Exam.Code:1032
Sub. Code: 7863

1128
M.E. (Bio-Technology)
First Semester
ME-BIO-101: Advances in Bio-Chemistry

Time allowed: 3 Hours **Max. Marks: 50**

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

a) What do you mean by autotrophic CO_2 fixation?

b) Name the different types of tumor viruses with examples.

c) Lipid soluble signaling molecules directly enter cells but lipid insoluble one don't. Explain if the two types act in different or same ways.

d) What is metastasis? How carcinomas differ from sarcomas.

e) Differentiate between methanotropy and methylotrophy.

f) What role Dicer plays in RNA interference?

g) Mention the role of *nif, fix* and *nod* genes in nitrogen fixation.

h) How many ATPs are produced during the breakdown of glucose by glycolysis under aerobic and anaerobic conditions?

i) Name the major differences in photosynthetic pathway in C_3 and C_4 plants.

j) Differentiate between primary and secondary plant metabolites. (10x1)

UNIT – I

II. Describe the various reactions of Calvin cycle. Also mention the other CO_2 fixation pathways in orchaea. (10)

III. How leguminous crops help in nitrogen fixation? Write the reactions for conversion of sulfate to sulfite. (10)

IV. Discuss the reactions of phenyl propanoid pathway and mention the products of phenyl propanoid metabolism. (10)

P.T.O.

UNIT – II

V. Describe me various stages of biosynthesis of sphingolipids and its regulation. (10)

VI. Discuss the role of RNA induced silencing complex in RNA interference. Describe the various applications of antisense strategies in medicine and gene silencing. (10)

VII. Describe the major genetic disorders related to lipid metabolism. Write a note on Cox inhibitors. (10)

x-x-x