

2019 Scheme

Q.P. Code: 116001

Reg. no.:

First Professional MBBS Degree Supplementary (SAY) Examinations January 2024 Biochemistry - Paper II

Time: 3 Hours

Total Marks: 100

- Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space
- Answer all parts of a single question together • Leave sufficient space between answers
- Draw table/diagrams/flow charts wherever necessary

Long Essays

(2x15=30)

1. A 68-year-old man, known diabetic for the past 20 years was brought to the emergency in a disoriented state. Relatives informed that he had fever for the last few days and skipped his regular doses of insulin. On examination he had rapid pulse and rapid deep breathing. Laboratory results as follows: pH: 7.2, HCO₃⁻: 12 meq/L, PCO₂: 35mm of Hg, Na⁺: 135meq/L, K⁺: 4.9meq/L, Cl⁻: 101meq/L
 - a) What is the most likely acid base disorder in this patient
 - b) Calculate anion gap and comments
 - c) Interpret the given laboratory parametres and give their reference interval
 - d) Enumerate the causes for this type of acid base imbalance
 - e) Describe the role of lungs and kidney in maintaining normal plasma pH

(1+2+3+3+6)

2. Give a detailed account of the transcription process. How is it regulated. Name inhibitors of transcription
(9+3+3)

Short essays

(5x8=40)

3. What is Gout. Give an account of the causes, biochemical base of clinical manifestations, investigations and management of Gout
4. Describe the principles and applications of ELISA
(4+4)
5. Enumerate liver function tests. Describe any two of them in detail
(5+3)
6. Describe recombinant DNA technology. What are the applications of the technique
(4+4)
7. Explain the salient features of structural organization of collagen. Mention the major disorders associated with collagen structure and function
(4+4)

Short answers

(5x4=20)

8. What is code. Describe the salient features of genetic code
(1+3)
9. Biochemical test for the investigation of iron deficiency anaemia
10. Biochemical functions of Copper and disorders associated with copper metabolism
11. Reactive oxygen species
12. Detoxification of bilirubin

Give Precise Answers

(10x1=10)

13. What is genetic code.
14. Action of reverse transcriptase
15. Normal serum values of sodium and potassium
16. References interval for the plasma electrolytes a) sodium b) Potassium
17. Define mutation
18. Enzyme defect in orotic aciduria
19. Name two tumor markers and their clinical applications
20. Define apoptosis
21. Name types of immune responses
22. Mention two causes of metabolic alkalosis
