F.Y.B.Sc. (With Credits)-Regular-Semester 2012 Sem II

2SMic-T1 - Microbiology-I : Paper-I
(Microbial Chemistry and Physiology)

P. Pages : 2 **GUG/W/16/5585**

Time : Three Hours * 0 0 6 3 * Max. Marks : 50

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1. What are lipids ? Describe in detail the classification and significance of lipids. **10**

OR

Describe the structures of nucleosides and nucleotides.

2. Describe with examples the different types of media used for cultivation of microorganisms. **10**

OR

Explain the effect of physical conditions on growth of microorganisms.

3. a) Give the structure of Raffinose. **2½**

b) Describe the structure of t-RNA. **2½**

c) Write note on chemolithotrophs. **2½**

d) Describe bacterial reproduction by binary fission. **2½**

OR

e) What are disaccharides ? Describe the structure of sucrose. **2½**

f) Describe the structure of pyrimidines. **2½**

g) Write note on prostaglandins. **2½**

h) Describe the logarithmic growth phase in growth curve. **2½**

4. a) Describe the structure of phospholipid. **2½**

b) Describe in short essential amino acids. **2½**

c) Explain the nitrogen requirement of microorganisms. **2½**

d) Explain the working of turbidostat. **2½**

OR

e) Describe the structure of glucose.

f) Describe the peptide bond theory.

g) Explain in brief the phototrophs.

h) Write note on synchronous culture.

5. Answer in one sentence **any ten.** **10**

a) Which monosaccharides are present in raffinose.

b) Write furanose structure of fructose.

c) What are saturated and unsaturated fatty acids ?

d) What is role of sodium chloride in culture media ?

e) How many nucleotides occupy one turn of DNA molecule.

f) What is the source of agar-agar.

g) What is generation time ?

h) What are halophiles ?

i) Which method is used for total viable count of bacteria.

j) What is use of continuous culture.

k) What are auxotrophs.

l) What is the role of t-RNA.

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