CLASS X
SAMPLE PAPER
SCIENCE

Time: 3Hours Marks: 80

General Instructions:

I. The question paper comprises two sections, A and B. You are to attempt both the sections.
II. All questions are compulsory. But there may be internal choices provided in some questions.
III. All questions of Section-A and Section-B are to be attempted separately.
IV. Questions numbered 1 and 2 in Section-A carry 1 mark each. Answer them in one or two sentences.
V. Questions numbered 3 to 5 in Section-A carry 2 marks each. Answer them in 30 words each.
VI. Questions numbered 6 to 15 in Section-A carry 3 marks each. Answer them in 50 words each.
VII. Questions numbered 16 to 21 in Section-A carry 5 marks each. Answer them in 70 words each.
VIII. Questions numbered 22 to 27 in Section-B carry 2 marks each. They are based on practicals. Answer them briefly.

SECTION A

01. Name a unisexual plant.
02. Give the definition of resistivity.
03. Write two points of difference between pepsin and trypsin
04. Give two reasons as to why do we need to harness non-conventional sources of energy.
05. Calculate the focal length of a lens when the power is - 3.25 D. What type of lens is this?
06. Differentiate between the arrangement of elements in Mendeleev's periodic table

and modern periodic table [Any 2 major points]. Define rancidity.

07. a)State Ohm's law and derive a relevant relation.
b) Find the electrical resistance of an instrument if the heat produced in 25 s by it is 6000 J when the current flowing through it is 5 A

08. a)Explain the statement: Both overproduction and underproduction of growth hormone leads to disorders in the body.
b) State Fleming's left hand rule.

09. What is placenta? Describe its structure and major functions.

10. Define germination. List any two advantages of vegetative propagation.

11. What is a gene? Explain the law of dominance.

12. a) How are areas of study of evolution and classification interlinked?
b) What is speciation? List two major factors that could lead to speciation.

13. If an object is held at a distance of 60 cm from a convex mirror of focal length 20 cm. At what distance from the convex mirror should a plane mirror be held, so that the images in the two mirrors coincide?

14. With the help of a well labeled diagram explain what is myopia and as to how it may be corrected.

15. Why do stars twinkle? State the laws of refraction.

16. a) What is reactivity series? How does the reactivity series of metals help in predicting the relative activities of various metals?
b) Suggest different chemical processes used for obtaining a metal from its oxides for metals in the middle of the reactivity series and metals towards the top of the reactivity series. Support your answer with one example each.

17. a) Why is tungsten used almost exclusively for filament of electric bulbs?
b) How many 176 ohm resistors in parallel combination are required to carry 5A on a 220 V line?
c) What is translocation? How does it take place in plants?

18. a) State the names of main parts of human respiratory system starting from

nostrils, in a proper order.

b) What are lenticels?

c) Write two main points of differences between aerobic and anaerobic respiration.

19. a) Explain the term assimilation.

b) How do aquatic plants receive CO_2 for photosynthesis?

c) Define photosynthesis and give the main chemical reaction involved.

20. a) Define catenation.

b) An organic compound A is an essential constituent of wine. Oxidation of A yields an organic acid B which is present in vinegar. Name the compounds A and B. Write their structural formula. What happens when A and B react in the presence of an acid catalyst?

OR

a) The volume of glomerular filtrate produced is 180 L, but the volume of urine produced is just 1–2 L. Give suitable reason for this statement.

b) Draw a labeled diagram of human excretory system.

21. a) State the limitations to the use of electrical impulse in transmission of information during responses to stimulus.

b) What is synapse? Draw the labeled diagram of the structural and functional unit of nervous system.

OR

a)State three main differences between thermal power and hydro power plants.

b) Why is the slurry left behind in a bio-gas plant considered useful?

c) Name a place in India where fields of natural gas are found.

SECTION B {Each question carries 2 marks}

22. A student adds 2 mL of acetic acid to a test tube containing 2 mL of distilled water. He then shakes the test tube well and leaves it to settle for 5 minutes. What will he observe after 5 minutes? Explain your answer.
23. In a laboratory experiment hard water is needed but is not available. Name any two salts that may be added to water to make it hard water. Give reasons.
24. A student observed a permanent slide showing asexual reproduction in yeast. Draw diagrams of the observations he must have made from the slide.. Name the process also.
25. Draw a ray of light passing through a prism. Label the angle of incidence, angle of prism and angle of deviation.
26. A student puts a drop of acetic acid first on a blue litmus paper and then on a red litmus paper. State the possible observations. Give reasons.
27. A student was doing an experiment and after plotting the value of electric current (I) and potential difference (V) he obtained a V - I graph that was a curved line. What type of conductor was he using in the experiment? Give an example.
