B. Sc BIOTECHNOLOGY
Second Semester
Microbiology II
(BBT- 07)

Duration: 3Hrs. **Full Marks: 70**

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins. **Marks: 50**

1. Write short note on any five of the following: **2X5=10**

a)Prions.
b)Episome.
c)Single cell protein.
d)MEOR.
e) Types of immunity (draw the flowchart).
f) What is a pock?
g) Draw the structure of an icosahedral capsid.

2. Explain in short (Any five): **3X5=15**

a) Draw the structure of penicillin antibiotic.
b) Describe the biosynthetic pathway with diagram the production of acetone &butanol.
c) Give the production process of yogurt
d) Explain the mechanism of hypersensitivity of type 1 with diagram.
e) Define bioleaching and draw the process of heap leaching.
f) Explain the role of microbes in enhanced recovery of oil.

Explain briefly (Any five): **5×5 =25**

a) Describe the process of generalized transduction with diagram.
b) Explain the pentose phosphate pathway or ED pathway.
c) Describe any one method of purification of virus.
d) Describe the reproduction in Chlamydia with a neat diagram
e) Explain any two autoimmune diseases.
f)Define plasmid ? Describe F'mode of reproduction in bacteria.
g)Define autotrophism in bacteria.

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REV-00
BBT /40/45

2014/06

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(The figures in the margin indicate full marks for the questions)

Duration: 20 minutes **Marks – 20**

(PART A- Objective)

Time: 20 mins **Total Marks: 20**

I. Choose the correct answer from the following: **1×10=10**

1. Chlamydia is a

   a) Facultative parasite

   b) Obligate intracellular parasite

   c)Facultative intracellular parasite

   d) Obligate extracellular parasite

2. Reticulate body is found in

   a) Rickettsia

   b)Mycoplasma

   c)Chlamydia

   d)Pasteurellaceae

3. The U tube experiment was conducted by

   a)Lederberg &Tatum

   b)Barbara Mcclintok

   c)Bernard davis

   d)Fred Griffith

4. The capsid of adenovirus is

a)Helical

b)Complex

c)Icosahedral

d)Enveloped

5. The primary microorganism contributing to the production of sauerkraut is

a) Enterococcus faecalis

b)Lactobacillus brevis

c)Leuconostoc mesenteroides

d)Aspergillus niger

6. Systemic lupus erythematous is associated with

a) Hypersensitivity type 1

b) Hypersensitivity type 11

c) Hypersensitivity type 111

d) Hypersensitivity type 1V

7. The enzyme 2- keto 3 deoxy 6 Phosphogluconate is associated in which pathway

a)Pentose Phosphate Pathway

b)Entner Doudorhoff pathway

c)Kreb cycle

d)Glyoxylate pathway

8. Mad cow disease is associated with

a) Bacterial infection

b) Abnormal conformation of protein folding

c) Immunological disorder

d) Viral infection

9) Production of SCP associated with renewable c-sources

a)Methanol b) Cellulose waste

c) Ethanol d)Whey

10.Thermophilic bacteria associated with bioleaching

a)E.coli b)Pseudomonas

c) Thiobacillus ferroxidans d)Aspergilus niger

II. Fill in the blanks: **1X10=10**

1. Linkage of pentose phosphate pathway to glycolysis is via enzyme

_____.

2. ABO blood transfusion is associated with hypersensitivity type

_____system.

3. Virus purification is carried out by_____ centrifugation.

4. Production of acetone & butanol is an _____process.

5.Tempeh production is associated with the fermented _____.

6. The abnormality in _____gene is associated with prions.

7. Accumulation of Cro gene give rise to _____cycle.

8. The name of the transposable elements in bacteria is known as

_____.

9. The bacterial polysaccharide associated with the remediation of oil spillage is

_____.

10. A plasmid that can exist either independently of the host cell chromosome or be integrated into it is known as _____.

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