B.Sc. - II (C.B.C.S. Pattern) Sem-III

USMBT05 - Microbiology Paper-I Microbial Physiology and Metabolism

P. Pages : 2 **GUG/W/19/11614**

Time : Three Hours * 3 4 0 7 * Max. Marks : 50

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1. Discuss in detail growth curve? **10**

OR

a) Write a note on Diauxic growth? **2½**

b) Explain Breed method measurement of bacterial growth? **2½**

c) Give mathematical expression for generation time. **2½**

d) Discuss continuous culture method? **2½**

2. What is Inhibitors? Explain in details Reversible inhibition? **10**

OR

a) Explain lock and key model. **2½**

b) How pH and temperature affect enzyme activity. **2½**

c) Give nomenclature of enzyme. **2½**

d) Explain Induced fit hypothesis? **2½**

3. Give details on EMP pathway? **10**

OR

a) Write a note on metabolic mill? **2½**

b) Write about $\beta-$oxidation. **2½**

c) Draw ED pathway. **2½**

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

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

OR

a) Write a note on mixed acid fermentation. **2½**

b) Explain chemiosmotic coupling hypothesis. **2½**

c) Write about oxidative phosphorylation. **2½**

d) Write a note on electron transport chain. **2½**

5. Attempt **any ten.**

a) In which phase growth of bacteria is high? **1**

b) Define generation time? **1**

c) What is halophiles? **1**

d) What is active site? **1**

e) Define activation energy? **1**

f) Define prosthetic group? **1**

g) What is end product of pk pathway. **1**

h) How many ATP is formed in TCA cycle. **1**

i) Write full form of NADH. **1**

j) Give one example of high energy rich compounds. **1**

k) Where electron transport chain is occur? **1**

l) What is $F_0 - F_1$ ATPase? **1**

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