

Sardar Patel Mahavidyalaya, Chandrapur.
Model Examination Summer – 2014-15
B.Sc.I (Sem II)
Subject: Microbiology-I
(Microbial Chemistry and Physiology)

Time 3Hrs.

Max.Marks-50

Note: 1. All questions are compulsory and carry equal marks.

- | | | |
|------|---|----|
| Q.1. | Classify lipids with suitable examples. Add note on significance of lipids. | 10 |
| OR | | |
| | Describe in details. Watson and crick model of DNA. | |
| Q.2. | Explain the role of common ingredients of biologically complex media. Add note on Enriched media. | 10 |
| OR | | |
| | Define bacterial Growth Curve ? Explain different phases of Growth Curve. | |
| Q.3 | a) Explain the biological significance of carbohydrates. | 2½ |
| | b) Discuss the peptide bond theory. | 2½ |
| | c) Differentiate synthetic and non-synthetic media. | 2½ |
| | d) Explain haemocytometer method for the measurement of bacterial growth. | 2½ |
| OR | | |
| | e) Explain the structure of hyaluronic acid. | 2½ |
| | f) Describe in short the general structure of mRNA. | 2½ |
| | g) Describe autotrophs with examples. | 2½ |
| | h) Explain binary fission in bacteria. | 2½ |
| Q.4 | a) Give the structure of glucose and fructose ? | 2½ |
| | b) What are simple proteins? Explain with two examples. | 2½ |
| | c) Classify micro organisms on the basis of pH requirement for their growth. | 2½ |
| | d) Describe Auxanography technique for determination of nutritional requirement. | 2½ |
| OR | | |
| | e) Describe the structure of raffinose. | 2½ |
| | f) Explain different types of bonds which maintain tertiary structure of protein. | 2½ |
| | g) Describe chemolithotrophs and organotrophs. | 2½ |
| | h) What is continuous culture ? Give its applications. | 2½ |
| Q.5 | Attempt any ten | 10 |
| | a) What are dextro-rotatory compounds. Give example. | |
| | b) Give two examples of Homopolysaccharides. | |
| | c) What are Glycerophospholipids. | |
| | d) Give two examples of sulfur containing amino acids. | |
| | e) What are nucleotides. | |
| | f) Give two examples of phototrophs. | |
| | g) Write role of peptone in nutrient media. | |
| | h) Name the nitrogenous bases present in RNA | |
| | i) Write formula to determine generation time (G) | |
| | j) Define Psychrophiles. | |
| | k) Why agar-agar is preferred over gelatin. | |
| | l) What is coulter count. | |
