B.Sc. CBCS Pattern Semester-III

USMBT05 - Microbiology Paper-I : Microbial Physiology and Metabolism

P. Pages : 2 **GUG/W/23/11614**

Time : Three Hours * 6 5 9 5 * Max. Marks : 50

Notes : 1. All questions are compulsory and carries equal marks.

1. Discuss in detail bacterial growth curve and its phases. **10**

OR

a) Write a short note on classification of Bacteria based on Temperature. **2½**

b) Write in brief note on Turbidstat. **2½**

c) Discuss binary fission method of reproduction of bacteria. **2½**

d) Write about Breed method **2½**

2. Explain in detail classification of enzyme. **10**

OR

a) Write a short note on Nomenclature of enzyme. **2½**

b) Explain in brief note on Emil Fischer Hypothesis. **2½**

c) Write a note on Competitive inhibition. **2½**

d) Discuss the effect of temperature on enzyme activity. **2½**

3. Explain in detail EMP Pathway. **10**

OR

a) Outline the process of Metabolic mill. **2½**

b) Describe urea cycle. **2½**

c) Write about B-oxidation of tatty acid. **2½**

d) Discuss Anaplerotic reactions with examples. **2½**

4. Discuss cyclic and non-cyclic phosphorylation in detail? **10**

OR

a) Write short note on substrate level phosphorylation. **2½**

b) Explain role of High energy compounds in metabolism. **2½**

c) Write a note on lactic acid fermentation. **2½**

D Write a note on Chemoistic coupling hypothesis. **2½**

5. Answer **any ten.**

a) Define Generation time. **1**

b) What is acidophiles. **1**

c) What is synchronous culture. **1**

d) Define active site. **1**

e) Define Activation energy. **1**

f) What is Holoenzyme. **1**

g) How many ATPs are generated in TCA cycle. **1**

h) Define catabolism. **1**

i) Who discovered TCA cycle. **1**

j) Define Fermentation. **1**

k) Give one example of high energy rich compound. **1**

l) Define oxidative phosphorylation. **1**

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