



CSDAV PUBLIC SCHOOL

KOTWA ROAD, BANKAT, MOTIHARI, EAST CHAMPARAN(BIHAR)-845401

PRE-BOARD- (2017-18)

CLASS- **X**

SUBJECT - **SCIENCE**

FM- **80**

SCIENCE

A Highly Simulated Practice Question Paper for
CBSE Class X Examination

Time : 3 hrs

Max. Marks : 80

GENERAL INSTRUCTIONS

1. This question paper comprises of five Sections A, B, C, D and E. You have to attempt all the sections.
2. All questions in this question paper are compulsory.
3. All questions in all sections are to be attempted separately..
4. Question numbers 1 to 2 in Section A are one mark questions. These are to be answered in one word or in one sentence.
5. Question numbers 3 to 5 in Section B are two marks questions. These are to be answered in about 30 words each.
6. Question numbers 6 to 15 in Section C are three marks questions. These are to be answered in about 50 words each.
7. Question numbers 16 to 21 in Section D are five marks questions. There are to be answered in about 70 words each.
8. Question numbers 22 to 27 in Section E are based on practical skills. Each question is a two marks question.

Section {A}

1. In the phenomenon of electromagnetic induction, the change in current flowing in the primary coil produces an emf in the secondary coil. How the current flowing in the secondary is affected by that in primary coil?
2. Write the order in which different types of neurons are involved in the following response. A small girl frightened by a lizard starts shouting for help.

Section {B}

3. The sun near the horizon appears flattened at the sunset and sunrise. Explain why?

* You are advised to attempt this sample paper without referring the answers given here. However, cross check your answers with the answers given at the end of paper after you complete the paper.



- Although coal and petroleum are produced by degradation of biomass, yet we need to conserve them. Why?
- What are connecting links? What is their significance?

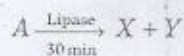
Section {C}

- The following table shows the position of six elements A, B, C, D, E and F in the modern periodic table.

| Group \ Period | 1 | 2 | 3 to 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|----------------|---|---|---------|----|----|----|----|----|----|----|----|
| 2 | A | | | | | | | B | | | C |
| 3 | | | | | | D | E | | | | F |

Using the above table, answer the following questions

- Name the element which forms only covalent compounds.
 - Name the element which is a metal with valency 3.
 - Name the element which is a non-metal with valency 3.
 - Out of D and E, which one is bigger in size and why?
 - Write the common name for the family of elements C and F.
 - Write the name of element(s) which has/have zero valency.
- Study the given equation carefully



- Identify the substrate (A) on which lipase acts and also X and Y.
 - How are fats digested in small intestine?
- In evolutionary terms, can we say which among bacteria, spiders, fish and chimpanzees have a 'better' body design? Why or why not?
 - Consider the given formulae of compounds KOH, NH₃, HCl, Al₂O₃, Mg(OH)₂. Choose the
 - compound which consists a non-metal with oxidation state of -3.
 - compound with most electropositive element.
 - compound with a metal having valency 3.

Or

Answer the following:

- Name the catalyst used in esterification.
 - Why saponification is so called?
 - What are the natural substances used for the production of soap?
- A blue coloured compound copper (II) nitrate on heating produces copper oxide (black), oxygen gas and a brown gas X.
 - Identify the brown gas X evolved.
 - Write a balanced chemical equation of the reaction.
 - Identify the type of reaction.
 - What could be the pH range of the aqueous solution of the gas X?

11. On adding a drop of barium chloride solution to an aqueous solution of sodium sulphite, white precipitate is obtained.
- Write a balanced chemical equation of the reaction involved.
 - What other name can be given to this precipitation reaction?
 - On adding dilute hydrochloric acid to the reaction mixture, white precipitate disappears. Why?

12. Malini stores curd in a beautifully designed copper containers for a party in the evening. The guests complain that curd has turned (sour). She gets embarrassed and feels sorry. One of the guests told her why this happened, so that she would be careful next time.

- What suggestion would have been given by the guest to Malini?
- What values are shown by the guest?
- Give an example of reaction between metallic oxide and dilute hydrochloric acid.

13. (i) The magnification produced by a plane mirror is +1. What does it mean?
 (ii) What is the nature of the image formed by a concave mirror if the magnification produced by the mirror is -0.75?
 (iii) What is the nature of image formed by a concave mirror if the magnification produced by the mirror is +3?

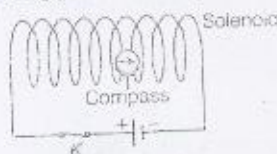
Or

- Refractive index of helium is 1.55. What is meaning of this statement?
- If a ray of light strikes a glass slab at an angle of 30° , then find the refractive index of glass such that the angle of refraction is 14.5° .

$$\left(\text{Take } \sin 14.5^\circ = \frac{1}{4} \text{ and } \sin 30^\circ = \frac{1}{2} \right)$$

14. A plotting compass is placed inside a solenoid and the compass needle is pointing in the direction as shown.

- Complete the diagram by drawing arrow heads to indicate the direction of the current flow.
- Describe the direction of the magnetic field inside the solenoid.
- If key k is opened what will happen to compass needle.



15. Three test tubes containing distilled water, an acidic solution and a basic solution are provided alongwith litmus paper to identify them. What colour changes will be indicated by litmus paper in each test tube?

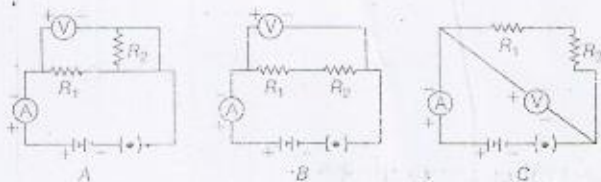
Section {D}

16. (i) Mention the symptoms of following bacterial diseases.
- | | |
|----------------|--------------|
| (a) Gonorrhoea | (b) Syphilis |
|----------------|--------------|
- (ii) Write the full form of following
- | | |
|----------|---------|
| (a) AIDS | (b) HIV |
|----------|---------|
- (iii) If a woman is using oral contraceptive pill, will it help in protecting her from sexual transmitted diseases?

17. (i) State two main causes of a person developing near sightedness. With the help of a ray diagram, suggest how he can be helped to overcome his disability?
 (ii) The far point of myopic person is 100 cm in front of the eye. Calculate the focal length and power of a lens required to enable him to see distant objects clearly.
18. In what manner our body respond on touching a flame? what is such a response called? State its mechanisms and advantages.
19. (i) State the rule to determine the direction of a
 (a) magnetic field produced around a straight current-carrying conductor.
 (b) force experienced by a straight current-carrying conductor placed in a magnetic field.
 (c) current induced in a coil due to its rotation in magnetic field.
 (ii) How will the magnetic force get affected on
 (a) doubling the magnitude of current (b) reversing the direction of current flow
- Or
- (i) What do you mean by electromagnetic induction? Name one device that works on the electromagnetic induction.
 (ii) Describe three different ways to produce induced current in a coil of wire.
20. A compound C (molecular formula, $C_2H_4O_2$) reacts with Na metal to form a compound R and evolves a gas which burns with a pop sound. Compound C on treatment with an alcohol A in the presence of an acid forms a sweet smelling compound S (molecular formula, $C_3H_6O_2$). On addition of NaOH to C, it also gives R and water. S on treatment with NaOH solution gives back R and A. Identify C, R, A, S and write down the reactions involved.
21. (i) Define the following terms :
 (a) Food chain (b) Food web (c) Biological magnification
 (ii) Flow of energy in an 'ecosystem is unidirectional' comment on the statement.

Section {E}

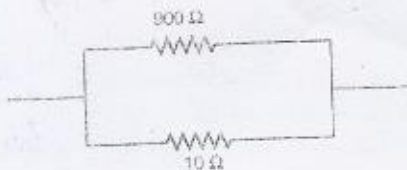
22. While doing an experiment on finding the equivalent resistance of two resistors connected in series, three students A, B and C setup their circuits as shown below:



Which student will take the observations correctly and why?

23. In an experiment, a student found that on heating zinc metal with dilute sodium hydroxide solution, a gas is evolved. Which properties is shown by the evolved gas and give equation also?
24. While observing the temporary leaf peel, how would you differentiate guard cells from the rest of epithelial cells?

25. In a laboratory experiment, Asha and Nisha both were asked to perform an experiment on combination of resistance. Figure (a) shows the experimental setup of Asha and (b) show the experimental setup of Nisha. Who will measure the higher resistance?



26. In order to study the different parts of an embryo of a dicot seed, a teacher provides seeds of kidney bean, maize and gram.
- Which seeds will you choose for this experiment?
 - On what basis do you choose the specific seeds?
27. In the experiment to study refraction of light through a glass prism, a student marked the different angles as 1, 2 and 3. The angle of deviation will be?



**D.A.V PUBLIC SCHOOL, D. ROAD, MUZAFFARPUR
PRE-BOARD EXAMINATION - 2017-18**

CLASS – X

Subject: Science SET– II

F.M : 80

Section – A

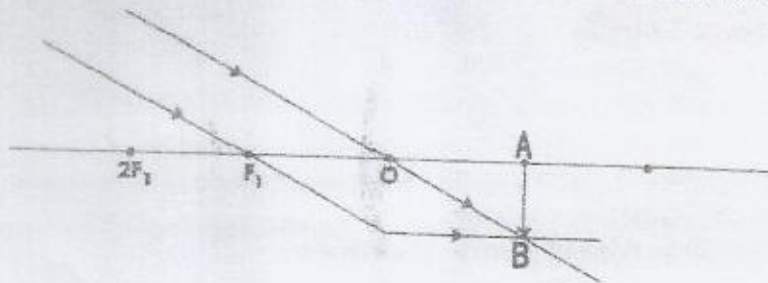
- (1) Magnification of the image formed by plane mirror is +1. What does it mean? 1
- (2) Give one difference between Sensory nerve and Motor nerve. 1
- (3) The electronic configuration of an element 'X' is 2, 8, and 7. 2
- (a) To which group and period does 'X' belong?
- (b) What is the number of electrons in its outermost shell and what is its valency?
- (4) (a) Why do we need to manage our resources carefully? 2
- (c) why management of natural resources require a long term perspective ?
- (5) Draw a ray diagram to show that parallel coming rays converge at principal focus of convex lens and diverge from concave lens. 2
- (6) Based on group valency of elements state the formula for the following giving justification for each. 3
- (a) Oxides of the first group elements.
- (b) Halides of the elements of the group 13 and.
- (c) Compounds formed when an element of group 2 combines with an element of group 16.
- (7) If we cross pure-breed tall pea plant with pure-breed dwarf pea plant we will get pea plants of F1 generation. If we non self- cross the pea plant F1 generation, then we obtain pea plant of F2 generation. 3
- (a) What do the plants of F1 generation look like?
- (b) State the ratio of tall plants to dwarf plants in F2 generation.
- (c) State the type of plants not found in F1 generation but appeared in F2 generation also mention the reason.
- (8) State the laws of refraction of light. if the speed of light in vacuum is 3×10^8 m/s, find the speed of light in a medium of absolute refractive index 1.5 3
- (9) How are the alveoli designed to maximize the exchange of gases. 3
- (10) The image of a candle flame placed at a distance of 45 cm from a spherical lens is formed on a screen placed at a distance of 90cm from the lens. Identify the type of lens and calculate its focal length. If the height of flame is 2cm, find the height of the image. 3
- (11) What is meant by 'refining of metals'? Describe the electrolytic refining of copper with a neat labeled diagram. 3
- (12) Why is it necessary to separate oxygenated and deoxygenated blood in mammals and birds? 3
- (13) A piece of wire of resistance 20 Ω is drawn out so that its length is increased to twice of its original length. Calculate the resistance of the wire in the new situation. 3
- (14) A hot plate of an electric oven connected to a 220V line has two resistance coil A and B, each of 24 Ω resistance, which may be used separately in series or in parallel. What are the currents in the three cases? 3
- (15) Crystals of copper sulphate are heated in test tube for sometimes. 5
- (a) What is the colour of copper sulphate crystals i) before heating (ii) After heating?
- (b) What is the Source of liquid droplets seen on the inner side of the tube while heating these crystals?
- (16) (a) Define principal focus of lenses - Draw diagram to show principal focus of both type of lenses 5
- (b) The image formed by a lens for all positions of an object placed in front of it is always erect and diminished, what is the nature of this lens? Draw a ray diagram to justify your answer. If the numerical value of the power of this lens 10 D, what is the focal length in the Cartesian system 5
- (17) Define the terms pollination and fertilization. Draw a diagram of a pistil showing pollen tube growing into oval and label the following. 5
- Pollen grains, Male germ cell, Female germ cell, ovary

Cont....

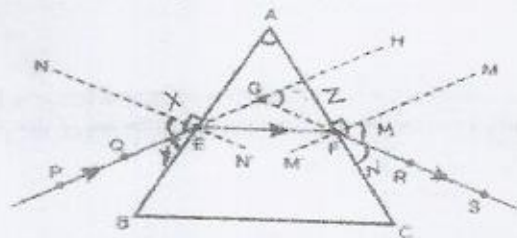
- (18) (a) which two criteria did Mendeleev use to classify the elements in his periodic table? 5
 (b) State Mendeleev's periodic law.
 (c) Why could no fixed position be given to hydrogen in Mendeleev periodic table?
 (d) How and why does the atomic size vary as you go
 (i) from left to right along a period?
 (ii) down group?
- (19) (a) Draw a diagram of human alimentary canal and label on it.
 Oesophagus, gall bladder, Liver and Pancreas. 5
 (b) Bile does not contain any enzyme but it is essential for digestion"
- (20) (a) What is Myopia? State the two causes of Myopia and with the help of a labeled ray diagram show 8
 (i) The eye defect Myopia (ii) Correction of Myopia using a lens.
- (21) What is phototropism? How does it occur in plants? Describe an activity to demonstrate phototropism. 5

Section B

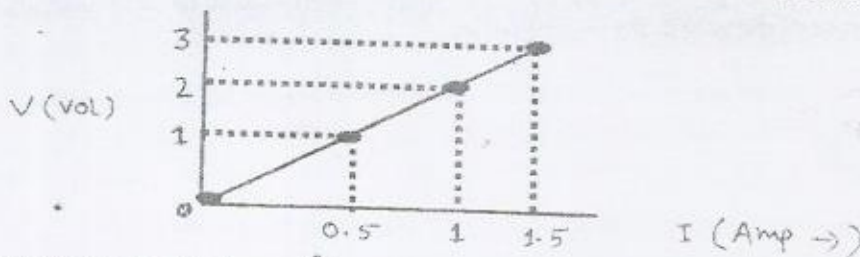
- (22) When the object is at infinity, the rays coming from it are parallel to each other as shown in the fig. Identify position and nature of the image. 2



- (23) For the refraction of a ray of light through a glass prism, the path of a ray of light is shown below. Identify the angle of incidence, the angle of emergence and the angle of deviation. 2



- (24) The given graph is plotted for V - I to verify Ohm's law. Calculate the resistance of the conductor used in the experiment. 2



- (25) What happens when acetic acid is added in a solution of Na_2CO_3 in a test tube? write the equation for detecting the gas evolved. 2

- (26) How do you classify the organs of different organism as homologous or analogous? 2

- (27) Name two animals which show reproduction by regeneration method. Which one of these two also reproduce by budding method? 2