

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

P. Pages : 1

Time : Three Hours



GUG/S/23/11172

Max. Marks : 80

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Notes : 1. All the questions are compulsory and carry equal marks.

1. Describe the Kreb's cycle in detail with its energetics. **16**
- OR**
- a) Write a note on chemiosmotic theory of ATP synthesis. **8**
- b) Explain substrate level phosphorylation. **8**
2. Discuss the light and dark reaction of photosynthesis. **16**
- OR**
- Write notes on:-
- a) Oxidation of unsaturated fatty acid. **8**
- b) Biosynthesis of phospholipid. **8**
3. Describe the biosynthesis of nucleotide by de novo and salvage pathway. **16**
- OR**
- Write note on
- a) Urea cycle. **8**
- b) Breakdown of amino acids. **8**
4. Describe Nitrogen cycle in detail with diagrammatic representation. **16**
- OR**
- Write note on followings.
- a) Nitrogenase complex and its function. **8**
- b) Genetics of N<sub>2</sub>fixation. **8**
5. Write notes on:
- a) Lactic acid fermentation. **4**
- b) Ketone bodies. **4**
- c) Deamination. **4**
- d) Nitrogenase complex. **4**

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