

CARMEL COLLEGE OF ARTS, SCIENCE & COMMERCE FOR WOMEN

NUVEM-GOA

B.Sc. CBCS Semester V Examination, January 2021

Subject Code: **BOC106 (Cell Biology & Plant Biochemistry)** Subject Name: **Botany - DSC**

Total marks: **80**

Duration: **2 Hours**

Total No. of pages: **02**

Instructions: 1) All questions are compulsory; however internal choice is available.
2) Figures to the right indicate maximum marks assigned to the question.
3) Draw labelled diagrams wherever necessary.

Q. 1. Answer **any four** of the following: (4 x 4 marks = **16**)

- i) Write the significance of mitosis.
- ii) Give the principle and any two applications of fluorescence microscopy.
- iii) What is micrometry? How is this technique used?
- iv) List the properties and biological role of amino acids.
- v) Briefly describe the amylopectin form of starch.
- vi) Mention the biological role of fatty acids and lipids.

Q. 2. Write short notes on **any four** of the following: (4 x 4 marks = **16**)

- a) Prophase stage of meiosis I.
- b) Prokaryotic and eukaryotic cell structure.
- c) Types of plastids.
- d) Components of nucleic acids.
- e) Symptoms of Vitamin D deficiency.
- f) Properties and functions of phenolics.

Q. 3. A. Describe the structure of 70S ribosome. (6)

OR

A. Give an account of the structure and functions of cytoskeleton. (6)

B. Elaborate on the chemical composition of plant cell wall. (6)

Q. 4. A. Describe the structure of mitochondria and list its functions. (6)

OR

A. Describe the structure of peroxisomes and list its functions. (6)

B. Draw a labelled diagram and explain the fluid mosaic model of cell membrane. (6)

Q. 5. A. Describe the process of transcription. (6)

OR

A. Elaborate on 'secondary structure in proteins'. (6)

B. Draw the structures of glucose and fructose. Mention any two properties of glucose. (6)

Q. 6. A. Mention the properties and deficiency symptoms of Vitamin A. (6)

OR

A. Draw a neat labelled diagram of B-DNA. (6)

B. Describe the process of β -oxidation of fatty acids. (6)
