

BOT - 551

Cell Biology, Genetics, Biostatistics and Ecology

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

Second Year, Examination - 2019

Time: 3 Hours

Max. Marks: 80

Note:- This paper is of Eighty (80) marks containing three(03) Section A, B and C. Learners are required to attempt the questions contained in these Sections according to the detailed instructions given therein.

Section-A

(Long Answer Type Question)

Note:- Section 'A' contains four (04) long-answer-type questions of Nineteen (19) marks each. Learners are required to answer any two (02) questions only.

(2×19=38)

1. Describe Special types of chromosome.
2. Describe genetic code.

3. Write in detail on biodiversity giving its types with examples.
4. Write detailed notes on any two of the following:
 - (a) Applications of computers in biology
 - (b) Climate change
 - (c) Water pollution

Section-B
(Short Answer Type Question)

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

(4×8=32)

1. Describe fluorescence microscopy in brief.
2. Describe dihybrid cross with example.
3. Describe induced mutation.
4. Describe backcross and testcross.
5. Describe levels of ecology.
6. Describe greenhouse gases.
7. Describe trophic level in an ecosystem.
8. Give classification of soil based on particle size.

Section-C

(Objective Type Questions)

Note:- Section 'C' contains Ten(10) objective type questions of one (01) mark each .All the question of this section are compulsory. (10×1=10)

Choose the correct option for each of the following questions:

1. Golgi bodies are absent in
 - (a) Plants.
 - (b) Animals
 - (c) Bacteria
 - (d) Eukaryotic cell
2. Purines (bases) of DNA are represented by.
 - (a) Uracil and Guanine
 - (b) Guanine and Adenine
 - (c) Adenine and Cytosine
 - (d) All of the above
3. Which of the following genotypes represents a true dihybrid condition?
 - (a) ttRR
 - (b) ttrr
 - (c) Tr
 - (d) TtRr
4. The sun-loving plants are called
 - (a) Halophytes
 - (b) Sciophytes
 - (c) Heterotrophs
 - (d) Heliophytes

5. Energy transfer from one trophic level to other in a food chain is.
- (a) 1 %
 - (b) 2%
 - (c) 10%
 - (d) 20%

Indicate whether the following statements are true or false :

6. Variability may originate during meiosis due to crossing over.
7. The Number of hydrogen bonds between G and C is 3
8. V (Variance)= $(SD)^2$
9. Radioactive wastes cause gene mutation.
10. Tropical rain forests have the lowest density of organisms.
