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GIET UNIVERSITY, GUNUPUR – 765022
M. Sc. (Third Semester) Examinations, December – 2022
20PSCBOE306 - Plant Metabolism
(Life Science - Plant Science)

Time: 3 hrs

Maximum: 70 Marks

(The figures in the right hand margin indicate marks.)

PART – A**(2 x 10 = 20 Marks)**

Q.1. Answer ALL Questions

	CO#	Blooms Level
a. Write the energetic of β -oxidation palmitic acid.	CO1	1
b. What are ketone bodies? Give examples.	CO1	1
c. How fatty acids transported to mitochondria for β -oxidation?	CO1	2
d. What is non-biological nitrogen fixation? Give examples.	CO2	1
e. Which form of Sulphur is uptake by plants?	CO2	2
f. How nodulation occurs in plants?	CO2	3
g. How the rhizobial cells are migrates toward root hairs during nitrogen fixation?	CO3	2
h. What is denitrification?	CO3	1
i. What is the biological significance of phenolics in plants?	CO4	1
j. Define secondary metabolites and give examples?	CO4	2

PART – B**(10 x 5 = 50 Marks)**Answer ANY FIVE questions

	Marks	CO#	Blooms Level
2. a. Explain about the steps involved in biosynthesis of fatty acids?	7	CO1	1
b. Discuss the biosynthesis of glycerol?	3	CO1	2
3.a. Discuss the steps of Ketogenesis?	5	CO1	2
b. Describe the steps of triglycerol biosynthesis?	5	CO1	1
4. a. Explain the steps of β -oxidation of fatty acids?	8	CO1	1
b. Emphasize the role of sulphur in plants?	2	CO2	3
5.a. Give and explain the schematic of sulphur cycle in plants?	5	CO2	2
b. Describe the process of uptake and transport of sulphur in plants?	5	CO2	2
6. a. Discuss in details about the mechanism of biological nitrogen fixation in plants?	8	CO3	2
b. Illustrate the role of nitrogen in plants?	2	CO3	3
7.a. Explain the steps and mechanism of nitrogen cycle?	7	CO3	1
b. Explain the synthesis and regulation of nitrogenase enzyme?	3	CO3	1
8. a. Explain the mechanism of Shikimic acid pathway	6	CO4	1
b. Discuss the different secondary metabolites found in plants with their roles?	4	CO4	2

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