

**BV (3/CBCS)/MLT/MDT-VC-3016**

**2023**

**MEDICAL LABORATORY TECHNICIAN/  
MEDICAL LAB AND MOLECULAR  
DIAGNOSTIC TECHNOLOGY**

**QP : Medical Laboratory Technician**

**Paper : MLT/MDT-VC-3016**

**( Microbiology—II )**

*Full Marks : 60*

*Time : 3 hours*

*The figures in the margin indicate full marks  
for the questions*

**1. Fill in the blanks : 1×7=7**

(a) \_\_\_\_\_ is an example of spirocheate.

(b) \_\_\_\_\_ is associated with antral gastritis.

(c) *Neisseria meningitides* is also known as \_\_\_\_\_.

(d) Aflatoxins are classified as group \_\_\_\_\_ carcinogens by the International Agency for Research on Cancer.

- (e) In \_\_\_\_\_ staining, the background is stained, leaving the specimen unstained or transparent.
- (f) *Shigella spp.* can invade and replicate within the \_\_\_\_\_ lining of the human colon.
- (g) Mycotoxins are toxic metabolites produced by \_\_\_\_\_.

2. Answer the following questions : 2×4=8

- (a) How will you classify *Enterobacteriaceae* based on lactose fermentation?
- (b) What are the pigments produced by the *P. aeruginosa*?
- (c) Name some mycotoxins.
- (d) How will you differentiate pneumococci from *Viridans streptococci*?

3. Answer any three of the following questions :

5×3=15

- (a) Write a note on opportunistic mycology.
- (b) Explain various stages of meningococcal infection.
- (c) Write a note on Hanging Drop Motility.



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(d) What do you mean by enteric fever?  
Explain.

(e) Name any technique to demonstrate bacterial cell wall and explain.

4. Answer the following questions :  $10 \times 3 = 30$

(a) Write down the beneficial effects of fungi.  
Classify morphologic and systemic classification of fungi along with examples.  $4 + 3 + 3 = 10$

**OR**

Write in details about morphology, colony characteristics, pathogenesis and laboratory diagnosis of *Vibrio cholerae*.  
 $2 + 2 + 3 + 3 = 10$

(b) Mention the bacterial agents that can cause urinary tract infection. What do you mean by Diene's phenomenon? Explain briefly about the pathogenesis and laboratory diagnosis of *Proteus*.  
 $2 + 2 + 3 + 3 = 10$

**OR**

How will you investigate a fungal infection? 10

(c) Write in details about morphology, colony characteristics, pathogenesis and laboratory diagnosis of *pneumococcus*.  $2 + 2 + 3 + 3 = 10$

OR

What are mycotoxins? Write about the causal organisms, sources and health impacts of Aflatoxins, Ochratoxins and Zearalenone.

1+1+2+6=10

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