



GIET UNIVERSITY, GUNUPUR – 765022

B. Sc. (AG) (Second Semester) Examinations, October – 2021

AC-122 – AGRICULTURAL MICROBIOLOGY

Time: 2 hrs

Maximum : 50 Marks

The figures in the right hand margin indicate marks.

PART – A

Q.1. Fill in the blanks with suitable word / figure.

(0.5 x 10 = 5 Marks)

- The conversion of nitrite to nitrate carried out by ----- bacteria.
- The sulphur reducing bacteria is -----.
- The C:S ratio for Sulphur mineralization is -----.
- The amines are converted to ammonium ion by ----- process.
- The minerals containing phosphorus is -----.
- Sulphur containing amino acid is -----.
- Zone of rhizosphere ismm.
- Size of bacterial cell.....
- Free living Nitrogen biofertilizers.....
- Biodisel is produced by the process.....

Q.2. Define (or) Explain the following in one or two sentences.

(1 x 5 = 5 Marks)

- Bio Pesticide
- BioFertilizer
- Transduction
- Nitrification
- Biogas

Q3. Match COLUMN-A with COLUMN-B

(0.5 x 10 = 5 Marks)

Column – A		Column – B	
(a)	Methane	(i)	Free living
(b)	Nitrite	(ii)	50-60%
(c)	Azotobacter	(iii)	Light reaction
(d)	Rhozobium	(iv)	Biogas
(e)	ATP	(v)	Symbiotic
(f)	NADH ₂	(vi)	Photophosphorylation
(g)	Transduction	(vii)	Sex tube/Conjugation tube
(h)	Methanocarcina	(viii)	NO ₂ ⁻
(i)	Biodisel	(ix)	Bacteriophage
(j)	Pilus	(x)	Jatropha plant

Q4. Write True or False against each statement

(0.5 x 10 = 5 Marks)

- a. Virus is heterotrophic in nature.
- b. Pilus is responsible for sexual reproduction.
- c. Rhizosphere zone contains billions of microorganisms.
- d. R: S ratio of fungi is less than 5.
- e. Pseudomonas can fix atmospheric nitrogen.
- f. Flavobacterium species of microbes cannot solubilise phosphorus.
- g. Amylase and invertase enzymes are included in root exudates.
- h. Photosynthesis process is not included in Carbon cycle process.
- i. Nitrogen fixation is oxidation process.
- j. Biogas contains more carbon dioxide.

PART – B

Attempt ANY FIVE questions. All question carry equal marks.

(5 x 6 = 30 Marks)

5. Describe the factors affecting rhizospheric effect.
6. Write down about bio pesticide, its interaction mechanism with advantages and disadvantages?
7. What is Silage, write down about the methods for preparation with advantages and disadvantages?
8. Write the steps involved in Sulphur cycle with diagram.
9. Write down the methods of biofertilizers applications, advantages and disadvantages with suitable examples?
10. Write the steps involved in Carbon cycle with diagram.

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