

Exam. Code : 210001  
Subject Code : 4790

M.Sc. Botany 1<sup>st</sup> Semester  
**THEORETICAL BIOLOGY**  
Paper—BOT-C516

Time Allowed—3 Hours] [Maximum Marks—50

**Note** :— Attempt **five** questions in all, selecting at least **one** question from each Section. The **fifth** question may be attempted from any Section. All questions carry equal marks.

**SECTION—A**

1. Give the equation for linear function. Illustrate its application with a hypothetical example. 10
2. What are periodic functions ? Illustrate with the help of the cosine function. 10

**SECTION—B**

3. What do you understand by logarithmic function ? Illustrate with a hypothetical example. 10
4. What is mathematical integration ? Illustrate two basic rules of integration. 10

**SECTION—C**

5. What is meant by probability of occurrence of an event ? Elucidate the general addition law with the help of a suitable example. 10

6. What is meant by differentiation of a function ?  
Elucidate the chain rule of differentiation. 10

### SECTION-D

7. What does standard deviation signify ? Elucidate the steps of calculation with hypothetical data. 10
8. What is meant by goodness of fit ? Elucidate the concept and application of Chi-squared test with hypothetical data. 10