

M.Sc.(Microbiology) Sem-I (Old)  
**MB1-T002 - Paper-II : Microbial Physiology & Metabolism**

P. Pages : 1

Time : Three Hours



**GUG/S/19/2187**

Max. Marks : 80

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1. Write in details about electron transport chain in mitochondria. 16  
**OR**  
Write notes on.  
a) Glycogenesis and Gluconeogenesis. 8  
b) Chemoistic theory and uncouplers. 8
2. Describe the biosynthetic of lipid and add note on regulation of lipid metabolism. 16  
**OR**  
Write notes on  
a) C<sub>3</sub> and C<sub>4</sub> pathway. 8  
b) Energy generation in Cyanobacteria and Chemolithotrophs. 8
3. Explain the pathway of biosynthesis of amino acids. 16  
**OR**  
Write notes on  
a) Urea cycle. 8  
b) Biosynthesis of purine. 8
4. Describe in detail about genetics of nitrogen fixation. Add note on nif gene and its regulation. 16  
**OR**  
Write notes on  
a) Nitrogen cycle. 8  
b) Symbiotic nitrogen fixation. 8
5. Write short notes on:  
a) Substrate level phosphorylation. 4  
b) Ketone bodies. 4  
c) Domination. 4  
d) Function of nitrogenase enzyme. 4

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