(6 pages) Reg. No. : .....

Code No. : 20570 E **Sub. Code : CSMI 31**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2024.

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. When a chemical splashes in the eye rinse for _____.
   (a) 10 seconds (b) 5 minutes
   (c) 30 seconds (d) 15 minutes

2. Which one is correct?
   (a) Molarity changes with temperature
   (b) Molarity does not change with temperature
   (c) Normality does not change with temperature
   (d) Both (a) and (c)

3. The preferred site for collecting venous blood is the _____.
   (a) Tibial vein (b) Median cubital vein
   (c) Femoral vein (d) Saphenous vein

4. Largest WBCs in peripheral blood is?
   (a) Neutrophil (b) Large lymphocyte
   (c) Monocyte (d) Eosinophil

5. In C reactive protein the letter "C" is short for
   (a) Cellular
   (b) Cytoplasmic
   (c) Capsular polysaccharide of pneumococcus
   (d) Concanavalin A

6. The RPR and VDRL tests done for the diagnosis of?
   (a) AIDS (b) Hepatitis
   (c) Syphilis (d) Malaria

7. Name the hormone detected in pregnancy
   (a) ADH (b) GH
   (c) TSH (d) hCG

8. The instrument used to measure blood pressure is _____.
   (a) Manometer (b) Sphygmomanometer
   (c) Barometer (d) Thermometer

9. As soon as the CSF reaches the laboratory note its _____.
   (a) Emergency (b) Appearance
   (c) Volume (d) Patient

10. The normal range of total bilirubin level in the serum is _____?
    (a) 2 to 4 mg/dl (b) 40 to 50 mg/dl
    (c) 0.2 to 1.0 mg/dl (d) 10 to 20 mg/dl

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Explain the common laboratory units used for measurement with theft symbol.

Or

(b) Define Molar (M) and Normal (N) solution with example. Explain the preparation of 1.0 N sodium hydroxide solution.

12. (a) Describe the clinical significance of red blood cell indices. How will you calculate the volume of MCV, MCH and MCHC?

Or

(b) Explain the Haematocrit determination. Write the principle and procedure of wintrobe method.

13. (a) Give short notes on collection and processing of blood specimen.

Or

(b) Describe briefly ABO blood group system.

14. (a) Write a short note on pregnancy test.

Or

(b) Write about blood gases and bicarbonate.

15. (a) Explain about rapid chemical test of urine.

Or

(b) Give an account on
   (i) Physical examination of semen
   (ii) Microscopic examination of sperms and their clinical significance.

PART C — (5 × 8 = 40 marks)

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

16. (a) Briefly explain about the safety regulations should be followed in a clinical laboratory.

Or

(b) Write a detailed essay on collection and transport of clinical specimens.

17. (a) Discuss the principle ,procedure and clinical significance of differential counts.

Or

(b) Explain the mechanism of blood clotting.

18. (a) Describe the serological tests to diagnose syphilis.

Or

(b) Write about the serodiagnosis of streptococcal infections.

19. (a) Through light on the clinical significance, procedure and interpretation of lipid profile tests.

Or

(b) Describe the clinical significance, procedure and interpretation of enzyme assays.

20. (a) Explain the methods followed in routine examination of urine.

Or

(b) Elaborate the clinical significance, procedure and interpretation of the following biochemical tests

(i) Creatinine

(ii) Bilirubin

(iii) Urea

(iv) Protein

(v) Glucose

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