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School of Biological and Life sciences

Bachelor of Science Honours in Microbiology
Semester End Examination - Jun 2024

Duration : 180 Minutes

Max Marks : 100

Sem II - P1UC201T - Microbial Physiology and Metabolism*General Instructions*

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) Give two examples of free living nitrogen fixer bacteria. K1 (2)
- 2) Explain symport transport. K2 (4)
- 3) Explain oxidative phosphoryation with suitable example. K2 (6)
- 4) Elaborate the ecological roles of phototrophic microorganisms in natural environments? K3 (9)
- 5) What are phototrophs? How do phototrophic microorganisms influence global carbon and nitrogen cycles? K3 (9)
- 6) How do prokaryotic cells acquire nutrients from their environment? K5 (10)
- 7) Illustrate in detail the pentos phosphate pathway and its biological role. K4 (12)
- 8) Discuss the following statement in detail. "A number of environmental factors influence microbial growth. Many microorganisms, and particularly bacteria, have managed to adapt and flourish under environmental extremes that would destroy most higher organisms" K5 (15)
- 9) Discuss the organization of photosynthetic apparatus and the process of photosynthesis in cyanobacteria or purple bacteria. K5 (15)
- 10) Draw a labelled diagram to exhibit the NADH₂ and FADH₂ oxidation in mitochondrial electron transport chain. K6 (18)