

MT

2017 ____ 1100

Seat No.

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MT - SCIENCE & TECHNOLOGY - II (72) - SEMI PRELIM - II : PAPER - 2

Time : 2 Hours

(Pages 3)

Max. Marks : 40

Note :

- (i) All questions are compulsory.
- (ii) All questions carry equal marks.
- (iii) Draw neat and labelled diagrams wherever necessary.

Q.1. (A) Fill in the blanks:

3

- (1) is the largest gland in the body.
- (2) The loss of water from plants is known as
- (3) Electricity generated by renewable sources of energy is called

**Q.1. (B) State whether the following statements are true or false 2
and if false, write the correct statement:**

- (1) Calcium oxalate crystals present in the cells of some plants are called resins.
- (2) Nerve impulses are slower and long lasting whereas hormonal action is rapid and of short duration.

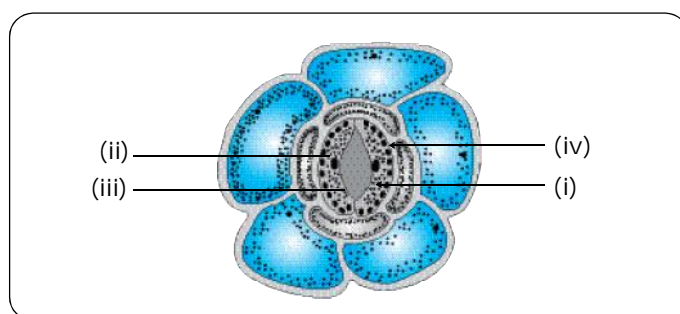
Q.2. Rewrite the following statements by selecting the correct alternative:

5

- (1) In the following sketch of the stomatal apparatus. The parts (i), (ii), (iii) and (iv) were labelled differently by four students. Which of following is the correct labelling

The correct labelling out of the following

- (a) (i) guard cell (ii) stoma
- (iii) starch granule (iv) nucleus



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|--------------------|------------------|
| (b) (i) cytoplasm | (ii) nucleus |
| (iii) stoma | (iv) chloroplast |
| (c) (i) guard cell | (ii) starch |
| (iii) nucleus | (iv) stoma |
| (d) (i) cytoplasm | (ii) chloroplast |
| (iii) stoma | (iv) nucleus |

- (2) In an experiment to test the presence of starch in a leaf, the leaf is boiled in alcohol for a few minutes using a water bath. This is an essential step in the experiment. Because alcohol
- (a) softens the leaf
 - (b) disallows the iodine to enter the leaf
 - (c) allows iodine to enter the leaf
 - (d) dissolves chlorophyll
- (3) The movement of the root system towards the stimulus of gravity is called movement.
- (a) gravitropic
 - (b) hydrotropic
 - (c) phototropic
 - (d) chemotropic
- (4) Ankita bought glucose powder. She felt it was adulterated with starch powder. How should she test it ?
- (a) by sieving
 - (b) by dissolving in water
 - (c) by iodine test
 - (d) all of these
- (5) The enzyme salivary amylase breaks down starch into the simple sugar
- (a) glucose
 - (b) sucrose
 - (c) fructose
 - (d) maltose

Q.3. Answer the following in short : (Any 5) 10

- (1) What is meant by chemotropism? Explain with an example.
- (2) Draw neat and labelled diagram of Human brain.
- (3) Distinguish between Arteries and Veins.
- (4) Give scientific reason : Breathing rate increases during vigorous exercise.
- (5) Describe the exchange of gases in aquatic animals.
- (6) Write a short note on Autotrophic nutrition.
- (7) What is the fundamental duty of each citizen regarding environment?

Q.4. Answer the following in brief : (Any 5) 15

- (1) What are the powers of MPCB to control water and air pollution?
- (2) Which are the different parts of the human nervous system?
- (3) Describe the movements in plants which are growth independent.
- (4) Mention the functions of the forebrain.
- (5) How is food digested in the stomach?
- (6) Explain the process of translocation in plants.
- (7) Describe double circulation of blood.

Q.5. Answer in detail: (Any 1) 5

- (1) What is meant by internal respiration and how does it take place?
- (2) Describe the structure of the heart with the help of a diagram.

Best Of Luck 🍀