







23. Appraise the roles of *Viridans Streptococci* and *Enterococci* in heart valve diseases. [K<sub>4</sub>]
24. Assess the significance of Mycorrhizal associations in plant growth. [K<sub>5</sub>]
25. Identify the health benefits of probiotics and prebiotics. [K<sub>1</sub>]
26. Demonstrate the use of biopesticides as viable alternatives to chemical pesticides. [K<sub>2</sub>]

**PART D (4 x 10 = 40 Marks)**

27. Interpret the structural organization and functioning of the following prokaryotic cellular components: [K<sub>3</sub>]
- a. Cell wall (Gram positive and negative)
  - b. Cell membrane
  - c. Ribosomes
  - d. Nuclear region
28. Evaluate the following aspects pertaining to biodegradation of xenobiotics: [K<sub>5</sub>]
- a. Electron donor versus electron acceptor
  - b. Comatabolism versus primary metabolism
  - c. Minimum substrate concentration
29. Record the causative agent, symptoms and treatment options for any three bacterial diseases of the nervous system. [K<sub>2</sub>]
30. Design a fermentation system for industrial production of an alcohol, discuss the process conditions and microorganisms used. [K<sub>6</sub>]

\*\*\*\*\*