

Global Indian International School

Common Pre Board -2019-20

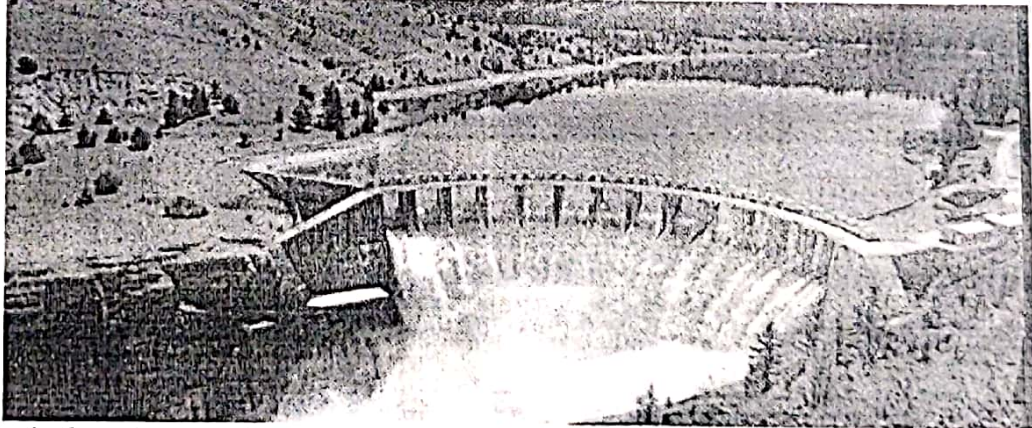
Date :-

Subject :- Science

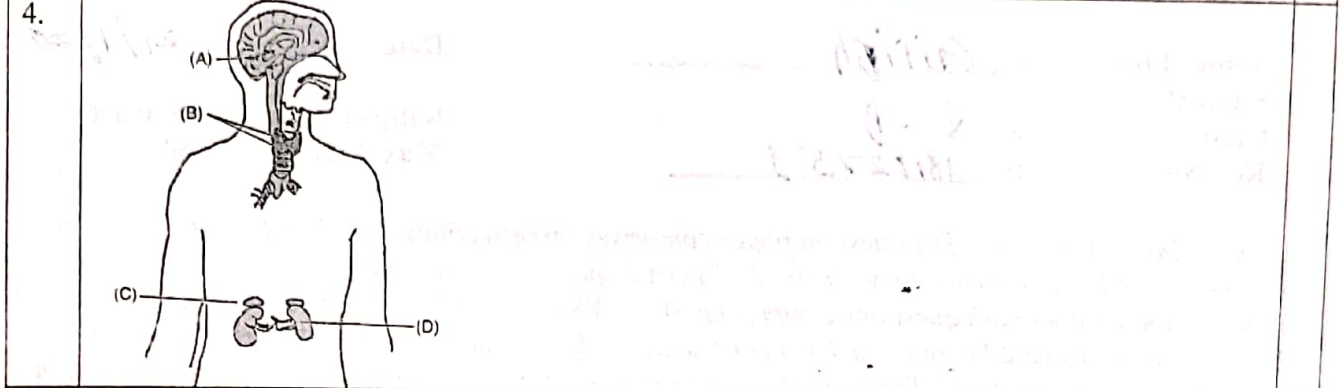
Max. Marks :- 80

General Instructions: 1. The question paper comprises three sections – A, B and C. Attempt all the sections. 2. All questions are compulsory. 3. Internal choice is given in each section. 4. All questions in Section A are one-mark questions comprising MCQ, VSA type and assertion-reason type questions. They are to be answered in one word or in one sentence. 5. All questions in Section B are three-mark, short-answer type questions. These are to be answered in about 50 - 60 words each. 6. All questions in Section C are five-mark, long-answer type questions. These are to be answered in about 80 – 90 words each. 7. This question paper consists of a total of 30 questions.

SECTION-A

1.	An Aqueous solution of PH zero is a) Acidic b) Alkaline c) Neutral d) Amphoteric	1
2.	Write electron dot structure of Methane.	1
3.	Answer question numbers 3(a) - 3(d) on the basis of your understanding of the following paragraph and the related studied concepts. Hydroelectric power is a form of renewable energy that is created by harvesting energy from the gravitational force of flowing or falling water. This type of power first began to be harvested in ancient times when people used it to grind flour and for other uses. Further development to harvest energy from falling or flowing water began in the 1700s and in the 1800s power stations began to open, and by 1886 there were 45 in the U.S. and Canada. In 1889 there were 200 already in operation in the United States. Today it is estimated that 20% of the electricity generated around the world is done with hydropower.	4
		
3a. what is the principle of hydro power plant?		
3b. write any one limitation of hydro power plant?		
3c. why hydro power plants are multipurpose project?		

3d. A. Assertion: Potential energy of water is used to drive the turbine.
 B. Reason: Law of conservation of energy.
 a) A. is true but B is false.
 b) A. is true but B is true.
 c) A. is false but B is false.
 d) A. is false but B is true.

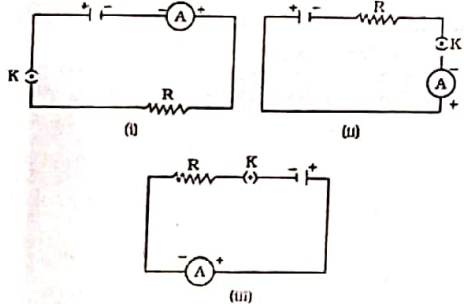


- a) Identify Endocrine gland A 1
- b) Identify Endocrine hormone B 1
- c) Identify Endocrine gland C and write its function 1
- d) Identify Endocrine gland D 1

5. The least distance of distinct vision for a young adult with normal vision is
 a. 25 m b. 20 m c. 25 cm d. 20 cm
 OR
 The colored light that refracts most while passing through a prism is
 a. Yellow b. Violet c. Blue d. Red

6. When a 40V battery is connected across an unknown resistor there is a current of 100 mA in the circuit. Find the value of the resistance of the resistor:
 a 5000 Ω b 800 Ω c 0.8 Ω d none of these 1

7. A cell, a resistor, a key and an ammeter are arranged as shown in the circuit . the current recorded in the ammeter will be. 1.



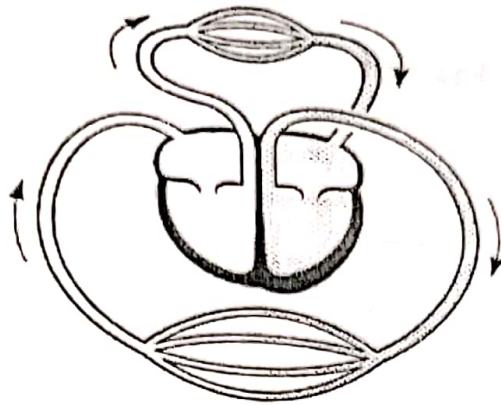
- a maximum in (i) b maximum in (ii)
- c maximum in (iii) d the same in all the cases

8. The pH of water sample collected from a river was found to be acidic in the range of 3.5 – 4.5, on the banks of the river were several factories that were discharging effluents into the river. The effluents of which one of the following factories is the most likely cause for lowering the pH of river water? 1

	(a) Soap and detergent factory (b) Lead battery manufacturing factory (c) Plastic cup manufacturing factory (d) Alcohol distillery	
	OR	
	Given below are a few statements related to biodiversity. Pick those that correctly describe the concept of biodiversity (i) Biodiversity refers to the different species of flora and fauna present in an area (ii) Biodiversity refers to only the flora of a given area (iii) Biodiversity is greater in a forest (iv) Biodiversity refers to the total number of individuals of a particular species living in an area	
	(a) (i) and (ii) (c) (i) and (iii)	(b) (ii) and (iv) (d) (ii) and (iii)
9	Select the incorrect statement (a) Economic development is linked to environmental conservation (b) Sustainable development encourages development for current generation and conservation of resources for future generations (c) Sustainable development does not consider the viewpoints of stakeholders (d) Sustainable development is a long planned and persistent development	1
10.	Which of the following compound can have triple bond? a) C ₂ H ₄ b) C ₂ H ₆ c) C ₃ H ₄ d) C ₃ H ₆	1
11.	Which of the following is basic salt? a) Na ₂ CO ₃ b) KCl c) NaCl d) NaNO ₃	1
12.	Chemically rust is (a) Hydrated ferrous oxide (b) Hydrated ferric oxide (c) only ferric oxide (d) none of these	1
13.	Which is denatured spirit? (a) Ethanol only (b) ethanol and methanol (50%) (c) ethanol and methanol (5%) (d) methanol only	1
14.	A. Assertion: fuse wire must have high resistance and low melting point . B. Reason: Fuse is used for small current flow only. (a) A. is true but B is false. (b) A. is true but B is true. (c) A. is false but B is false. (d) A. is false but B is true.	1
15.	How many structural isomers can you draw for pentane?	3
16.	Give three types of decomposition reaction OR What is hydrogenation? What is its industrial application?	3 3
17.	Differentiate between metal and non-metal on the basis of their chemical properties.	3
18.	i) Why are some substances biodegradable and some non-biodegradable? ii) What are trophic levels? Give an example of a food chain and state the different trophic levels in it. iii) What will happen if we kill all the organisms in one trophic level? OR i) Why is damage to the ozone layer a cause for concern? What steps are being taken to limit this damage?	3 3

	ii) Give any two ways in which non-biodegradable substances would affect the environment.				
19.	(A) Draw the structure of a nephron and label the following on it: Glomerulus, Bowman's capsule, Renal artery, Collecting duct. (B) What happens to glucose that enters the nephron along with filtrate?				3
20.	What is dihybrid cross? Mendel crossed the round and green seeded pea plants with the wrinkled and yellow seeded pea plants. Give the phenotypic ratio of F ₂ generation.				3
21.	S. No.	Hormone	Location	Function	3
(i)	_____	Shoot tips	Cell elongation		
(ii)	_____	Fruits and seeds	_____		
(iii)	Growth hormone	_____	_____		
(iv)	_____	Adrenal gland	Secreted at the time of emergency.		
(v)	Oestrogen	_____	_____		
Complete the following table.					
22.	An object 5 cm in length is held 25 cm away from a converging lens of focal length 10 cm. Draw the ray diagram and find the position, size and the nature of the image formed.				3
23.	Two metallic wires A and B are connected in series. Wire A has length l and radius r , while wire B has length $2l$ and radius $2r$. Find the ratio of total resistance of series combination and the resistance of wire A, if both the wires are of same material?				3
24.	i) Draw a diagram to show the dispersion of white light by a glass prism. ii) Name the phenomenon responsible for the observed twinkling of stars. Will this twinkling be observed by an observer on the moon?				3
25.	Which element has (a) two shells, both of which are completely filled with electrons? (b) the electronic configuration 2, 8, 2? (c) a total of three shells, with four electrons in its valence shell? (d) a total of two shells, with three electrons in its valence shell? (e) twice as many electrons in its second shell as in its first shell?				5
26.	What do you mean by Chlor-alkali process? Explain in detail.				5
27.	(a) Draw a diagram of the longitudinal section of a flower and label on it sepal, petal, ovary and stigma. (b) Write the names of male and female reproductive parts of a flower and explain the fertilization process in flowering plants. OR (a) What is fragmentation in organisms? Name a multicellular organism which reproduces by this method. (b) What is regeneration in organism? Describe regeneration in Planaria with the help of a suitable diagram. (c) A sexually reproducing organism can never produce an offspring with its own exact set of genetic material. Justify it.				5

28.



5

A- (i) Label any 4 parts in the given diagram.

(ii) What are the two functions represented in this diagram?

B-What is double circulation in human beings? Why is it necessary?

29.

- i) A piece of wire of resistance 20Ω is drawn out so that its length is increased to twice its original length calculate the resistance of the wire in the new situation?
- ii) You have two circuits (i) a 6V battery in series with 1Ω and 2Ω resistor (ii) a 4V battery in parallel with 12Ω and 2Ω resistor. Compare the power used in 2Ω resistor in each case.

5

30.

- i) Draw a ray diagram to show the use of a convex lens for the formation of images having the following characteristics. (a) Real & inverted and diminished (b) Virtual, erect & magnified.
- ii) An object is placed at a distance of 12 cm in front of a concave mirror. It forms a real image four times larger than the object. Calculate the distance of the image from the mirror

5

OR

- i) A doctor has prescribed a corrective lens of power 1.5D. Find the focal length of this lens. Is the prescribed lens diverging or converging?

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? What would be the size of the image formed if the object is 2 cm high? With the help of a ray diagram show the formation of the image by the lens in this case?

***** END OF THE PAPER *****