

**Department of Biochemistry**  
**GMERS Medical College Valsad**  
**MBBS 1<sup>st</sup> Year Preliminary examination 2016-17**  
**Biochemistry Paper 2**

**Time: 2hr 30 min**  
**Marks: 50**

- Instructions:**
- 1 Figure to the right indicate full marks
  - 2 Draw neat diagrams wherever necessary
  - 3 Answer shall be legible and to the point
  - 4 Write each section in separate answer books

**Section 1**

**Write Short Notes (Attempt any two)**

**(Marks-)**

1. Describe structural organization of Protein with suitable examples.
2. Dietary sources, RDA, functions and deficiency manifestations of vitamin A
3. Describe catabolism of heme. Add a note on jaundice

**Describe in Brief (Attempt any four)**

**(Marks-)**

1. Enzyme inhibition
2. metabolism of phenyl-alanine and Tyrosine
3. Folate trap
4. Transcription
5. Clinical Application of Recombinant DNA technology
5. Phase II detoxification

**Write in few lines (5 out of 6)**

**(Marks-)**

1. What is Lac operon?
2. Significance of Hb1Ac
3. Therapeutic applications of enzymes
4. Name the enzyme defective in Lesch Nyhan syndrome.
5. Functions of glutathione.
6. Characteristics of genetic code.

## Section 2

### **.4 Case Study**

**(Marks-10)**

A 40 year old man had recurrent arthritis attacks. On examination, signs of inflammation were present in several joints. Serum uric acid was grossly elevated as was the urinary excretion of the compound. Further investigations revealed deposition of urate crystals in inflamed joints and tissues. Treatment was started with allopurinol and daily dose was gradually increased to 400 mg per day. Ibuprofen was added to control pain & inflammation as he was non-vegetarian and alcoholic he was asked to restrict the non-vegetarian diet and alcohol.

1. What is the Normal level of serum uric acid?
2. Explain the biochemical basis of symptoms in this patient.
3. What is the difference between primary gout and secondary gout?
4. What is the reason behind treating this patient with allopurinol?
5. Why he was asked to restrict the non-vegetarian diet and alcohol?

### **.5 Justification (Attempt any five)**

**(Marks-10)**

1. Cigarette smoking is injurious to health.
2. UV radiation can cause Xeroderma pigmentosum.
3. Administration of vitamin C useful to the patients with methemoglobinemia
4. Excess of ammonia is toxic to the brain
5. Mitochondrial DNA is inherited only from mother.
6. Some chemotherapeutic agents block pyrimidine biosynthesis

### **.6 Write in few lines (5 out of 6)**

**(Marks-05)**

1. Applications of ELISA
2. What is active form of vitamin D & give its daily requirement.
3. Clinical application of nucleotide?
4. Acute phase proteins with two examples.
5. Applications of PCR.
6. What is Chargaff's rule?