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01113B

First M.B.B.S. (2019) Examination, (Phase - III) Winter - 2021
BIOCHEMISTRY - II

Total Duration : Section A+B = 3 Hours

Section B Marks : 80

SECTION - B

Instructions : *1) Use **blue/black** ball point pen only.*

*2) Do not write anything on the **blank portion of the question paper**. If written anything, such type of act will be considered as an attempt to resort to unfair means.*

*3) All questions are **compulsory**.*

*4) The number to the **right** indicates full marks.*

*5) Draw diagrams **wherever** necessary.*

6) Distribution of syllabus in Question Paper is only meant to cover entire syllabus within the stipulated frame. The Question paper pattern is a mere guideline. Questions can be asked from any paper's syllabus into any question paper. Students cannot claim that the Question is out of syllabus. As it is only for the placement sake, the distribution has been done.

7) Use a common answer book for section B.

2) Brief answer question (**any Ten** out of Eleven) : **[10 × 2 = 20]**

a) Give the composition of Coenzyme A and write its function.

b) Functions of vitamin K.

c) Two differences between colorimeter and spectrophotometer.

d) Write the role of chaperons.

e) Name the bile salts and tests used for detection of bile salts.

f) Enlist amino acids involved in one carbon metabolism.

g) Action of carbonic anhydrase in acid base balance.

h) Enumerate the enzymes required for transcription.

i) Write the products formed after pyrimidine catabolism.

j) Write the importance of Wobble hypothesis.

k) Enumerate deficiency manifestations of hypokalaemia.

P.T.O.

3) Short answer question (**any Eight** out of Nine) : **[8 × 5 = 40]**

a) Write principle, types and applications of ELISA technique.

b) Various types of normal hemoglobin.

c) What is proteinuria? Write its causes and clinical significance.

d) Functions of magnesium.

e) Types of body buffers in acid base balance.

f) A 30 year old male presented with history of intermittent abdominal pain and episodes of confusion and psychiatric problems. Laboratory test revealed urinary delta-amino levulinate and porphobilinogen. I. What is the probable diagnosis? (1 mark) II. What is the pattern of inheritance? (1 mark) III. Write reaction catalysed by the deficient enzyme. (2 marks) IV. Give reason for the increase in colour of urine when kept on standing. (1 mark)

g) A 9 year old girl presented with muscle pain and cramps, tingling of hands and feet, stiffness, recurrent carpopedal spasms, and tetanic posturing of both hands and feet. She was a strict vegetarian with no milk or milk products. Other siblings were normal. On examination, Trousseau's sign was positive. Calcium level was 6.5 mg/dl. I. What is the diagnosis? (1 mark) II. What are the causes for the disease? (2 marks) III. What other investigation are needed to come to a confirmatory diagnosis? (2 marks)

h) Principle and applications of polymerase chain reaction.

i) Role of Vasopressin in water balance.

4) Long answer question (**any Two** out of Three) : **[2 × 10 = 20]**

a) How glycine is synthesized and metabolised? Explain its role in biosynthesis of variety of specialized products. Add a note on inborn disorders associated with metabolism of glycine.

b) Describe the metabolism, biochemical functions, deficiency manifestations and toxicity of the vitamin B12 and folic acid.

c) Describe the metabolic changes during fed and starvation states with role of specific organs.

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