B.Sc. Semester-III (Honours) Examinations-2020

Subject- Microbiology

Paper- CC5 (Microbial Physiology & Metabolism) (Theory)

F.M.: 40 **Time-2 hrs.**

Answer any eight questions from the following **5 x 8 = 40**

1. What is the basic difference between fermentative and anaerobic respiration? Give an example of homolactic and heterolactic fermentative bacteria.

2. Give example of one enzyme each where Co, Zn, Mo, Mn and Cu are used as cofactor.

3. Define growth and generation time of bacteria. Distinguish between bacterial total count and viable count.

4. What is cardinal temperature? Classify microbes on the basis of temperature requirement.

5. Distinguish between photolithotrophs and chemolithotrophs with example. What is reverse electron flow?

6. What do you mean by diauxic growth? Draw and label the different phases of diauxic growth.

7. Why glucose remains always in phosphorylated form within cell? Define substrate level phosphorylation. What is Pasteur effect?

8. Give one example for each of the following-

a. Chemolitho-heterotroph,

b. Alcohol fermentative bacteria,

c. Denitrifying bacteria,

d. Purple sulfur bacteria,

e. Green non-sulfur bacteria.

9. What is a carboxysome? How reduced NADP is generated in Purple sulfur bacteria.

10. Distinguish between antenna system and reaction center complex. Draw and label ultra structure of phycobilisome.