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**BRAINWARE UNIVERSITY**

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Term End Examination 2025-2026**Programme – B.Sc.(MRIT)-2022/B.Sc.(MRIT)-2023/B.Sc.(MRIT)-2024/B.Sc.
(MRIT)-2025****Course Name – Clinical Biochemistry & General Pathology****Course Code - BMRITC102****(Semester I)****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) Home pregnancy test kit is determined by
a) Sandwich ELISA
b) Indirect ELISA
c) Competitive ELISA
d) Direct ELISA
- (ii) SLE is primarily categorized as:
a) Metabolic disorder
b) Autoimmune disorder
c) Infectious disease
d) Genetic disorder
- (iii) Which of the following is not a type of radiation detectors?
a) Geiger Muller counter
b) Proportional counter
c) Semiconductor detector
d) Flame emission detector
- (iv) Minamata disease caused by
a) Mercury toxicity
b) Lead toxicity
c) Zinc toxicity
d) All of these
- (v) Mercury poisoning leads to
a) Pink disease
b) Minamata disease
c) kaposki syndrom
d) Both a and b
- (vi) Correlate the method of evaluating glucose in blood stream
a) GOD-POD method
b) Biuret method
c) Swalinoff Test
d) Van-dan Berg Reaction
- (vii) Fat embolism syndrome is composed of all except
a) pulmonary impairment
b) Neurologic symptoms
c) Anemia
d) Thrombocytosis
- (viii) Name the device that is used to separate components of blood
a) Centrifuge
b) Auto- analyzer
c) Magnetic stirrer
d) Hematocrit

- (ix) Identify the function of autoclave
 a) Heating
 c) Sterilization
 b) Melting
 d) Cleaning
- (x) Give example of a benign neoplasm
 a) Carcinoma
 c) Adenoma
 b) Sarcoma
 d) Myeloma
- (xi) An example of hypertrophy would be
 a) liver regeneration after partial hepatectomy
 c) the uterus during pregnancy
 b) breast development at puberty
 d) the uterus during menstruation
- (xii) Metastatic calcification occurs in
 a) damaged heart valves
 c) atherosclerotic lymph nodes
 b) old lymph nodes
 d) gastric mucosa
- (xiii) Which of following are the components of radioimmunoassay?
 a) Radiolabeled Antigens
 c) Unlabeled Antigens
 b) Monoclonal Antibodies
 d) All of these
- (xiv) The first vascular response to injury is
 a) venular dilatation
 c) capillary enlargement
 b) recruitment of the vascular beds
 d) arteriolar vasoconstriction
- (xv) Macrophages are derived from
 a) monocytes
 c) Eosinophils
 b) T cells
 d) Plasma cells

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Identify the changes in cell organelles during inflammation (3)
3. Define metaplasia and give examples of pathological and physiological metaplasia (3)
4. Evaluate Hyperbilirubinemia and its clinical significance (3)
5. Differentiate water bath and incubator. (3)
6. A 45-year-old male presents with progressive jaundice, dark urine, pruritus, and weight loss over the past 2 months. His liver function tests show elevated conjugated bilirubin, markedly raised alkaline phosphatase (ALP), and mildly elevated ALT and AST. Ultrasound reveals dilated intrahepatic bile ducts. (3)

OR

A 3-day-old term neonate presents with visible jaundice. The total serum bilirubin is 18 mg/dL, predominantly unconjugated. The baby is feeding well, has normal urine and stool output, and appears otherwise healthy. However, the mother is blood type O negative, and the baby is A positive. Discuss the differential diagnosis of this presentation, the risks associated with high levels of unconjugated bilirubin in neonates. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Differentiate between water bath and incubator (5)
8. Explain a brief outline on cell injury (5)
9. Describe the factors influencing the cell injury (5)
10. Explain hemorrhage with types and causes. (5)
11. Explain about the sign features of inflammation (5)
12. Evaluate Cancer Metastasis Pathway with example. (5)

OR

Summarize the Cardiac Enzymes and Their clinical significance (5)