

**PRERNA EDUCATION**  
**Practice Paper of Science**  
**Class X**  
**Session : 2019-20**

Time: 3 hrs

M.M:80

**General Instructions:**

- i. The Questions paper comprise of five sections: A, B, C, D, and E. You are to attempt all the sections.
- ii. All questions are compulsory.
- iii. Internal choice is given in section B, C, D & E.
- iv. Question numbers 1 and 2 in section -A are one mark questions. These are to be answered in about 1 (one) word each.
- v. Question numbers 3 to 5 in section-B are two mark questions. These are to be answered in about 30 words each.
- vi. Question numbers 6 to 15 in Section-C are three marks questions. These are to be answered in about 50 words each.
- vii. Question numbers 16 to 21 in section-D are five marks questions. These are to be answered in about 70 words each.
- viii. Question numbers 22 to 27 in section E are based on practical skills. Each question is a two marks question. These are to be answered in brief.

**Section A**

Q1.A mendelian experiment consisted of breeding tall pea plants bearing violet flowers with short pea plants bearing white flowers. The progeny all bore violet flowers, but almost half of them were short. Write the genetic makeup (genotype) of the tall parent. 1

Q2.How much potential difference (voltage) is generated by a solar cell .write any one limitation of using solar energy. 1

**Section B**

Q3. Draw the structure of Propanoic acid and Butanone. 2

Or

Write all the isomers of Pentane?

Q4. What is reflex arc? Draw it for the tennis player hitting a tennis ball during play. 2

Q5. One half of a Convex lens is covered with a black paper. Will this produce a complete image of the object. Draw a labelled diagram to justify your answer. 2

**Section C**

Q6. A shiny brown coloured element X on heating in air becomes black in colour. Name the element X and the black coloured compound formed. Write balanced chemical equation for the above. 3

Q7. Write the formula, use and chemical reaction for the formation of chloride of lime? 3

Or

Under what soil condition do you think a Farmer would treat the soil of his fields with quick lime or slaked lime ?

Q8.i. Give a chemical test to distinguish between saturated and unsaturated hydrocarbon?  
ii. Why is reaction between methane and chlorine in the presence of sunlight considered a substitution reaction. 3

Q9. i. How does Auxin promote the growth of a tendril around a plant.  
ii. Name the growth inhibitors in plants. 3

Q10.i.How does the reproduction in Amoeba differs from that of Paramecium.  
ii. What is the importance of Vegetative Propagation in Plant. 3

Q11. State Snell's law. Light enters from air to diamond with refractive index 2.42.what is the speed of light in diamond? (Given speed of light in air is  $3 \times 10^8 \text{ ms}^{-1}$  ). 3

Or

i. You are provided with two lenses of focal length 20cm and 30 cm, respectively ,these lens can diverge the light. Which lens will you use to obtain more divergent light? Name these lens.  
ii. An object is placed at a distance of 10cm from a lens of Power 4D.Find the position of the image formed.

Q12. Resistance of a metal wire of length 2m is 30 ohms at temperature  $25^\circ\text{C}$ , if diameter of the wire is 0.6mm, then what will be the resistivity of the metal at that temperature? X3

Or

i. An electric heater of 500 W operates 12hr/days. What is the cost of the energy to operate it for 30 days at 4 rupees per kWh?  
ii. State Joules law of Heating.

Q13. i. Name the alloys commonly used in electrical heating devices .  
ii. How can three resistors of resistance 2, 3 and 6 ohms be connected to give total resistance of a. 4 ohms and 1 ohm. 3

Q14. What changes can you make in your habits to become more environmental friendly? 3

Q15. i. Explain the concept of sustainable development. 3  
II. List two advantages associated water harvesting at the community level.

#### Section D

Q16.i.Two ores A and B were taken .on heating ore A gives  $\text{CO}_2$  whereas ore B gives  $\text{SO}_2$ .what steps will you take to convert them into metals? 5  
ii. What is electrolytic refining?

Q17.i.Write the merits and demerits of Mendeleev's periodic table. State the Mendeleev's periodic law.  
ii. How the metallic character varies in group and periods of modern periodic table. 5

Q18.i.Define Excretion. Name the basic filtration unit present in the kidney.  
ii . Draw a neat labelled diagram of excretory system and a Nephron. 5

Or

i. How the sex is get determined in human. Explain.  
ii. What are Fossils? what do they tell us about the process of Evolution.?

Q19. i. Write events occurring in flowering plant after fertilization.

ii. Where does the fertilization takes place in Female reproductive system. what is placenta? Write its function. 5

Or

i. what are the different methods of contraception.

ii. What could be the reasons for adopting contraceptive methods.

Q20. i. A student has a difficulty in reading the blackboard while sitting in the last row. What could be the defect the child is suffering from? How can it be corrected ? Explain with suitable diagram. 5

ii. Why do we observe difference in Colours of sun during sunrise, sunset and noon.

Or

i. Why we observe advance sunrise and delayed sunset? Explain. ii. Write the function of retina, iris, eyelid and cornea of human eye.

Q21. i. State Fleming's right hand rule. 5

ii. Write the principle of working of an electric generator

iii Differentiate between AC and DC

### Section E

Q22. what do you observe when few drops of sodium hydroxide (NaOH) solution is added to three test tubes containing red litmus, distilled water and phenolphthalein. 2

Q23. What is observed when ferrous sulphate is heated continuously in a test tube. Write the equation for it and name the type of reaction in this case. 2

Or

What happen when dilute hydrochloric acid is added to solid sodium carbonate in a test tube then. Write chemical equation for it.

Q24. A student is observing a permanent slide showing sequentially the different stages of asexual reproduction taking place in yeast. Name this process and draw diagrams of what he observe in a proper sequence. 2

Q25. write the steps involve in preparing temporary mount of leaf peel to show stomata. 2

Or

Draw experimental set up to show that carbon dioxide (CO<sub>2</sub>) is given out during respiration. Why KOH is used in it.

Q26. An object of height 2 cm is placed at a distance of 40 cm from the optical centre O of a convex lens of focal length 20 cm. Draw a ray diagram to find the position and size of the image formed. Mark optical centre O and principle focus f on the diagram. Also find the approximate ratio of size of the image to the size of the object. 2

Or

In a glass prism experiment, if a ray of light is incident normally on one of the faces of the prism then what will be the angle of refraction? Draw a diagram to trace the path of the rays of light through a glass prism and Label the angle of deviation in it.

Q27. State ohms law. Three student X,Y and Z while performing the experiment to study the dependence of current on the potential difference across a resistor, connects the ammeter(A),the battery(B),the key(K)and the resister (R) in series in the following three different orders.

X- B,K,R,A,;

Y- B,A,K,R ;

Z- B,R,K,A,. who has connected them in the correct order? 2

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