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PG CBCS

M.SC. Semester-III Examination 2021

MEDICAL LABORATORY TECHNOLOGY

PAPER: MLT 303B

(BACTERIOLOGY AND MYCOLOGY)

Full Marks: 40 **Time:2 Hours**

Answer any <u>FOUR</u> questions of the following: 10X4=40

1. State the function of FtsZ, FtsA, FtsK, ZipA, FtsI, MinC, MinD, and MinE proteins in bacterial cell division. What is bactoprenol? State its function. 8+(1+1)
2. Describe the bacterial growth curve with diagram. Bacterial population increases from 10^3 cells to 10^9 cells in 10hours. What is the mean growth rate constant and mean doubling time? What is chemostat?
3. What is quorum sensing? Briefly describe the quorum sensing of *Vibrio harveyi* with diagram. 3+7
4. What are the significances of unculturable bacteria? What is metagenomics? State the process of metagenomics. Write the application of metagenomics. 3+2+3+2
5. Differentiate between exotoxin and endotoxin. What are drug resistance bacteria? Briefly describe the mechanism of drug resistance. 3+2+5
6. What are the roles of resident microflora? State their disadvantages. Name the normal microflora of genitourinary tract and skin. 3+3+(2+2)
7. State the pathogenesis of *Mycobacterium tuberculosis*. How do you detect this pathogen in laboratory? 5+5
8. How does the urinary tract infection caused by *Escherichia coli*? State the laboratory diagnosis of *Escherichia coli*? Name any other bacteria responsible for urinary tract infection. 4+4+2
9. Write the mechanism of diphtheria toxin in blocking of EF-2. State its pathogenicity. How do you identify the bacteria in laboratory? 3+3+4
10. Write short notes on (any two): 5+5
    a. Mycotoxicosis
    b. Dermatophytes
    c. Cholera

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