

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

P. Pages : 1

Time : Three Hours



GUG/W/22/11172

Max. Marks : 80

-
- Notes : 1. All questions are compulsory and carry equal marks.
2. Draw diagrams wherever necessary.

1. Discuss in detail substrate level phosphorylation and oxidative phosphorylation. **16**
- OR**
- a) Write short note on uncouplers and inhibitors of oxidative phosphorylation. **8**
- b) Discuss Glycolysis and its regulation. **8**
2. Discuss the oxidation of unsaturated fatty acid and ketone bodies. **16**
- OR**
- a) Write a note on light and dark photosynthetic reaction. **8**
- b) Write the mechanism of energy generation in green bacteria and purple Sulphur bacteria. **8**
3. Explain in detail the biosynthesis of purines by de novo and salvage pathways. **16**
- OR**
- a) Write short note on break down of amino acids. **8**
- b) Write short note on degradation of purines and pyrimidines. **8**
4. Explain the genetics of nitrogen fixation. Also add a note on regulation of nif genes. **16**
- OR**
- a) Write short note on assimilation of nitrogen. **8**
- b) Write in short pathway of ammonia assimilation. **8**
5. Write short note on
- a) Gluconeogenesis. **4**
- b) Regulation of fatty acid metabolism. **4**
- c) Urea cycle. **4**
- d) Diazotrophic organism. **4**
