

**ATOMIC ENERGY EDUCATION SOCIETY**  
**PERIODIC TEST – II (2017-18)**  
**Date of Exam - 16 Sept. 2017**

**Class: X**

**Time allowed: 1 1/2 hr**

**Subject: Science.**

**Maximum Marks :40**

**General Instructions:**

The question paper comprises of two sections ,A and B. You are to attempt both the sections.

All questions are compulsory. However there is an internal choice in 3 marks and 5 marks question each.

Marks are indicated against each question.

Question from serial number 1, in Section-A is Very Short Answer Question .It carries 1 mark.

Questions from serial number 2 to 4 are Short Answer Questions .Each question carries 2 marks..

Questions from serial number 5 to 8 are Short Answer Questions .Each question carries 3 marks.

Questions from serial number 9 to 11 are Long Answer Questions .Each question carries 5 marks.

Questions from serial number 12 to 14, in Section-B is Short Answer Question .It carries 2 marks.

**SECTION -A**

1. How are the lungs designed in human beings to maximize the area for exchange of gasses? (1)

2. State the rules used for drawing images formed by concave mirror using ray diagrams. (2)

3. How are the arteries different from the veins? (2)

4. State the factors on which the heat produced in a current carrying conductor depends? Give one practical application on this effect. (2)

5. A solution of a substance 'X' is used for white washing-

(a) Give the chemical name of the substance 'X'

(b) Write the chemical formula of the substance

(c) Write the reaction of 'X' named in (a) with water (3)

6.a) Which gas is usually liberated when an acid reacts with a metal?

b) illustrate this reaction with an example

c) How will you test for the presence of this gas? (3)

7. A 2cm tall object is placed perpendicular to the principal axis of a convex lens of focal length 10cm. The distance of the object from the lens is 15cm.

Find the nature, position and size of the image. Also find its magnification.

(OR)

State the laws of refraction of light.

The refractive index of diamond with respect to glass is 1.6 and absolute refractive index of glass is 1.5. Find the absolute refractive index of diamond. (3)

8. Rahul's uncle has been advised by the doctor to take less sugar in his diet

a) Can you tell what disease his uncle is suffering from?

b) What is the cause for this disease?

c) Which part of his body produces this hormone? (3)

9. a) Explain how electrolytic refining of metal is done?

b) Draw neat and well labeled diagram and explain the electrolytic refining of copper. (5)

10. Draw a labeled diagram of an electric motor. Explain its principle and working.

What is the function of split ring in electric motor? (5)

11. a) Draw a neat and well labeled diagram of the L.S of a flower.

b) Which are the male and female reproductive parts of a flower.

c) Distinguish between self pollination and cross pollination.

(OR)

a) Draw a neat and well labeled diagram of the neuron.

b) Name the parts of the neuron where –

(i) Information is acquired

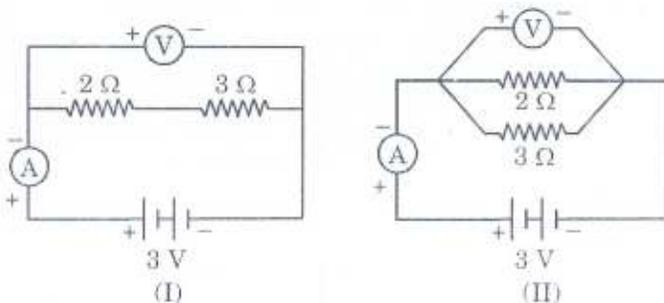
(ii) Through which information travels as an electrical impulse.

(iii) Where this impulse is converted into a chemical signal for onward transmission. (5)

### **SECTION -B**

12. While preparing a temporary mount of leaf peel to show stomata, Anita put the coverslip on the stained peel taken on the slide directly in a hurry. She could not observe the stomata clearly under the microscope. Mention the mistakes made by her. (2)

13.



a) What is the equivalent resistance in both circuits (I) and (II)?

b) What is the current flowing in (I) and (II) circuits? (2)

14. You are given four solutions A, B, C and D. When they were tested with universal indicator they showed the following colour changes-

A- Red

D- Dark blue.

B- Orange

C- Green

What is the nature of the above mentioned four solutions?

(2)

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