Reg. No. | | | | | | | | | |

BCS 554

IV Semester M.Sc. Degree Examination, September/October 2022
BIOCHEMISTRY
Microbial Biochemistry

Time : 3 Hours Max. Marks : 70

I. Answer **any ten** of the following : **(10×2=20)**

1) a) Define fermentation process.

b) Write a note on nutrient cycling.

c) Define non symbiotic nitrogen fixation.

d) What is quorum sensing ?

e) Define Corrosion.

f) Name any two microbes involved in butyric acid fermentation.

g) Write a note on bacterial conjugation.

h) Define mutant enrichment.

i) What are endospores ?

j) What is Tet-regulation ?

k) What is biofouling.

l) What are antifoaming agents ? Give example.

II. Answer **any five** of the following : **(5×10=50)**

2) a) Explain the process of microbial degradation of lipids.

b) Describe nitrogen cycle. **(5+5=10)**

3) a) Give an account on metabolism in autotrophs.

b) Describe the metabolism of aromatic compounds. **(5+5=10)**

P.T.O.

4) a) Explain the industrial production of alcohol.

   b) Discuss the fermentation pathways in microorganisms citing an example. **(5+5=10)**

5. a) Enlist and explain the DNA transfer methods in bacteria.

   b) Discuss how to over express the recombinant proteins using P. Pastoris. **(5+5=10)**

6. a) What are bacterial mutants ? Explain the different methods of mutant analysis.

   b) What are regulatable promoters ? Explain citing an example. **(5+5=10)**

7. a) Explain the role of microbes in degradation of industrial waste.

   b) Describe Fatty acid biosynthesis. **(5+5=10)**

8. a) Distinguish between reversion versus suppression.

   b) E.Coli is good expression system for recombinant proteins. Justify it. **(5+5=10)**
