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BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – DMLT-2021/DMLT-2022

Course Name – Clinical Biochemistry

Course Code - DMLT404

(Semester IV)

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 of these is not a heart disease?
 - a) Hypertension
 - b) Angina pectoris
 - c) Celiac disease
 - d) Atherosclerosis
- (ii) Control run should be arranged and done at the beginning of _____. Select the correct option.
 - a) Each week
 - b) Each day
 - c) Each fortnight
 - d) Each month
- (iii) Pancreatic digestive enzymes are not essential for _____. Select the correct option.
 - a) D-xylose absorption
 - b) Pancreas activity
 - c) vitamin B12 absorption test
 - d) All of these
- (iv) The condition of chronic inflammation of the thyroid leads to which of the following disease.
 - a) Thyroiditis
 - b) Goitre
 - c) Hypothyroidism
 - d) Hyperthyroidism
- (v) In blood, T3 is bound to which molecules?
 - a) thyroxine binding globulin
 - b) thyronin binding pre albumin
 - c) hemoglobin
 - d) both 1 and 2
- (vi) What is the Full form of HRPO?
 - a) horseradish peroxidase
 - b) horseredish peroxidase
 - c) horseredish peroxisome
 - d) none of these
- (vii) Microwells are also known as _____. Select the correct option.
 - a) micropipette plates
 - b) microtitre plates
 - c) both of these
 - d) none of these
- (viii) Identify the condition, causes Hypothyroidism
 - a) Obesity
 - b) Diabetes

- c) Cretinism d) Myxoedema
- (ix) In chronically deficient patients, this abnormality is directly related to the enlargement of the thyroid gland. Choose the condition from the following.
- a) Impaired conversion of T3 and T4 b) Reduced activity of thyroperoxidase
- c) Elevated levels of TSH d) An antibody that binds to the TSH receptor in the thyroid gland
- (x) Fatty acids released from adipose tissue are transported by circulation _____. Select the correct statement.
- a) in relation to albumin b) as chylomicron-transferred triacylglycerols
- c) as lecithin on the surface of HDL particles d) None of these mechanisms
- (xi) Select the best test that indicates the function of the lower small intestine.
- a) Vitamin B12 absorbance test b) Vitamin E
- c) Vitamin K d) Vitamin D
- (xii) Select which of the following is a common thyroid disorder characterized by an underactive thyroid gland?
- a) Hyperthyroidism b) Hypothyroidism
- c) Thyroiditis d) Goiter
- (xiii) Select the normal reference range for TSH levels.
- a) 0.1 - 2.5 mIU/L b) 2.5 - 5.0 mIU/L
- c) 0.5 - 5.0 mIU/L d) 0.5 - 2.5 mIU/L
- (xiv) Name the thyroid function test that assesses the amount of T4 that is not bound to proteins in the blood.
- a) Total T4 test b) Free T4 test
- c) TSH test d) Total T3 test
- (xv) Identify the function of thyroglobulin in thyroid physiology.
- a) Stimulates thyroid hormone production b) Inhibits thyroid hormone production
- c) Serves as a precursor for thyroid hormones d) Regulates calcium levels

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Group-B

(Short Answer Type Questions)

3 x 5=15

2. Name some diagnosis methods for the detection of thyroid function. (3)
3. Write about 3 tests to detect joint disorders. (3)
4. Apply your knowledge and justify the importance of RF test in joint disorder. (3)
5. Explain the clinical significance of Primary and Secondary Hypothyroidism. (3)
6. Illustrate the normal distribution curve for positively skewed, no skew and negatively skewed curve. (3)

OR

Justify the importance of analytical errors in quality control. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Define variables and classify different types of variables used in biostatistics. (5)
8. Apply your knowledge and write how ECG and stress tolerance test can be useful in detection of cardiovascular disease. (5)
9. Discuss about d-xylose test mentioning its procedure and interpretation. (5)
10. Conclude the parameters- mean, median, and mode in central tendency. (5)
11. Given below is the distribution of weekly pocket money received by students of a class. Calculate the pocket money that is received by most of the students. Pocket Money 1-20 21-40 41-60 61-80 81-100 101-120 121-140 No of students 2 2 3 12 18 5 2 (5)
12. Calculate the Standard Deviation of the following body weights in kg of 16 men. 55, 60, 62, 58, 57, 61, 59, 60, 61, 62, 67, 48, 54, 65, 63, 52. (5)

OR

Evaluate the Standard deviation of the following memory test scores of 20 high school students. 9, 10, 12, 15, 9, 11, 16, 10, 13, 9, 12, 10, 14, 13, 15, 16, 13, 10, 12, 14 (5)

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Group A