

BLDE (DEEMED TO BE UNIVERSITY)

Mo8-2021

MBBS PHASE – I EXAMINATION

[Time :3 Hours]

[Max. Marks: 80+20(MCQ)]

BIOCHEMISTRY – PAPER – I**QP CODE: 1005 - CBME**

Your answer should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

Each answer should be written on new page only.

Write question number in left side of margin

Long Essay: (Answer to be started on fresh page only)**2 X 10 = 20**

1. A 16-year-old female is admitted to the ICU for ventilator management after developing respiratory failure secondary to benzodiazepine use. Blood gas analysis obtained during the assist-control mode had a significantly lower pCO₂ and higher pH than blood gases measured normally.
 - a. What would be her acid base condition? Justify your answer. (1+1=2)
 - b. Describe in detail the renal and respiratory mechanisms for regulation of acid-base balance (4+4=8)
2. Explain the TCA cycle under the following headings
 - a) Link reaction
 - b) Anaplerotic reactions (complete reaction)
 - c) Energetics
 - d) Regulation (2+3+2+3=10)

Short Essay: (Answer to be started on fresh page only)**6 X 5 = 30**

3. A 66-year-old man sought medical care at the hospital due to severe chest pain lasting for 24 hours. The patient was aware of being hypertensive and was a smoker. Without any prior symptom, he started to have severe chest pain and sought emergency medical care after about 24 hours, due to pain persistence.
 - a. What biochemical investigations has to be done immediately? 1mark
 - b. Discuss the results with suitable explanations and diagrams (3+1)
4. A 68-year-old presents with complaints of general malaise, weight loss, and a change in his bowel habits. He claims to have lost seven pounds over the past three months. He undergoes work up, and it is discovered that he has an iron deficiency anaemia.
 - a. What are the diagnostic test are required to diagnose iron deficiency anemia and why? (3)
 - b. Describe the factors which favour the absorption of iron from the intestine (2)
5. What are phospholipids? Describe the classification and functions of phospholipids
6. Write the sources, requirement and metabolic functions of vitamin D.
7. Describe urea cycle.
8. Write neat labelled diagram of Electron transport chain. Add a note on its inhibitors. (3+2=5)

Short Answer: (Leave three lines gap between the answers)**10 X 3 = 30**

9. Describe the functions of glycogen.
10. What are lipotropic factors? Give suitable examples .
11. Rancidity.
12. Ketosis
13. What are buffers? Enumerate the different types of buffers in plasma.
14. What would be the role of communication in medical profession?
15. Manifestations of Vitamin A deficiency.
16. Specific dynamic action.
17. Functions of Vitamin B12.
18. Discuss active transport with suitable example.

Mar-2021

BLDE (DEEMED TO BE UNIVERSITY)
MBBS PHASE – I EXAMINATION

[Time :3 Hours]

[Max. Marks: 80+20(MCQ)]

BIOCHEMISTRY – PAPER – II
QP CODE: 1006 - CBME

Your answer should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

Each answer should be written on new page only.

Write question number in left side of margin

Long Essay: (Answer to be started on fresh page only) 2 X 10 = 20

1. An infant of 2 weeks had convulsions. He was born after a normal pregnancy and had taken his feeds normally. His mother had observed a peculiar mousy odor in the child's urine. The urine was tested by ferric chloride test: characteristic green colour was observed which indicated the presence of phenylpyruvic acid. Quantitative analysis of the blood and urine yielded increased values for phenylalanine and its metabolites. Plasma phenylalanine 1.8 mmol/L (reference range < 0.09 mmol/L);Urine phenylalanine 4.8 mmol/L (Normal Trace);Urine phenylpyruvate 6.2 mmol/L (normally Absent);Urine phenyllactate 11.2 mmol/L (normally Absent) Similar results were obtained on repeating tests after few days days.
 - a. Identify the biochemical defect.(1)
 - b. Comment on the biochemical test results.(5)
 - c. Explain the cause of convulsions.(2)
 - d. What treatment do you suggest for this child (2)
2. Describe DNA replication process in detail .Add a note on its inhibitors (8+2=10)

Short Essay: (Answer to be started on fresh page only) 6 X 5 = 30

3. A 47-year-old male presents with an acute onset of right toe pain in the middle of night after drinking alcohol and no history of trauma or any other joint pain. Synovial fluid was obtained and revealed rod- or needle-shaped crystals consistent with gout.
 - a. What are chemical name of the crystal? (1)
 - b. Describe the production of above crystal (3)
 - c. What is normal reference range of this crystal in the serum?(1)
4. What is jaundice? How it is classified? Write about each class.(1+1+3=5)
5. Detoxification by conjugation mechanism.
6. Justify the statements with biochemical reasons :
 - a) Carnitine deficiency might result in fatty liver
 - b) Patients with elevated levels of methylmalonyl CoA may suffers from neurological symptoms
 - c) Gamma carboxylation of glutamate helps in activation of prothrombin (1+2+2)
7. Describe the digestion and absorption of dietary proteins
8. What are carcinogens? Write about different types of Carcinogens. (1+4=5)

Short Answer: (Leave three lines gap between the answers) 10 X 3 = 30

9. Reverse transcriptase
10. Enumerate three tumor markers and their significance.
11. Write a short note on Gene therapy
12. Write a note on functions of albumin.
13. Write a note on transamination
14. Enumerate three biological important nucleotides and their functions
15. Write differences between DNA and RNA
16. Draw general structure of immunoglobulins. Label its parts.
17. Write a short note on detoxification by conjugation
18. Write formation of bilirubin.