

केन्द्रीय विद्यालय संगठन तिनसुकिया संभाग

KENDRIYA VIDYALAYA SANGATHAN TINSUKIA REGION

पूर्व परिषदीय परीक्षा 2025-26 / PRE-BOARD EXAMINATION 2025-26

विषय/Subject:-विज्ञान/ Science

विषय कोड (सीबीएसई)/Subject Code(CBSE):-086

कक्षा/ Class:-दसवीं-X

प्रश्नपत्र कोड /Q.P. Code:- QP10SCI01PB25

निर्धारित समय/Time Allowed:- 3 घंटे

अधिकतम अंक/Maximum Marks:-80

सामान्य निर्देश/GENERAL INSTRUCTIONS:-

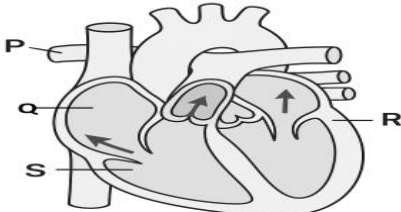
निम्नलिखित निर्देशों को ध्यानपूर्वक पढ़िए एवं उनका पालन कीजिये :

Read the following instructions carefully and follow them:

- This question paper consists of 39 questions in 3 sections.
- Section A is Biology, Section B is Chemistry and Section C is Physics.
- All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.

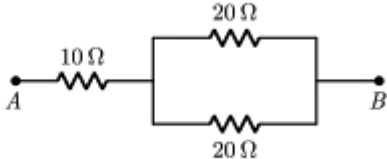
प्रश्नक्र./ Q. No.	Section-A	अंक/Marks
1	Which of the following is the correct path of urine in the human body? (a) Kidney → Bladder → Urethra (b) Bladder → Kidney → Urethra (c) Kidney → Ureter → Urethra (d) Kidney → Ureter → Bladder → Urethra	1
2	The hormone that regulates sugar level in blood is: (a) Thyroxine (b) Insulin (c) Adrenaline (d) Estrogen	1
3	Which of the following is a renewable resource? (a) Coal (b) Petroleum (c) Forests (d) Natural gas	1
4	Which plant hormone is responsible for bending of plants towards light (phototropism)? a) Cytokinin b) Auxin c) Gibberellin d) Absciscic acid	1
5	In peas, a pure tall (TT) is crossed with a pure short plant (tt). The ratio of pure tall plants to pure short plants in the F ₂ generation is a) 1:3 b) 3:1 c) 1:1	1

	d)2:1	
6	Ozone layer depletion is mainly due to: a) Oxygen gas b) Carbon dioxide c) CFCs (Chlorofluorocarbons) d) Methane	1
7	Energy flow in an ecosystem is: a) Unidirectional b) Cyclic c) Random d) Reversible	1
8	Assertion (A): Stomata help in exchange of gases as well as transpiration. Reason (R): Guard cells regulate the opening and closing of stomata. (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.	1
9	Assertion (A): Traits acquired during the lifetime of an organism are not inherited. Reason (R): Acquired traits cause changes in the DNA of germ cells. 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.	1
10	A-Why is the small intestine in herbivores longer than in carnivores? OR B-While eating, sometimes food enters the windpipe instead of the food pipe, leading to coughing. Which structure normally prevents this and how?	2
11	Why is the ozone layer important for life on earth?	2
12	A person was advised to eat less oily food to avoid digestion problems. Which digestive juice helps in the emulsification of fats and where is it produced?	2
13	A man eats junk food daily and gains weight, while his children are slim and healthy. (a)Is the father's obesity an inherited or acquired trait? (b)Why is it not passed on to his children? (c)Give one example of an inherited trait in humans.	3
14	A boy accidentally touches a hot plate and withdraws his hand immediately. (a)Name this type of action. (b)Which part of the nervous system controls it? (c)Why is this action important for survival?	3
15	During a health check-up, a doctor found high levels of glucose in a person's urine. (a)Which organ is not working properly? (b)Which hormone is responsible for controlling blood sugar?	4

	(c) Name the disease the person is suffering from. (d) Mention one lifestyle change that can help this patient. OR The diagram below shows the human heart.  a) Label parts P, Q, R, S. b) Why are the walls of ventricles thicker than atria? c) Which side of the heart carries oxygenated blood?	2+1+1
16	Answer the following questions. a) What is the need for contraceptive methods? b) Which contraceptive method prevents fertilization by blocking sperm entry? c) Name one contraceptive device placed inside the uterus. d) Which contraceptive method involves hormones? e) Mention one benefit of using contraceptives apart from birth control. OR Answer the following questions a) Name the organ that produces sperms. b) Which hormone is secreted by this organ? c) What is the function of vas deferens? d) Which glands add fluid to the sperms? e) State one function of this fluid.	5
प्रश्नक्र./ Q. No.	Section-B	अंक/Marks
17	Which of the following is a displacement reaction? (a) $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$ (b) $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$ (c) $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$ (d) $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$	1

18	Which metal is stored under kerosene? (a) Sodium (b) Iron (c) Copper (d) Aluminium	1
19	Which compound is used in preparation of plaster of Paris? (a) CaO (b) CaCO ₃ (c) CaSO ₄ ·2H ₂ O (d) Na ₂ CO ₃	1
20	Which gas is evolved when zinc reacts with dilute sulphuric acid? (a) Oxygen (b) Hydrogen (c) Carbon dioxide (d) Nitrogen	1
21	The brown colour of copper turns green when exposed to moist air due to formation of (a) Copper sulphate (b) Copper carbonate (c) Copper hydroxide (d) Copper oxide	1
22	Brine is an (a) aqueous solution of sodium hydroxide (b) aqueous solution of sodium carbonate (c) aqueous solution of sodium chloride (d) aqueous solution of sodium bicarbonate	1
23	The functional group –COOH represents (a) Alcohol (b) Carboxylic acid (c) Aldehyde (d) Ketone	1
24	Assertion (A): Aqueous solution of NaOH turns red litmus blue. Reason (R): NaOH produces OH ⁻ ions in solution. (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.	1
25	Write equations to show the reaction of iron with: (i) steam, (ii) copper sulphate solution.	2
26	Ramesh added zinc granules to aqueous sodium hydroxide, he observed brisk effervescence. When a burning splinter was brought near the mouth of the test tube, it extinguished with a pop sound. (a) Write the balanced chemical reaction. (b) Mention any two uses of the gas evolved.	3
27	Give reasons (a) Aluminium is used for making utensils. Why? (b) Metals like gold and platinum are used in jewellery. Why? (c) Iron is used in construction of bridges, machines, and buildings. Why? OR Compare the reactivity of Na, Mg and Fe with cold water, hot water, and steam (write equations for one each).	3
28	Lime water is commonly used in laboratories to test for carbon dioxide gas. When CO ₂ gas is passed through lime water, it turns milky due to the formation of calcium carbonate. If CO ₂ is passed for a longer time, the milky appearance disappears. (a) Write the first reaction with balanced chemical equation. (b) Why does lime water turn milky? (c) Why does the milky appearance disappear on excess CO ₂ ? (d) Name the compound formed when milky appearance disappears. OR Write balanced chemical equations for the following:	4

	(a) Reaction of quick lime and water (b) Decomposition of ferrous sulphate crystals on heating. (c) Burning of magnesium ribbon in air (d) Reaction of iron and Copper sulphate	
29	Two carbon compounds X and Y have the molecular formula C_4H_8 and C_5H_{12} respectively. Which one of these is most likely to show addition reaction? Justify your answer. Also give the chemical equation to explain the process of addition reaction in this case. Or (a) What is meant by isomers? Draw the structures of two isomers of butane. Explain why we cannot have isomers of first three members of alkane series? b) State the reason why carbon can neither form C^{+4} cation nor C^{-4} anions but forms covalent compound.	5
प्रश्नक्र./ Q. No.	Section-C	अंक/Marks
30	The mirror used by dentists to see enlarged image of teeth is: (a) Plane mirror (b) Convex mirror (c) Concave mirror (d) None of these	1
31	The refractive index of glass is 1.5. The speed of light in glass is (speed of light in air $= 3 \times 10^8$ m/s) a) 2×10^8 m/s b) 4.5×10^8 m/s c) 1.5×10^8 m/s d) 3×10^7 m/s	1
32	Assertion (A): The sky appears blue to us. Reason (R): Blue light is scattered least by atmospheric particles. (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	1
33	A student uses a concave mirror of focal length 15 cm to obtain an image of a candle flame on a screen placed 30 cm in front of the mirror. Find the position of the object.	2
34	In an experiment A current of 0.2 A flows through a conductor for 1 hour. Calculate the amount of electric charge that flows through the circuit. OR In an experiment A piece of wire of resistance $4\ \Omega$ is cut into three equal parts. These parts are connected in parallel. Find the resistance of the combination.	2
35	In an experiment A wire of resistance $10\ \Omega$ is drawn out so that its length is three times the original length. Calculate the new resistance.	3
36	What is meant by power of accommodation? A student has difficulty reading the blackboard while sitting in the last row. What could be the defect the child is suffering from? How can it be corrected?	3
37	Why do magnetic field lines never intersect each other? Explain with diagram. Give two characteristics of field lines.	3

38	One day, during games period, a student of class X fell down and lips started bleeding. On observation, it was found by Physical Education teacher that very fine pieces of glass, difficult to observe, stuck on her lips. Harish a student of same class x immediately rushed to Physics Lab and bought a lens. The bigger image of stranded glass pieces eased the first aid job. (a) Name the lens brought by Harish. (b) Draw the ray diagram showing formation of big image of objects by the lens. (c) What should be the position of object to get such an image ? OR A student places an object 20 cm in front of a concave mirror of focal length 15 cm. The image formed is real and inverted. (a) Use mirror formula to calculate the image distance. (b) State the nature (size & orientation) of the image. (c) Draw a ray diagram for the above situation. (d) If the object is moved closer to 10 cm, what type of image will be formed?	4
39	(a) Write Joule's law of heating. (b) During an experiment Two lamps, one rated 100 W; 220 V and the other 60 W; 220 V, are connected in parallel to electric mains supply. Find the current drawn by two bulbs from the line, if the supply voltage is 220 V (c) Calculate the equivalent resistance of the following network  OR (a) What is meant by resistance of a conductor? Define its SI unit. (b) List two factors on which the resistance of a rectangular conductor depends. (c) The filament of an electric lamp draws a current of 0.5 amperes, which lights for 4 hours. Calculate the amount of charge that flows through the circuit.	5