

Sample Question Paper

Unsolved

SCIENCE

A Highly Simulated Practice Question Paper for CBSE Class X
Term II Examination (SA II)

Time : 3 Hours

Max. Marks : 90

General Instructions

1. The question paper comprises of two sections A and B. You are to attempt both the sections.
All questions are compulsory.
2. All questions of section A and all questions of section B are to be attempted separately.
3. Question numbers 1 to 3 in section A are 1 mark questions. These are to be answered in one word or one sentence.
4. Question numbers 4 to 7 are 2 marks questions to be answered in about 30 words.
5. Question numbers 8 to 19 are 3 marks questions to be answered in about 50 words.
6. Question numbers 20 to 24 are 5 marks questions to be answered in about 70 words.
7. In section B, question numbers 25 to 42 are multiple choice questions based on practical skills. Each question is a 1 mark question. You are to select one most appropriate response out of the four provided to you.

Section A

1. Give the meaning of power of accommodation of the normal eye.
2. Write the names of these functional groups.
 $-\text{C} \equiv \text{C}-$, $-\text{C} = \text{C}-$, $-\text{Cl}$, $-\text{OH}$
3. Give one difference between fossil fuels and the sun as direct source of energy.
4. Draw the ray diagrams to show that a ray parallel to the principal axis, after reflection, will pass through the principal focus in case of a concave mirror and appear to diverge from the principal focus in case of a convex mirror.
5. When sunlight passes through the canopy of a dense forest, the light is scattered. Why?
6. Why do we get different colours during dispersion of light?
7. (a) How does the atomic structure (electronic arrangement) change in a period with an increase in atomic number from left to right?
(b) How does the valency of elements change on moving from left to right in the second period of the Periodic Table?

STAGE III

8. A convex mirror used for rear-view in an automobile has a radius of curvature of 3 m. If a bus is located at 5 m from this mirror, find the position, nature and size of the image.
9. A concave lens of focal length 15 cm forms an image 10 cm from the lens. How far is the object placed from the lens? Draw the ray diagram.
10. A few defects of the human eye and the functions/relevant definition, information about different parts of the human eye are listed in columns A and B below. Select the pairs, in the two columns, that match them.

	Column A	Column B
A ₁	The human eye	B ₁ Occurs at the outer surface of the cornea.
A ₂	Iris	B ₂ Decreased power of accommodation due to old age.
A ₃	Optic nerves	B ₃ Behaves like a photographic camera.
A ₄	Most of the refraction of the light rays entering the eye	B ₄ Inability to see distant objects clearly.
A ₅	Myopia	B ₅ Carry electrical signals, generated by the image to the brain.
A ₆	Cataract	B ₆ Dark muscular diaphragm which controls the size of the pupil.
A ₇	Presbyopia	B ₇ Milky and cloudy crystalline lens of the eye.

11. (a) What are transition elements?
(b) Which amongst the following are transition elements?
K, Mn, Ca, Cr, Cu, Cs, He, Ar and Pt and why?
12. (a) Define atomic radius.
(b) What are the various factors which influence atomic radius?
(c) How does atomic radius vary along a period and down a group?
13. Mrs Anita observed that her cooking utensils are becoming black in colour and the flame of her gas stove is yellowish in colour. Her neighbour Mrs Anand when came to her, told the reason why her utensils become black and advised her to clean the stove or gas burner time to time.
Answer the following questions on the basis of the above text
(a) What can be the reason for this sooty flame?
(b) What steps should be taken to stop this process?
(c) What is the associated value that the learners will get from this passage?
14. A glass prism is able to produce a spectrum when white light passes through it but a glass slab does not produce any spectrum. Explain why is it so.
15. In the context of conservation of natural resources, explain the terms reduce, recycle and reuse. Identify two materials for each category from the materials that we use in daily life.
16. What is puberty? Name any two changes seen in girls at the time of puberty.
17. (a) What is vegetative propagation?
(b) What methods will you use for growing jasmine and rose plants?

18. What is living fossil? Give examples.
19. What type of needs of local people are largely met by the forest?
20. Using ray diagram, explain the laws of formation of image by divergent lens.

or

- (a) Draw a ray diagram showing formation of image by convergent lens, when object is placed between lens and focus.
- (b) State the nature of the image formed.
- (c) Will the image position and the focal length, be positive or negative?
- (d) Give one application of this lens for this position of the object.
21. (a) Why are the small numbers of surviving tigers a cause of worry from genetic point of view?
- (b) Does the occurrence of diversity of animals on earth suggest their diverse ancestry. Discuss this in the light of evolution

or

- (a) Explain the process of evolution in 'pterosaur'.
- (b) Describe the evolution of eye in flatworm.
22. Describe three ways in which individuals with a particular trait may increase in population.

or

How the blood groups are inherited in humans?

23. Describe the human female reproductive system with the help of a labelled diagram.

or

Describe the process of double fertilisation with the help of a diagram.

24. (a) Write the name and molecular formula of an organic compound having its name suffixed with —ol and having two carbon atoms in the molecule. With the help of a balanced chemical equation indicate what happens when it is heated with excess of conc. H_2SO_4 ?
- (b) What is substitution reaction? Give an example.

or

- (a) What is observed
- (i) When 2 mL of ethanol and 2 mL of glacial acetic acid are taken in a test tube along with a few drops of concentrated sulphuric acid?
- (ii) The mixture is warmed in a water bath for five minutes and the contents are poured into another beaker containing about 30-40 mL of water?
- (b) Name the process by which an ester can be converted back to alcohol and sodium salt of carboxylic acid.
- (c) Give reasons
- (i) Carbon cannot form C^{4+} / C^{4-} ions.
- (ii) Unlike ethanol, intake of methanol in very small quantity can cause death.
- (iii) Why only unsaturated hydrocarbons undergo addition reactions and not the saturated hydrocarbons?

Section B

25. The phenomenon of light which is responsible for the working of human eye is
 (a) reflection (b) refraction
 (c) accommodation (d) persistence of vision

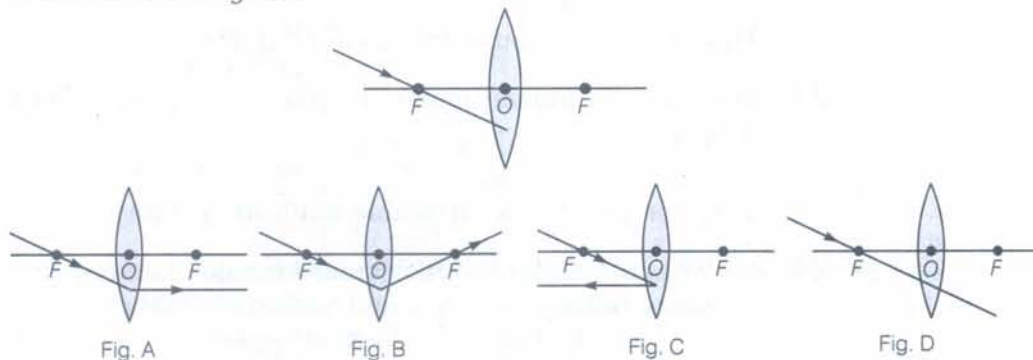
26. What is the unit of power of lens?
 (a) Metre (b) Kilometre (c) Decimetre (d) Dioptre

27. The bluish colour of water in deep sea is due to
 (a) the presence of algae and other plants found in water
 (b) reflection of sky in water
 (c) scattering of light
 (d) absorption of light by the sea

28. What is the focal length of plane mirror?
 I. Zero II. Infinity III. 0.25 m IV. 25 cm

The correct options are

- (a) I and II (b) I and III (c) I and IV (d) II and IV
29. Which of the following ray diagrams is correct for the ray of light incident on a lens shown in figure?



- (a) Fig. A (b) Fig. B (c) Fig. C (d) Fig. D

30. Which is the hardest substance amongst the following?

- (a) Diamond (b) Graphite
 (c) Lead (d) Mercury

31. The percentage of carbon in the form of minerals like carbonates, hydrogen carbonates, coal and petroleum in the earth's crust is

- (a) 0.01% (b) 0.02% (c) 0.03% (d) 0.8%

32. A major component of biogas and compressed natural gas (CNG) is

- (a) methane (b) ethane (c) propane (d) butane

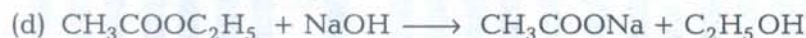
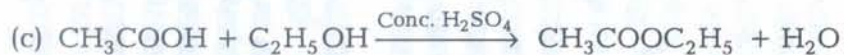
33. Which of the following compounds are covalent?

- I. C_2H_6 II. C_2H_2 III. C_6H_{12} IV. NaCl

The correct options are

- (a) I and III (b) I, II and III
 (c) II and III (d) I and IV

34. Which of the following represents saponification?



35. During binary fission, nucleus of *Amoeba* divides by

(a) meiosis

(b) mitosis

(c) Either (a) or (b)

(d) None of these

36. Which of the following sketches does not illustrate budding in yeast?



The correct option (s) is/are

(a) Only I

(b) I and III

(c) I and II

(d) III and IV

37. Which of the following are monocots?

I. Maize

II. Paddy

III. Bean

IV. Wheat

The correct option (s) is/are

(a) I and II

(b) I and III

(c) I and IV

(d) Only IV

38. The male hormone secreted from testis is

(a) aldosterone

(b) oestrogen

(c) progesterone

(d) testosterone

39. Which animal is called farmer's friend?

(a) Bull

(b) Earthworm

(c) Dog

(d) Horse

40. A method of birth control is

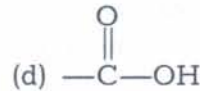
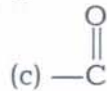
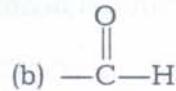
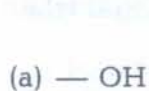
(a) GIFT

(b) IUCDs

(c) HJF

(d) IVF-ET

41. Formula of ketone functional group is



42. Select the wrong statements.

I. Forests do not provide variety of products.

II. Forests have greater plant diversity.

III. Forests do not conserve soil.

IV. Forests conserve water.

The correct option (s) is/are

(a) Only IV

(b) I and IV

(c) I and III

(d) II and III