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4. (a) Draw and explain the life cycle of malarial parasite.

(b) Explain the structure of HIV with the help of a diagram.

(c) Briefly discuss the pathogenesis, symptoms and any one diagnostic method for tuberculosis.

(6,3,6)

5. (a) An excess of cortisol in the body can create an imbalance. Justify this statement by elaborating on its cause, symptoms, and treatment.

(b) Which genetic disease is caused by a deficiency of glucocerebrosidase? Elaborate on the cause, manifestation and treatment of the disease.

(c) What are glycogen storage disorders? Explain with the help of an example. (15)

6. Write short notes on the following:

(i) Types of vaccines

(ii) Atherosclerosis

(iii) Tetanus

(iv) Rheumatoid Arthritis

(v) Leishmaniasis

(15)

(100)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5055

J

Unique Paper Code : 2494000022

Name of the Paper : Biochemical Correlation of Diseases

Name of the Course : B.Sc. (Hons.) Biochemistry (NEP)

Semester : VI

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll. No. on the top immediately on receipt of this question paper.
2. There are 6 questions.
3. Attempt any 4 questions.
4. All questions carry equal marks.
5. Question no. 1 is compulsory.

P.T.O.

1. (a) Expand and explain the following terms:

- (i) MDR-TB
- (ii) SLE
- (iii) HDL
- (iv) SCID
- (v) COVID

(b) Justify the following statements:

- (i) Diabetes Mellitus Type II is considered a lifestyle disorder, but not Diabetes Mellitus type I
 - (ii) Gout is observed in a patient of Von Gierke's disease.
 - (iii) Lipid profile is a parameter to assess cardiovascular health.
 - (iv) A deficiency in calcium levels cannot be elevated without Vitamin D.
 - (v) Hemagglutination is the basis of Widal test.
- (5,10)

2. (a) Identify the most probable cause and explain the biochemical basis of the following symptoms/clinical manifestation:

- (i) Loss of vision in dark
- (ii) Polydipsia, polyuria, polyphagia
- (iii) Frequent fractures in elderly women
- (iv) Fairer skin, hair, eyes than other siblings

(b) What do you understand by a balanced diet? What are the macronutrients and micronutrients required to maintain it?

(c) What are autoimmune diseases? Explain with the help of an example. (8,4,3)

3. Differentiate between the following:

- (i) Kwashiorkor and Marasmus
- (ii) Naked and Enveloped Virus
- (iii) Hashimoto's Disease and Grave's Disease
- (iv) Antigenic Shift and Antigenic Drift
- (v) Rickets and Osteomalacia (15)