

544

Total Pages : 3

Roll No. -----

BOT-551

Cell Biology, Genetics, Biostatistics and Ecology

M.Sc. BOTANY (MSCBOT-12/13/16/17)

Second Year, Examination 2021 (Winter)

Time: 2 Hours

Max. Marks: 80

Note : This paper is of Eighty (80) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

Section – A

(Long Answer – type questions)

Note: Section 'A' contains Five (05) long-answer-type questions of Twenty (20) marks each. Learners are required to answer any two (02) questions only.

[2 x 20 = 40]

Q.1. Define ecosystem. Describe the structure and function of an ecosystem.

P.T.O.

- Q.2. Describe the structural or numerical chromosomal abnormalities.
- Q.3. What do you understand by an environmental pollution? What are the major types of pollution? Discuss the source, effect and control of air pollution.
- Q.4. Describe the structure and functions of any two major cell organelles.
- Q.5. What is mutation? Describe the causes and types of mutation.

Section – B

(Short-answer-type questions)

Note: Section 'B' contains Eight (08) short-answer-type questions of Ten (10) marks each. Learners are required to answer any Four (04) questions only.

[4 x 10 = 40]

- Q.1. Describe the structure of polytene chromosome giving well labelled diagram.
- Q.2. Explain the Nitrogen cycle with the help of diagram.

- Q.3. Programmed cell death and its significance in development.
- Q.4. Causes and effects of climate change.
- Q.5. Genetic code and its properties.
- Q.6. Explain the law of independent assortment giving suitable example.
- Q.7. Write short notes on the following :
- (a) Biodiversity hotspots
 - (b) Types of Biodiversity
- Q.8. Analytical characters of biotic community.
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