

Your Roll No.....

**M.D (MOALAJAT) I YEAR ANNUAL EXAMINATION, 2016**

**Paper-MDM-101**

**Keemiyae Hayati wa Virasiyat (Biochemistry and Genetics)**

*Time: Three Hours*

*Maximum Marks: 75*

*(Write Roll No at the top immediately on receipt of this question paper)  
Attempt all questions. All parts of question must be attempted in continuation*

**Section – A (2 x 10 = 20 Marks)**

Answer in brief (up to 20 words);

- (a) Define Gene.
- (b) What are silent mutations ?
- (c) Give two example each of Monosaccharides, Disaccharides and Polysaccharides.
- (d) Name any four essential amino acids.
- (e) Name the bases found in DNA and RNA. Which of these bases is never found in DNA ?
- (f) Differentiate between a Nucleoside and a Nucleotide ?
- (g) Which bond links amino acids in a peptide ? Show its structure.
- (h) State some important functions of lipids.
- (i) What is meant by 'Degeneracy of Genetic code'.
- (j) Can RNA act as a genetic material ? Justify.

**Section – B (5 x 5 = 25 Marks)**

Attempt any **FIVE**

Answer in upto 100 words;

- (a) Write a note on characteristics and major classes of Enzymes.
- (b) What are proteins ? Explain the different levels of structure of proteins.
- (c) Give a brief account of Genetic disorders.
- (d) Discuss any two disorders associated with metabolism.
- (e) Write a note on Mendelian laws of inheritance.
- (f) Write a note on Pharmacogenetics.

**Section – C (3 x 10 = 30 Marks)**

Attempt any **THREE**

Answer in upto 100 words;

- (a) Write a detailed note on Fat-soluble vitamins.
- (b) Describe the structure of chromosome.
- (c) Name five mineral that are required in significantly large amounts in the diet. Discuss their sources, functions and deficiencies.
- (d) Describe the structure of RNA. Discuss the different types of RNA and their functions.
- (e) Describe different causes and types of mutations.
- (f) Show the reactions of Glycolysis with formulae and enzymes.