

MT EDUCARE LTD.**QUEST - I (Semi Prelim I)
(2017-18)****CBSE - X**Roll No.

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Code No. **32/1****Series RLH**

- Please check that this question paper contains 5 printed pages.
- Code number given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.
- Please check that this question paper contains 27 questions.
- Please write down the serial number of the question before attempting it.

SCIENCE (Theory)**Time allowed** : 3 hours**Maximum Marks** : 80**General Instructions :**

- i) The question paper comprises of **two Sections A and B**. You are to attempt all the sections.
- ii) All questions are **compulsory**.
- iii) **Internal choice** is given in **Q.No.6, 10** and **Q.No. 16**
- iv) **All** questions of **Section - A** and **Section - B** are to be attempted separately.
- v) Questions numbers **1 to 2** in **Section - A** are **one mark** questions. These are to be answered in **one word** or in **one sentence**.
- vi) Question numbers **3 to 5** in **Section - A** are **two marks** questions. These are to be answered in about **30 words** each.
- vii) Question numbers **6 to 15** in **Section - A** are **three marks** questions. These are to be answered in about **50 words** each
- viii) Question numbers **16 to 21** in **Section - A** are **five marks** questions. These are to be answered in about **70 words** each
- ix) Question numbers **22 to 27** in **Section - B** are are **two marks** questions based on practical skills. These are to be answered in about **30 words** each.

SECTION - A

1. In the following food chain, grass provides 4000 J of energy to the grasshopper. How much energy will be available to snakes and frogs?
Grass → Grasshopper → Frogs → Snakes [1]
2. Name the part of the eye :
(a) That controls the amount of light entering into the eye.
(b) That has real, inverted image of the object formed on it. [1]
3. By drawing ray diagrams, explain the formation of image when an object is placed on the principal axis of a convex lens at the following positions : At $2F_1$ [2]
4. Illustrate the following with the help of suitable diagram :
Spore formation in Rhizopus [2]
5. How does precise quantities of secretion of insulin hormone is regulated ? [2]
6. Why is damage to the ozone layer a cause for concern? What steps are being taken to limit this damage? [3]

OR

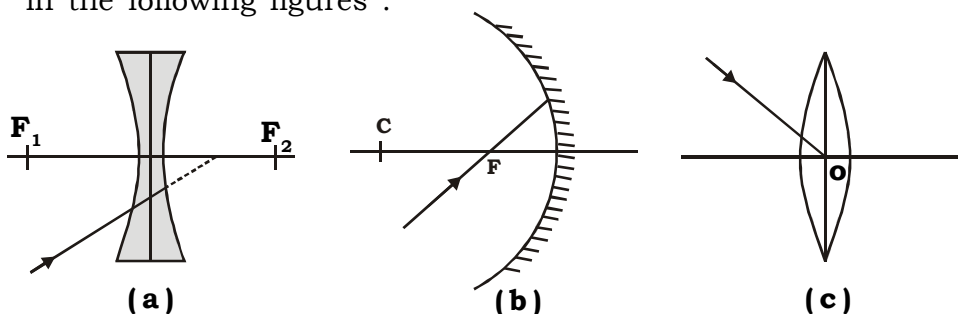
6. (a) Pesticides are useful to farmers yet considered as pollutants. Give reasons. [2]
(b) Why is plastic bag called non-biodegradable while paper is not? [1]
7. How are fats digested in our bodies? Where does this process take place? [3]
8. (a) What is the gap between two neurons called ?
(b) How does information travel across the gap? Explain.
(c) Name the part of nervous system which connects central nervous system to body parts. [3]
9. What is myopia? State two reasons due to which this defect is caused. [3]
10. Write observation each for the following chemical reactions : [3]
(a) Dilute sulphuric acid is poured over zinc granules
(b) Potassium iodide solution is added to lead nitrate solution
(c) Lead nitrate is heated.

OR

10. When electricity is passed through a common salt solution, sodium hydroxide is produced along with the liberation of two gases 'X' and 'Y'. 'X' burns with a pop sound whereas 'Y' is used for disinfecting drinking water.
 (a) Identify X and Y.
 (b) Give the chemical equation for the reaction stated above.
 (c) State the product of the reaction of Y with dry slaked lime. [3]
11. What is corrosion ? Explain giving an example. [3]
12. (a) Give an example of a combination reaction which is also an exothermic reaction.
 (b) Complete the following chemical equation and balance it :

$$\text{C}_6\text{H}_{12}\text{O}_6 + \text{O}_2 \rightarrow$$

 (c) Which two gases are evolved on heating ferrous sulphate ? [3]
13. A concave mirror produces three times enlarged image of an object placed at 10 cm in front of it. Calculate the radius of curvature of the mirror. [3]
14. The near point of a person suffering from hypermetropia is 75 cm. Calculate the focal length and power of the lens required to enable him to read the newspaper which is kept at 25 cm from the eye. [3]
15. Why do we see stars appear twinkling, whereas planets do not twinkle? [3]
16. (a) (i) Define power of a lens. Give its SI unit.
 (ii) Calculate the power of the lens of focal length -50 cm. [2]
 (b) Draw the path way of light after its incidence on the lens/mirror in the following figures : [3]



OR

16. Define the following terms and give their values for a normal eye :
 (i) Range of normal vision. (ii) Least distance of distinct vision
 (iii) Near point of the eye. (iv) Far point of the eye.
 (v) Power of accommodation [5]

17. (a) Explain why is hydrochloric acid a strong acid and acetic acid a weak acid. How can it be verified? [2]
(b) Explain the term Deliquescence. [1]
(c) What is water of crystallization? Give two examples. [2]
18. (a) State the type of mirror preferred as
(i) Rear view mirror in vehicles,
(ii) Shaving mirror. Justify your answer giving two reasons in each case.
(b) Which spherical mirror has (i) a real focus and (ii) a virtual focus ? [5]
19. Describe double circulation in human beings. Why is it necessary ? [5]
20. (a) (i) What do we call those particles which have more or less electrons than the normal atoms ?
(ii) What do we call those particles which have more electrons than the normal atoms?
(iii) What do we call those particles which have less electrons than the normal atoms ? [3]
- (b) Account for the following :
(i) Aluminium is more active than iron, yet there is less erosion of aluminium when both are exposed to air.
(ii) Solder is used for welding electrical wires together. [2]
21. State the functions of the following :
(a) Testes (b) Ovaries (c) Vas deferens (d) Stamen (e) Pistil [5]

SECTION - B

22. When a copper wire is left in silver nitrate solution, it is observed that the solution turns bluish green.
(a) Explain the observation
(b) Write the balanced chemical equation to represent the change taking place. [2]
23. (a) A white coloured powder is used by the doctors for supporting fractured bones. Give its chemical name. [1]
(b) What is galvanisation ? [1]
24. A Person is able to see objects clearly only when these are lying at distance between 50 cm and 300 cm from his eye.
(a) What kind of defects of vision he is suffering from ?
(b) What kind of lenses will be required to increase his range of vision from 25 cm to infinity? Explain briefly. [2]

25. Vishal made a slide of leaf peel and then viewed under a microscope. He observed some green dot-like structures which seem to be tiny pores present on the surface of the leaves. He showed the slide to the teacher and asked about these structures. Teacher replied, "These are stomata found on the surface of leaves".
- (i) What is the function of stomata ?
- (ii) "Transpiration in plants is very important." Justify the statement by giving two vital reasons. **[2]**
26. A florist sprinkled a plant hormone to prevent wilting of leaves. Name the hormone he must have used. Give two more examples of plant hormones and also write their functions. **[2]**
27. What could be the possible reason for declining female - male sex ratio in our country. Suggest two measures to achieve 1 : 1 ratio. **[2]**

All the Best 👍