



Register Number:

Date:

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BENGALURU-27
M.Sc. MICROBIOLOGY - I SEMESTER
SEMESTER EXAMINATION: OCTOBER 2019
MB 7118 – MICROBIAL DIVERSITY

Time: 2 1/2 hours

Max Marks: 70

This paper contains **2** printed pages and **4** parts

I. Answer any Five of the following

5X3=15

1. What is the theory of endosymbiosis?
2. With the help of diagrams, differentiate between rooted and unrooted phylogenetic trees.
3. Define generation time. If *E. coli* has a generation time of 20 minutes and you start with 1 *E. coli* cell, how many do you have after 2 hours?
4. List and define the phases of one step growth curve.
5. What are different types of conidiogenous cells?
6. List the adaptations seen in thermophiles.
7. Highlight the unique features of the Archaeal cell wall.

II. Answer any Five of the following

5X5=25

8. How can viruses be cultured *in vitro*?
9. Give an account of the cyanophycean cell wall with a diagram.
10. Prions are infectious agents. Justify.
11. Discuss the various hyphal modifications seen in fungi.
12. Highlight the Five Kingdom system of classification.
13. Describe the structure and function of the bacterial rotor and stator.
14. Find the most parsimonious tree relating the given OTUs.

OTUs/SITES	1	2	3	4	5	6	7	8	9
M	C	T	T	C	G	T	T	G	G
R	C	C	T	C	G	T	T	G	G
D	C	T	G	C	T	T	T	G	G
H	C	C	G	C	C	T	T	G	G

III. Answer any Two of the following

2X10=20

15. Describe the technique of NGS emphasizing on the Illumina technology.
16. Give a detailed account of the prokaryotic cell cycle.
17. Illustrate the life cycle and associated structures as seen in Club Fungi.

IV. Answer the following

1X10=10

18. Analyze the given 2 figures. Describe the event depicted in each figure with justification.

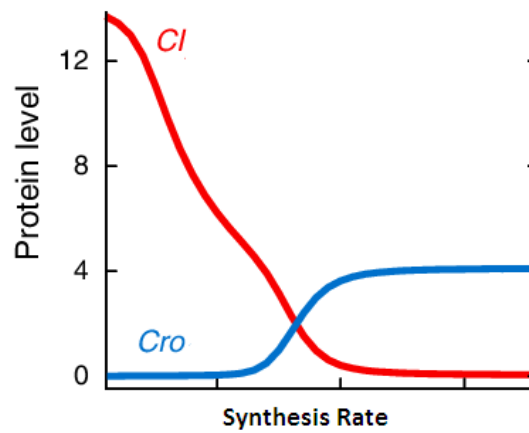


Fig. 1

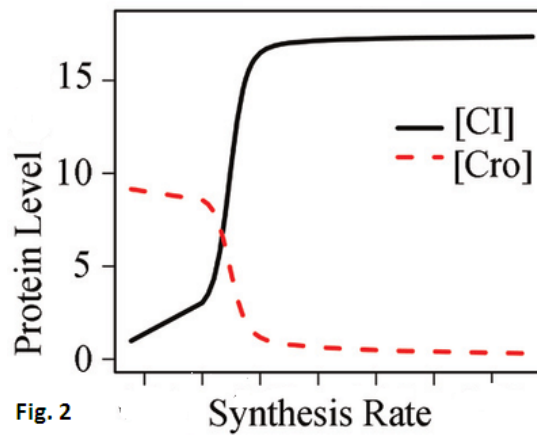


Fig. 2