

Q.P.Code :

Reg.No.:.....

**First Professional MBBS Degree Examinations September 2020**

**Biochemistry –Paper II**

**Time : 3 Hours**

**Total Marks : 100**

- **Answer all Questions**
- **Draw diagrams wherever necessary**

**Long Essay**

**(2x15=30 marks)**

1.A 45 year old lady with known history of Bronchial asthma was brought to the emergency with severe breathlessness.ABG analysis shows the following.

pH-7.3,pCo<sub>2</sub> -50mm of Hg,PO<sub>2</sub> -55mmof Hg, HCO<sub>3</sub><sup>-</sup>—24 mEq/L

- a. Comment on the report and give a probable diagnosis (4)
- b . Explain the mechanisms which maintain the plasma pH (8)
- c. What are the precautions to be taken while sending blood for ABG analysis? (3)

2.Define transcription. Explain the process of Transcription.Enumerate the difference between prokaryotic and eukaryotic transcription. Discuss post transcriptional modifications

( 1+6+3+5)

**Short essay**

**(5x8=40 marks)**

3.What are the different types of DNA repair mechanisms. Discuss any two in detail with the related disorders (3+5)

4. Draw and label the structure of Immuno globulin .Classiify Immunoglobulins and describe their functions. (3+5)

5 .Discuss the laboratory findings in different types of jaundice (4+4)

6.Explain the factors regulating calcium homeostasis. Add a note on hypocalcemia (5+3)

7.Define clearance. What are the methods to estimate clearance? What is eGFR and discuss any formula for calculating eGFR? (1+4+3)

**Short notes**

**(5x4=20 marks)**

- 8.Explain the technique of PCR and what is its application?
9. Enumerate the biochemical tests to assess iron deficiency.
- 10.Molecular motors
- 11.Outline the cell cycle with its phases .Briefly explain its regulation
- 12.Describe the synthesis of pyrimidine.

**Give precise answers**

**(10x1=10 marks)**

- 13.Chaperones are required during DNA repair - True/ false
- 14.Name two biochemical reactions which generate free radicals in the body
15. Name two copper containing enzymes

**3 year old child presented with developmental delay,irritability and self mutilating behaviour.Serum uric acid level is found to be elevated:**

16. What is the most likely diagnosis?
- 17 .What is the biochemical defect?
18. What is the normal Serum uric acid level in male&,females
19. RNA which has catalytic activity is known as.....
20. The most abundant intracellular nucleotide is ...
21. RNA polymerase is required for recombinant protein synthesis -True/False