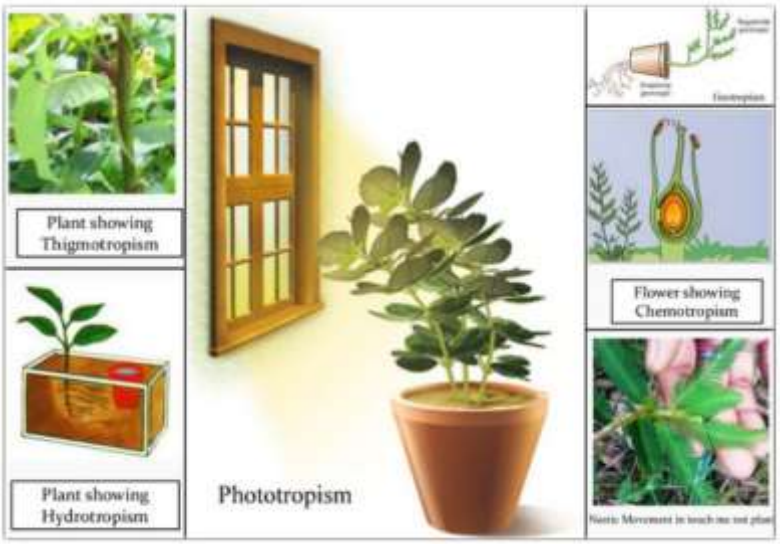
	Section-A **Select and write the most appropriate option out of the four options given for each of the questions 1 - 20. There is no negative mark for incorrect response.**	
1	$CaCO_3$ —————>$CaO + CO_2$ The above reaction is an example of: a) combination reaction. b) double displacement c)decomposition reaction. d)displacement reaction	1
2	What happens when a copper coin is dipped in silver nitrate solution? a)no reaction takes place b)silver is coated on the copper coin c)silver displaces copper d)copper is coated on silver	1

3	The metal which forms oxide layer on the surface when exposed to air is: a)Fe. b)Ag. c) Zn. d)Cu	1
4	Which of the following pairs will give displacement reaction? a)Cu metal and NaCl solution b)Au metal and ZnSO4 c)Mg metal and CuSO4. d)Ag metal and FeSO4solution	1
5	Which metal produces H2 gas when treated with dil HNO3? a)Fe. b)Mg. c)Zn. d) Al	1
6	Name the substance which on treatment with chlorine produces bleaching powder? a)quick lime. b)slaked lime c)lime stone. d)caustic soda	1
7	Which compound does not conducts electricity ? a)sugar. b)hydrochloric acid c)sodium hydroxide d)NaCl solution	1
8	The contraction and expansion movement of the walls of the food pipe is called: (a) translocation (b) transpiration (c) peristaltic movement (d) digestion	1
9	Roots of plants are: (a) positively geotropic (b) negatively geotropic (c) positively phototropic (d) None of these	1
10	Breathing is controlled by which part of the brain? (a) Cerebrum (b) Cerebellum (c) Hypothalamus (d) Medulla oblongata	1
11	Receptors are usually located in sense organs. Gustatory receptors are present in a) tongue b) nose c) eye d) ear	1
12	A sportsman, after a long break of his routine exercise, suffered muscular cramps during a heavy exercise session. This happened due to: a) lack of carbon dioxide and formation of pyruvate. b) presence of oxygen and formation of ethanol. c) lack of oxygen and formation of lactic acid. d) lack of oxygen and formation of carbon dioxide.	1
13	A light ray does not bend at the boundary in passing from one medium to the other medium, if the angle of incidence is a) 0^0 b) 90^0	1

	c) 45^0 d) 60^0	
14	Rainbow is observed when the Sun is a) Vertically above the observer b) Behind the observer c) In front of the observer d) Position is not defined	1
15	For the reaction ,2PbO+ C(s)--->2Pb+CO2 Which of the statements is incorrect ? a)CO2 is getting oxidised. b)lead is getting reduced c)carbon is getting oxidised. d)PbO is getting reduced	1
16	Which part of nephron allows the selective reabsorption of useful substances like glucose, amino acids, salts and water into the blood capillaries? (a) Tubule (b) Glomerulus (c) Bowman's capsule (d) Ureter	1
	Question No. 17 to 20 consist of two statements – Assertion (A) and Reason (R) Answer these questions 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, 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.	
17	**Assertion(A)**: NH4Cl is acidic in nature. **Reason(R):**It is made up of strong acid and a weak base.	1
18	**Assertion (A):** Transpiration is a necessary evil **Reason (R) :** It causes water loss but helps in absorption and upward movement of water and minerals	1
19	**Assertion(A) :** When light travels from one medium to another, the direction of propagation of light in the second medium changes. **Reason (R) :** Light travels with different speeds in different mediums.	1
20	**Assertion(A):** Gypsum when heated at 373 K ,plaster of paris is formed. Reason (R) : If the temperature is more than 373K it forms dead burnt plater.	1
Section-B Question No. 21 to 26 are very short answer questions		
21	Name any one amphoteric oxide and write the equations to prove it.	2

22	What are the adaptations of leaves for photosynthesis?	2
23	i)Explain how the fats are digested in our body? ii)Where does this process take place?	2
24	i) State the laws of refraction of light. ii) If the speed of light in vacuum is 3 x 10^8 m/s, find the absolute refractive index of a medium in which light travels with a speed of 1.5 x 10^8 m/s.	2
25	Write the function of each of the following parts of human eye: (i) cornea (ii) crystalline lens (iii) iris (iv) pupil **OR** i) What is dispersion of white light? ii) Draw a ray diagram to show the dispersion of white light by a glass prism.	2
26	What are the strategies of plants to get rid of their wastes?	2
Section-C Question No. 27 to 33 are short answer question		
27	To three solutions of sodium carbonate,hydrochloric acid,sodium chloride a few drops of phenolphthalein and blue litmus were added separately.Specify the colour change in each case.	3
28	i)What happens when a cold solution of sodium chloride reacts with ammonia and carbon dioxide?Write the equation. ii)Name the gas evolved when dilute HCl reacts with sodium hydrogen carbonate?(Equation required)	3
29	Nervous and hormonal systems together perform the function of control and coordination in human beings. Justify this statement with the help of an example.	3
30	i) Define reflex arc. ii)Draw a flowchart showing the sequence of events which occur during sneezing.	3
31	Name the type of mirrors used in the following situations and support your answer with reason: (i) Headlights of a car (ii) Rear-view mirror of vehicle (iii) Solar furnace	3
32	(i) An object is placed at a distance of 10 cm from a convex mirror of focal length 15 cm. Find the position and nature of the image formed. (ii) The magnification produced by a mirror is -1. What type of mirror is this?	3
33	Explain the formation of the rainbow with the help of a diagram.	3

Section-D **Question No. 34 to 36 are long answer questions**		
34	i)What is an ionic bond? ii)Write any 2 properties of ionic bond. iii)Draw the electron structure of MgCl2.	1+1+3
35	i) Write two points of difference between breathing and respiration ii)Write two different ways in which glucose is oxidised to provide energy in the human body. Write the products formed in each case. iii)Why is there a difference in the rate of breathing between aquatic organisms and terrestrial organisms? Explain	5
36	(i)A convex lens has a focal length of 10 cm. At what distance from the lens should the object be placed so that it forms a real and inverted image 20 cm away from the lens? (ii)What would be the size of the image formed if the object is 2 cm high? (iii)With the help of a ray diagram show the formation of the image formed by the convex lens when the object is kept at a distance equal to 2F? OR A 5 cm long pencil is placed 10 cm in front of a concave mirror having a radius of curvature of 40 cm. (i) Determine the position of the image formed by this mirror. (ii) What is the size of the image? (iii)Draw a ray diagram to show the formation of the image as mentioned in the part (i).	2+1+2
SECTION - E **Question No. 37 to 39 are case-based/data -based questions with 2 to 3 short sub-parts. Internal choice is provided in one of these sub-parts.**		
37	i)A dry pellet of a common base B,when kept in open absorbs moisture and turns sticky.I t is prepared by chlor alkali process and an important reagent in chemistry.  a)How is the above compound prepared? b)Write the equation when B is treated with an acidic oxide. c)Write the balanced equation when B is treated with Zn granules.	4

38	Nastic movements in plants are not directional movements. They are not dependent on the stimulus and are growth independent. For example, the leaves of a touch me not plant (Mimosa pudica), fold up immediately when touched. These kinds of changes occur due to the changes in the amount of water in the leaves. Depending on the quantity, they either swell up or shrink. Plant hormones or phytohormones are responsible for the control and coordination of plants. There are different types of hormones, which affect the growth of a plant. Phytohormones are chemical compounds which are released by stimulated cells. These hormones are diffused around the plant cells. They have a role in the cell division, cell enlargement, cell differentiation, fruit growth, falling of leaves, ripening of fruits, ageing of plants etc.  (i) Name the phenomenon called for the movement in growth of plants. (ii) What do you mean by nastic movement ? (iii) What are the different types of hormones of plants ? (iv) The plant hormone help in the cell growth at the shoot tips by elongating the cells and help in the growth process is :	4

39	 A boy uses spectacles of focal length -50cm since he can not see the far away objects clearly. He had a few doubts in his mind and consulted a doctor for clearing them. Answer the below questions by using the above information. (i) Name the defect of vision he is suffering from. (ii) Which lens is used for the correction of this defect? (iii) What is the power of this lens? (iv) List two causes of this defect. **OR** Draw a ray diagram that shows the image formation in a myopic eye.	1+1+1+1
THE END		