

**CARMEL COLLEGE OF ARTS, SCIENCE & COMMERCE FOR WOMEN,  
NUVEM-GOA**

**B.Sc. CBCS Semester V Examination, January 2021**

Subject Code: **BOC 107 (Microbiology & Plant Pathology)** Subject Name: **BOTANY-DSC**

Total Marks: **80**

Duration: **2 Hours**

Total No. of pages: **02**

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

- a) Briefly explain the various stages in disease development.
- b) List the various groups of microorganisms present in the soil and give an example of each.
- c) Write briefly on monocyclic plant disease epidemics.
- d) How is motility of a bacterial culture checked?
- e) Explain any two cultural methods used for plant disease control.
- f) Write a note on Integrated Pest Management.

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

- 1) Name any four plant disease symptoms and state the characteristics of each.
- 2) Comment on the role of microorganisms in decomposition of plant residues.
- 3) Explain the role of microorganisms in bioremediation.
- 4) Write briefly on culture collection centres.
- 5) Comment on biosafety levels in a microbiology laboratory.
- 6) Write a note on the use of biopesticides in plant disease management.

**Q.III. A) Explain any three types of induced structural defence mechanisms in plants against pathogen attack.** (6)

**OR**

**A) Explain the role of microorganisms in the production of penicillin.** (6)

**B) How do water, air and humans bring about dissemination of plant pathogens?** (6)

Q.IV. A) Explain any three types of induced biochemical defence mechanisms in plants against pathogen attack. (6)

**OR**

A) Explain the multiple tube fermentation technique for water analysis. (6)

B) Explain any three methods of water purification. (6)

Q.V. A) Explain any two methods for obtaining pure cultures of bacteria. (6)

**OR**

A) Write briefly on molecular diagnostic kits for detecting plant disease. (6)

B) Elaborate on the use of heat as a method of sterilization in a microbiology laboratory. (6)

Q.VI. A) Write an account on disposal of laboratory wastes and cultures. (6)

**OR**

A) What is computer simulation of epidemics? Give examples of any two simulation programmes for plant disease. (6)

B) Draw a labelled sketch of the bacterial growth curve and explain the phases of growth. (6)

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