

SS/MBBS/BIO-II/7-16**First Professional MBBS Examination****2016****(July)****BIOCHEMISTRY****Paper-II****Full Marks: 50****Time: 2 hours**

**The figures in the margin indicate
full marks for the questions**

Write the answers to the two Halves in separate books

Answer all questions

FIRST HALF

1. What are the biomedical importances of hexose-monophosphate shunt? Describe the different phases of this pathway with special reference to deficiency of its rate limiting enzyme. (2 + 6 = 8)
2. Write short notes on any three of the following: 4×3=12
 - (a) Chemiosmotic hypothesis of oxidative phosphorylation
 - (b) Utilization of ketone bodies
 - (c) Alkaptonuria
 - (d) Mechanism of action of steroid hormones
3. A 40-year-old man came to surgical OPD with pain abdomen and yellowish discolouration of skin and sclera. He was also complaining of itching of whole body and passing clay-coloured stool.

- (a) What is the probable diagnosis? 1
- (b) What are the tests that can be done to arrive at a provisional diagnosis? 2
- (c) What are the biochemical bases for itching and clay-coloured stool? 2

SECOND HALF

4. Write a note on transcription along with post-transcriptional processing.

4+4=8

5. Write short notes on any three of the following : 4×3=12

- (a) Principle of colorimeter and its application
- (b) Replication fork
- (c) Oncogenes
- (d) Cytochrome P₄₅₀

6. Justify the following statements : 1×5=5

- (a) Transcription error is more marked than replication error.
- (b) Regular blood transfusion is of utmost importance in the management of β -thalassemia major.
- (c) Mitochondrial DNA is more frequently affected by mutations than nuclear DNA.
- (d) Methotrexate is an anticancer drug.
- (e) Iron deficiency can lead to retarded growth.

* * *

SM16—1000/36

SS/MBBS/BIO-II/7-16