

# BIOLOGY (M001)

## (SCIENCE PAPER 3)

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*Maximum Marks: 20*

*Time allowed: 30 minutes*

*Answers to this Paper must be written on the paper provided separately.*

*You will **not** be allowed to write during first 05 minutes.*

*This time is to be spent in reading the question paper.*

*The time given at the head of this Paper is the time allowed for writing the answers*

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***Section A** is compulsory. Attempt **any one** questions from **Section B**.*

*The intended marks for questions or parts of questions are given in brackets [ ]*

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### SECTION A (20 marks)

*(Attempt **all** questions from this **Section**)*

#### Question 1

Choose the correct answers to the questions from the given options.

[5]

(Do not copy the questions, write the correct answers only.)

(i) Nucleus is located at:

- (a) Center of cytoplasm
- (b) Equator of the cell
- (c) Between the cell membrane and cytoplasm
- (d) Between nucleolus and cell membrane

(ii) Drooping of leaves in *Mimosa pudica* plant is due to:

- (a) Change in turgor pressure
- (b) Imbibition
- (c) Plasmolysis
- (d) Diffusion

- (iii) The rate of transpiration increases with:
- (a) Increase in humidity
  - (b) Increase in wind velocity
  - (c) Reduced light intensity
  - (d) Increase in the CO<sub>2</sub> level
- (iv) Which statement is true for both chromosomes and genes?
- (a) Each codes for a specific protein
  - (b) Each may be copied and passed on in mitosis
  - (c) Each may be either dominant or recessive
  - (d) Each may exist as two or more alleles
- (v) In the guard cells, if the water content fall short, \_\_\_\_\_ occurs which makes the cells \_\_\_\_\_.
- (a) Endosmosis, turgid
  - (b) Exomosis, turgid
  - (c) Endosmosis, flaccid
  - (d) Exosmosis, flaccid

## Question 2

- (i) Name the following: [5]
- (a) The principal site in a green leaves for photosynthesis.
  - (b) The gas which helps in building up of carbohydrates in plants.
  - (c) Basic hormones that stimulate cell division.
  - (d) Type of plants having sunken stomata.
  - (e) Part of plant which absorbs water from the soil.

## SECTION B (10 marks)

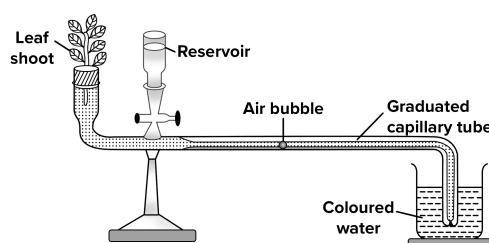
(Attempt **any one** questions from this **Section**)

### Question 3

- (a) What does NADP. [1]
- (b) Define - Transpiration. [2]
- (c) What is meant by destarched plant? How can it be destarched? [2]
- (d) List two advantages of transpiration in a plant. [2]
- (e) Give reasons: [3]
  - (i) Potato cubes when placed in water become firm and increase in size.
  - (ii) Balsam plants wilt during mid-day even if the soil is well watered.
  - (iii) ATP is needed for dark phase of photosynthesis.

### Question 4

- (a) Chose the odd one out : Diffusion, Imbibition, Osmosis, Oxidation. [1]
- (b) Define - Diffusion. [2]
- (c) Differentiate between - Turgor pressure and Wall pressure. [2]
- (d) Give two uses of water to green plants. [2]
- (e) Given below is an apparatus used to study a particular process in plants. Study the same and answer the questions that follow: [3]



- (i) Name the apparatus.
- (ii) Mention one limitation of this apparatus.
- (iii) Which phenomena is studied with the help of this apparatus?