

M.Sc.(Microbiology) (CBCS Pattern) Semester-I  
**PSMBT-102 - Paper-II : Microbial Physiology & Metabolism**

P. Pages : 1

Time : Three Hours



**GUG/W/24/11172**

Max. Marks : 80

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**1.** Explain in detail Glycolysis and its regulation. **16**

**OR**

a) Describe electron transfer reaction in mitochondria in detail. **8**

b) Describe Kreb's cycle in detail. **8**

**2.** Explain fatty acid biosynthesis in detail. **16**

**OR**

a) Explain C3 pathway. **8**

b) Describe oxidation of unsaturated fatty acid. **8**

**3.** Describe in detail Biosynthesis of purines and pyrimidines nucleotides by de novo pathway. **16**

**OR**

a) Write a short note on Biosynthetic families of amino acids. **8**

b) Explain urea cycle in detail. **8**

**4.** Describe genetics of nitrogen fixation, nif genes and their regulation. **16**

**OR**

a) Explain nitrogenase complex and function of nitrogenase in detail. **8**

b) Describe Nitrogen cycle in detail. **8**

**5.** a) Describe regulation of oxidative phosphorylation. **4**

b) Write a short note on Purple sulphur bacteria. **4**

c) Explain Degradation of purine and pyrimidines nucleotides. **4**

d) Write a note on diazotrophic organisms

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