

**Date: 10-01-2022**

**0819E379**

**First Year MBBS Examination**

**I MBBS Biochemistry Paper 2**

**Time: 3 hours**

**Max Marks: 100**

## **Instructions:**

1. Answer to the points.
2. Figure to the right indicates marks.
3. Use separate answer books for each section.
4. Draw diagrams wherever necessary.
5. Write legibly.

## **Section 1**

**1. Write the following structured long question: (Any 1 out of 2) (10)**

**a) Describe the structure of immunoglobulin & enumerate different**

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**immunoglobulins with two functions of IgG.** (5+3+2=10)

**b) Describe the process of Eukaryotic Transcription. With post translation modification.** (5+5=10)

**2. Write the following case based scenario/Applied short notes: (Any 2 out of 3)** (12)

**a) Read the following case history and answer the question: A full term infant was observed to have lack of pigmentation, blue eyes, white hair and confirmed as a case of albinism.**

i) Name the deficient pigment.

ii) Name the enzyme responsible for the defect.

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iii) Name the amino acid from which the pigment is synthesized.

iv) Which is the important amino acid related to this inborn error?

v) What are the different types of albinism.

vi) What special dietary advice should be given to the patient?

**b) What is Gout? Describe biochemical defects underlying a case of Gout and its primary and secondary causes.**

**c) Briefly describe the principle and technique of gene therapy & future prospects.**

**3. Write short notes: (Any 3 out of 4) (18)**

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**a) Biologically important peptides.**

**b) Types-RNA**

**c) Write about Recombinant DNA  
Technique. Vector used & its significance.**

**d) What is Mutation? Explain its types  
with examples.**

**4. Answer in 2-3 sentences only: (give  
biochemical justification, Any 5 out of 6)**  
(10)

**a) Alkaptonuria patients excrete  
black coloured urine.**

**b) Fluoride bulb is used for glucose  
estimation.**

**c) Telomerase inhibitors have beneficial  
role in treatment.**

**d) Tryptophan deficiency leads to pellagra.**

**e) Antibiotic Ciprofloxacin has an effect on bacterial replication but not on human cells.**

**f) Positive Nitrogen balance could be seen in pregnant women.**

## **Section 2**

**5. Write the following structured long question : (Any 1 out of 2) (10)**

**a) What is Phenylketonuria. What is the biochemical basis of treatment? Explain the disorder.**

**b) Name the vitamin. Which have a role in night vision (Vision in dim light). Give**

**their biochemical roles, dietary sources, RDA & deficiency manifestation.**

**6. Write short notes: (Any 2 out of 3) (12)**

**a) Which are the factor affecting basal metabolic rates?**

**b) Vitamin B12 deficiency manifestations.**

**c) Antioxidants and their action with examples.**

**7. Write short notes: (Any 3 out of 4) (18)**

**a) Wobble's hypothesis of Genetic code.**

**b) Functions of calcium and its deficiency manifestation.**

**c) Post transcriptional Modification.**

**d) Wilson's disease.**

**8. Answer in 2-3 sentences only: (Any 5 out of 6) (10)**

**a) Every newly born child must receive injection Vitamin K.**

**b) Zwitter ions have no mobility in electrophoresis.**

**c) The skin has low pigmentation due to phenylalanine.**

**d) Vitamin C deficient children have bleeding gums.**

**e) Difference between Melanin & Melatonin.**

**f) Serum Creatinine estimation for renal**

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**disorders is more specific than estimation  
of serum urea.**

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