14868

BRAINWARE UNIVERSITY

Term End Examination 2025-2026
Programme – B.Sc.(MLT)-2022/B.Sc.(MLT)-2023/B.Sc.(MLT)-2024
Course Name – Clinical Pathology
Course Code - BMLTC301
(Semester III)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Which urinary component, when found in excess, can indicate the presence of a urinary tract infection (UTI)? Choose the correct answer.

a) Ketones
b) Creatinine
c) Leukocyte esterase
d) Urobilinogen

(ii) In the chemical examination of urine, you want to classify a specific condition. Which of the following findings would classify a urine sample as having "ketonuria"?

a) A urine sample with a pH level of 7.0
b) A urine sample that appears pale yellow in color
c) A urine sample that tests positive for the presence of ketones
d) A urine sample with a specific gravity of 1.010

(iii) A patient presents with chronic diarrhea and loose, watery stools. Stool examination reveals the presence of white blood cells. In comparison to other conditions, which condition is most likely associated with these findings?

a) Constipation
b) Irritable Bowel Syndrome (IBS)
c) Inflammatory Bowel Disease (IBD)
d) Gastroesophageal Reflux Disease (GERD)

(iv) Which of the following terms describes the presence of undigested fat in stools, often seen in malabsorption disorders?

a) Melena
b) Hematuria
c) Steatorrhea
d) Occult Blood

(v) What is the primary function of cerebrospinal fluid (CSF)?

a) Nutrient transport
b) Cushioning and protection of the brain and spinal cord
c) Oxygen exchange in the brain
d) Immune system support

(vi) Which staining technique is commonly used to identify bacterial infections in cerebrospinal fluid (CSF)?

a) Gram stain
b) Pap smear
c) Acid-fast stain
d) H&E stain

(vii) Which chemical is commonly used in stool chemical examination to detect the presence of blood?

a) Hydrochloric acid
b) Sulfuric acid
c) Guaiac solution
d) Nitric acid

(viii) What is the primary purpose of preserving a stool sample for laboratory testing?

a) To enhance its color
b) To increase its volume
c) To prevent bacterial overgrowth and maintain sample integrity
d) To speed up the analysis process

(ix) Which component of semen provides nourishment and energy to sperm?

a) Prostate fluid
b) Seminal vesicle fluid
c) Testicular fluid
d) Epididymal fluid

(x) Which sperm abnormality is characterized by the complete absence of sperm in the ejaculate? Choose the correct answer.

a) Oligospermia
b) Asthenospermia
c) Azoospermia
d) Teratospermia

(xi) What is the average sperm count considered within the normal range for a healthy adult male?

a) Less than 1 million sperm per milliliter
b) 5 million sperm per milliliter
c) 50 million sperm per milliliter
d) More than 100 million sperm per milliliter

(xii) Why is the color of sputum important in diagnosing respiratory conditions?

a) Because it reflects a person's blood type
b) Because it can indicate the presence of infection or other lung conditions
c) Because it determines the severity of allergies
d) Because it's used to identify the cause of high blood pressure

(xiii) When a person is adequately hydrated, what is the typical range of urine specific gravity?

a) 1.010 to 1.030
b) 1.000 to 1.005
c) 1.040 to 1.060
d) 1.070 to 1.080

(xiv) What is the significance of analyzing fructose in semen?

a) To determine the sperm count
b) To assess sperm motility
c) To evaluate the quality of seminal vesicle function
d) To detect the presence of sexually transmitted infections

(xv) What is the primary purpose of collecting pericardial and synovial fluid for analysis?

a) To assess lung function
b) To evaluate kidney health
c) To diagnose pericarditis and joint diseases
d) To measure blood sugar levels

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Define the different types of Urine Epithelial cells. (3)
3. Define the normal composition of CSF. (3)
4. Describe the abnormal morphology of sperm on the basis of tail. (3)
5. Define the collection of pleural fluid. (3)
6. Explain sperm count, and analyze why is it an essential parameter in assessing male fertility? (3)

OR

A patient is having bacterial meningitis. analyze how to interpret the condition with physical appearance of CSF? (3)

Group-C
(Long Answer Type Questions) 5 x 6=30

7. Differentiate the sputum finding between tubercular and bacterial lung infection. (5)
8. A patient came with high fever, unconsciousness and neck rigidity. Bacterial meningitis is suspected. Analyze the possible CSF finding in this patient. (5)
9. Describe the process of CSF collection in clinical setting along with indications and complications. (5)
10. Describe the clinical significance of identifying urinary crystals in the urine sediment. (5)
11. Identify two substances that should not be present in normal urine and explain their significance when detected. (5)
12. Analyze the color and consistency of sputum and their clinical significance. (5)

OR

Analyze the laboratory diagnosis of male infertility. (5)

****