



001/20

**The West Bengal University of Health Sciences**  
**MBBS 1<sup>st</sup> Professional Examination, January 2020**

Subject: Biochemistry

Paper : II

Full Marks : 50

Time : 2 ½ hours

*Attempt all questions. The figures in the margin indicate full marks.*

**Group A**

1. a) i) With the help of a suitable diagram explain the "Lac- operon model" of regulation of gene expression in bacteria. 10+2  
ii) Differentiate between the mono- cistronic & poly- cistronic m- RNA.
- or
- b) i) Name the different types of DNA damage. 2+2+8  
ii) Mention different types of DNA repair.  
iii) With the help of diagram differentiate between 'Mismatch repair' & 'Base excision repair'.

**Group B**

2. Answer *any two* of the following:
- a) Write down the oxidative phase of HMP shunt pathway & its importance. 6+1  
b) Name ketone bodies. Outline the steps of synthesis & utilization of ketone bodies. 1+6  
c) Outline the process of synthesis of ammonia in human system. State different routes of disposal of ammonia from human body. 4+3

**Group C**

3. Write short note on *any four* of the following: 4 x 3
- a) Phase II reaction of Xenobiotics.  
b) Insulin receptor.  
c) Phenyl ketonuria.  
d) Transmethylation.  
e) Genetic code.

**Group D**

4. Explain the following statement: 4 x 3
- a) Atorvastatin lowers the serum cholesterol level in hypercholesterolemic individuals.  
b) Normal function of the kidney is essential for the synthesis of active Vitamin D3.  
c) P53 is considered as "Guardian of the genome".  
d) Ascorbic acid helps in the maturation of the immature collagen molecule.

