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Reg. No. : .....

**Code No. : 30411 E**    **Sub. Code : EEMI 31/  
FEMI 31**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2026.

Third Semester

Microbiology

Elective – CLINICAL LABORATORY TECHNOLOGY

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. What is the main purpose of a fume hood in the laboratory?
  - (a) To store chemical
  - (b) To protect users from inhaling hazardous fumes
  - (c) To incubate samples
  - (d) To sterilize equipment

2. Clinical lab is responsible for preparing and examines tissue samples are
  - (a) Hematology
  - (b) Clinical chemistry
  - (c) Pathology
  - (d) Microbiology
3. Urine specimen for a bacteriological analysis to be collected is
  - (a) Random collection
  - (b) First morning void
  - (c) Mid-stream clean urine
  - (d) 24 hours collection
4. Which preservation is used for the long-term preservation of DNA samples?
  - (a) Formalin
  - (b) Ethanol
  - (c) EDTA
  - (d) Acetic acid
5. Reagent is typically used to remove water from tissue samples are
  - (a) Xylene
  - (b) Ethanol
  - (c) Formalin
  - (d) Parafin

6. How long is a typical tissue sample immersed in paraffin wax for embedding?
- (a) 1 hr (b) 2 – 3.5 hrs  
(c) overnight (d) 4 – 24 hrs
7. Which condition is typically monitored using the pro-thrombin time test?
- (a) Hemophilia (b) Liver disease  
(c) Anemia (d) Leukemia
8. Coagulation factor I
- (a) Fibrinogen (b) Prothrombin  
(c) Thromboplastin (d) none
9. Organization which responsible for accrediting medical lab in India is
- (a) ISO (b) NABL  
(c) COLA (d) CWP
10. What does the acronym ISO Stands for
- (a) International society of oncologists  
(b) International Organization for Standardization  
(c) International safety office  
(d) International scientific operations

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PART B — (5 × 5 = 25 marks)

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

11. (a) Give a note on assessment and collection of sample from patient?
- Or
- (b) Write a short note on primary purpose of First aid?
12. (a) How to collect and processing of CSF sample?
- Or
- (b) Briefly explain about the factors affecting the clinical results?
13. (a) What are the steps involved in preparing sections for staining?
- Or
- (b) What are the advantage and disadvantage of using paraffin as embedding medium in histopathology?
14. (a) Write short note on coagulation factor assay.
- Or
- (b) Write the clinical significance of bleeding time determination?

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15. (a) Explain about primary requirements for obtaining CAP accreditation for a clinical laboratory.

Or

- (b) Define COLA. Explain about benefits of COLA accreditation for a laboratory.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Give a detailed notes on code of conduct for medical laboratory personnel.

Or

- (b) Briefly explain about the role of medical lab technician.

17. (a) Explain the method of blood collection and processing of blood.

Or

- (b) Evaluate the regulatory guidelines and standards in the transport medium.

18. (a) Describe the key steps involved in tissue processing for histopathology.

Or

- (b) Describe the different types of microtomes commonly used in histopathology laboratories.

19. (a) Distinguish extrinsic and intrinsic system of coagulation.

Or

- (b) Briefly explain about disorders of Haemostasias.

20. (a) What is the purpose of ISO standards and how do they benefit organizations?

Or

- (b) Write the methodologies are most effective for performing quality assessment.