

M.Sc. (Microbiology)(with Credits)-Regular-Semester 2012 / (CBCS Pattern) Sem I  
**MB1-T002 / PSMBT-102 - Paper-II : Microbial Physiology And Metabolism**

P. Pages : 1

Time : Three Hours



**GUG/S/18/3488**

Max. Marks : 80

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1. a) Explain feeder pathway of glycolysis. **8**  
b) What is glyoxylate pathway? Explain its metabolism. **8**

**OR**

- Describe multienzyme complexes I to IV with reference to electron transport chain. **16**
2. a) Compare light and dark reactions of in photosynthesis. **8**  
b) Explain C<sub>4</sub> pathway of phosphorylation. **8**

**OR**

- Explain oxidation of unsaturated and odd chain fatty acids. **16**
3. a) Explain Urea cycle with reference to amino acid metabolism. **8**  
b) Describe salvage pathway of nucleotide synthesis. **8**

**OR**

- Explain degradation of purine and pyrimidine nucleotides. **16**
4. a) Explain nitrate and ammonia assimilation pathway. **8**  
b) What are symbiotic and diazotrophic organisms? Explain their role in nitrogen fixation. **8**

**OR**

- Describe nitrogenase complex in detail and add note on nif gene. **16**
5. a) Explain inhibitors of oxidative phosphorylation. **4**  
b) Explain energy generation in cyanobacteria. **4**  
c) What are Ketone bodies & give its significance. **4**  
d) Compare nitrification and denitrification. **4**

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