

(6 pages)

Reg. No. : .....

Code No. : 30506 E      Sub. Code : CSMI 31

B.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2022.

Third Semester

Microbiology

Skill Based Core — MEDICAL LAB TECHNOLOGY

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Buffer solutions resist any change in  $P^H$ . This is because \_\_\_\_\_.  
(a) Acids and alkalis in these solutions are shielded from attack by other ions  
(b) These give unionized acid or base on reaction with added acid or alkali  
(c) Fixed value of  $P^H$   
(d) Excess of  $H^+$  or  $H^-$  ions

2. The skull and crossbones symbol is used for which type of hazard in a lab?  
(a) Biohazardous infectious material  
(b) Skin irritation or corrosion  
(c) Acute toxicity  
(d) Chemical waste
3. Haematocrit value is the ratio of \_\_\_\_\_.  
(a) WBC to plasma  
(b) Platelets to plasma  
(c) RBCs to plasma  
(d) Total blood cells to plasma
4. Which of the following is not required for clot formation?  
(a) Vitamin K                      (b) Calcium  
(c) Plsmin                          (d) Fibrinogen
5. ESR will show low value, result in which of the following condition?  
(a) Polycythemia                      (b) Anemia  
(c) RA                                  (d) Tuberculosis
6. When myocardial infarction will happen which of the following cardiac enzyme will elevate first?  
(a) LDH                                  (b) CK  
(c) ALT                                  (d) AST

7. Difference between systolic BP and diastolic BP is \_\_\_\_\_.
- (a) Pulse deficit (b) Pulse pressure  
(c) Arterial pressure (d) Mean arterial pressure
8. \_\_\_\_\_ is otherwise known as bad cholesterol.
- (a) LDL (b) HDL  
(c) VLDL (d) Chylomicrons
9. Which of the followings is present in normal CSF?
- (a) Neutrophil (b) Lymphocyte  
(c) Monocyte (d) None of the above
10. For estimating urea and bicarbonate, the preferred specimen of choice is?
- (a) WBC (b) Whole blood  
(c) Plasma (d) RBC

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write about the role of medical lab technician in a clinical laboratory.
- Or
- (b) Explain the significance of keeping laboratory records.

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12. (a) Write the significance of reticulocyte count.
- Or
- (b) Explain the clinical significance of ESR.
13. (a) Describe briefly ABO blood group system.
- Or
- (b) Briefly explain the principles of immunological reactions.
14. (a) Give the clinical significance of systolic and diastolic pressure.
- Or
- (b) Write the clinical significance of the following enzyme assays :
- (i) Phosphatase  
(ii) Transaminase  
(iii) Creatinine Kinase.
15. (a) How will you collect CSF? Explain the clinical significance of CSF.
- Or
- (b) Describe the clinical significance of the following :
- (i) Creatinine  
(ii) Bilirubin  
(iii) Urea.

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PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)  
Each answer should not exceed 600 words.

16. (a) Write briefly on collection and transport of clinical specimens.

Or

- (b) What do you mean by quality control of laboratory findings? Explain it in detail.

17. (a) Describe Haematocrit concentration and its clinical significance. Explain the wintrobe and capillary tube method of Haematocrit determination in detail.

Or

- (b) Briefly explain different methods of bleeding and clotting time determination with clear principle and procedure.

18. (a) Describe the serodiagnosis procedures to diagnose typhoid.

Or

- (b) Explain the principle, procedure and interpretation of C reactive protein test.

19. (a) Write the principle and methods of immunologic test to diagnose pregnancy.

Or

- (b) Describe the clinical significance, procedure and interpretation of lipid profile tests.

20. (a) Explain the routine examination of urine.

Or

- (b) Elaborate the collection, clinical significance and laboratory investigation of semen.