

2025

M.Sc. 3rd Semester Examination
BIOMEDICAL LABORATORY SCIENCE
AND MANAGEMENT

Paper : BML - 302

(Diagnostic Microbiology I - Bacteriology)

Full Marks : 50

Time : Two Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

Answer any *four* questions : 2×4=8

1. Write any two unique characteristics of "CMN" group of bacteria.
2. Cite any two respiratory bacterial pathogens.
3. What is meant by systemic infection?
4. State what is meant by XDR-TB.
5. What was the contribution of Joseph Lister in Microbiology? State its clinical importance. 1+1
6. What is meant by 'Traveller's diarrhoea'?

P.T.O.

(2)

Group - B

Answer any *four* questions : $4 \times 4 = 16$

- 16.
7. Differentiate between watery diarrhoea and bacillary dysentery.
 8. Write a brief note on ESKAPE group pathogens.
 9. "Autoclave sterilizes with pressurised steam" — explain the statement.
 10. Discuss the timescale of microbiological investigation of CSF.
 11. What is the clinical utility of semi-quantitative urine culture? Cite any two bacteriological media specifically used in urine culture? $3+1$
 12. What are biofilms? How does a biofilm form? $2+2$

Group - C

Answer any *two* questions : $8 \times 2 = 16$

13. Write any three features of *Helicobacter pylori*? State how *Helicobacter pylori* survive in the acidic environment of stomach and cause peptic ulcer. $3+5$
14. Name any six antibiotics which inhibit cell wall synthesis. Write their mode of action and adverse effects (if any). $3+3+2$
15. What are meant by colonizer and microbiota? State when colonizer microbes cause infections in human. What

are the sterile and non-sterile anatomical body sites and fluids? 3+3+2

4×4=16

16. What are meant by antimicrobial monotherapy and combination therapy? Discuss about the 'WHO bacterial priority pathogen classification'. 3+5

[Internal Assessment - 10 marks]
