

SET - B

MT EDUCARE LTD.

QUEST - I (Semi Prelim I)
(2017-18)

CBSE - X

Roll No.

--	--	--	--	--	--	--	--

Code No. **32/1**

Series **RLH**

- Please check that this question paper contains 6 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 **two marks** questions based on practical skills. These are to be answered in about **30 words** each.

SECTION - A

1. Why should biodegradable and non-biodegradable wastes be discarded in two separate dustbins ? [1]
2. List the three phenomena of light responsible for the formation of rainbow in the sky. [1]
3. By drawing ray diagram, explain the formation of image when an object is placed on the principal axis of a convex lens at the following positions : Between F_1 and $2F_1$ [2]
4. What is regeneration ? Name two organisms that can reproduce by regeneration. [2]
5. List in tabular form any two differences between nervous control and chemical control. [2]
6. What is biological magnification? Will the levels of this magnification be different at different levels of the ecosystem? [3]

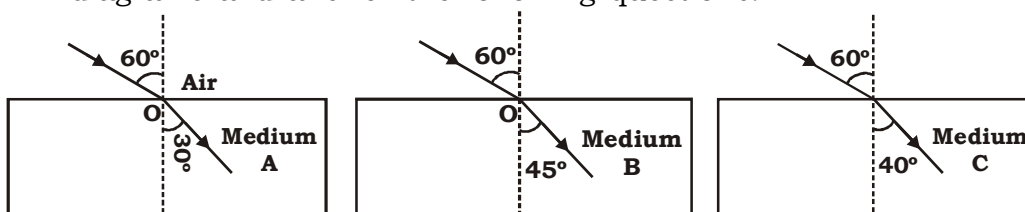
OR

6. (a) What is a food chain? [1]
(b) What will happen if we kill all the organisms in one trophic level ? [2]
7. What are the constituents of gastric juice? Write one function of each. [3]
8. (a) What is the stimulus in bending of stem towards light ?
(b) Give the scientific terms used to represent the following
(i) bending of shoot towards light.
(ii) growing of roots towards the earth.
(iii) growth of pollen tube.
(c) Is bending of stem towards light a growth dependent movement or growth independent movement ? [3]
9. (a) What is hypermetropia ?
(b) What are the two causes of this defect of vision? [3]
10. Identify the type of chemical reaction and write balanced chemical equation for each of the following:
(a) On heating green ferrous sulphate crystals a reddish brown solid is left and gases having smell of burning sulphur are noticed.
(b) Iron nails when left dipped in blue copper sulphate solution become brownish in colour and blue colour of copper sulphate solution is converted to light green.

- (c) Addition of barium chloride to sodium sulphate results in the formation of white precipitate & sodium chloride. **[3]**

OR

10. Give reasons :
- (a) Solution of sulphuric acid conducts electricity whereas alcohol does not.
- (b) Dry ammonia gas has no action on litmus paper but a solution of ammonia in water turns red litmus paper blue. **[3]**
11. (a) Write the balanced chemical equations for the extraction of copper metal from its ore. What is the reducing agent used ? **[2]**
- (b) What is meant by metallurgy ? **[1]**
12. (a) Why is respiration considered an exothermic reaction? Explain.
- (b) What do you mean by a precipitation reaction? Explain by giving examples. **[3]**
13. A 5 cm tall object is placed perpendicular to the principal axis of a convex lens of focal length 20 cm. The distance of the object from the lens is 30 cm. Find the nature, position and size of the image. Also find its magnification. **[3]**
14. A person wears glasses of power - 2.5 D. Is the person far-sighted or nearsighted? What is the far point of the person without glasses? **[3]**
15. (a) State the laws of refraction of light.
- (b) The refractive index of water with respect to air is $\frac{4}{3}$. What is the refractive index of air with respect to water? **[3]**
16. (a) The path of light passing from air to different media A, B, and C for a given angle of incidence is shown below. Study the diagrams and answer the following questions.



- (i) Which of the media A, B and C has maximum optical density ?

- (ii) Through which of three media, will the speed of light be maximum ?
- (iii) Will the light travelling from A to B bend towards or away from the normal ? **[3]**

- (b) (i) In which of the given media, light moves the fastest ?

Medium	Refractive index
Water	1.33
Ice	1.31
Alcohol	1.36

- (ii) Using above table, calculate the velocity of light in water. **[2]**

OR

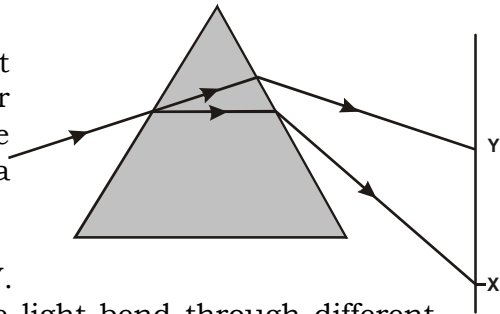
16. Describe the main parts of human eye. Explain its focussing action.
17. (a) Write balanced equation for the reaction that takes place when sodium oxide reacts with water. How will this solution behave towards phenolphthalein ? **[2]**
- (b) What is Plaster of Paris ? How is it prepared ? Give its important uses. **[3]**
18. State the new Cartesian sign convention followed for reflection of light spherical mirrors. **[5]**
19. (a) What is the average output of urine in normal man?
- (b) Volume and composition of urine varies widely from day to day. On which two factors they depend upon?
- (c) Name the chief nitrogenous wastes present in human urine.
- (d) Name the disease a person suffers from if glucose appears in his urine.
- (e) What is the basic cause of kidney failure? **[5]**
20. (a) Explain the terms :
 (i) Anodising (ii) Aqua regia **[2]**
- (b) Describe how sodium & chlorine form sodium chloride. Name the type of bonding shown in the structure. **[3]**
21. Describe the process of fertilisation in a flower with the help of diagram. **[5]**

SECTION - B

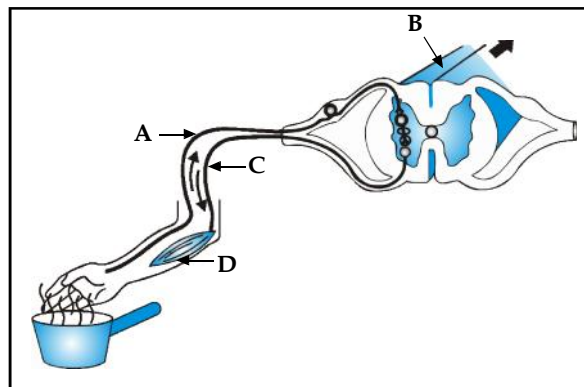
22. Write the type of chemical reaction in the following :
- (a) Reaction between an acid and a base.
- (b) Rusting of iron. **[2]**

23. (a) Why does bleaching powder smell strongly of chlorine ? [1]
 (b) Non-metals are quite soft. Name one non-metal which is quite hard. [1]

24. In figure a narrow beam of white light is shown to pass through a triangular glass prism. After passing through the prism it produces a spectrum XY on a screen.



- (a) State the colour seen at X and Y.
 (b) Why do different colours of white light bend through different angles with respects to the incident beam of light? [2]
25. Meena who is studying in Class-X gets tired very soon and her skin colour is turning pale, her haemoglobin content in the blood is also low. She is really confused about this situation.
 (i) Which disease is she suffering from ?
 (ii) What kind of diet should she take to overcome this problem ? [3]
26. Name the parts A, B, C and D. [2]



27. Smita turned 11 this year. There was a change in her behaviour. She started to develop mood swings, her skin started to become oily and she started having pimples. What stage or phase of growth is Smita in ? What other physical changes in this phase of growth ? List any two of them. [2]

All the Best 👍