Sl.No. M2340 **Course Code : 161021T06**

VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University)

MBBS DEGREE EXAMINATION – July 2021
First Year
BOICHEMISTRY- PAPER II

SECTION A

Time: Fifteen Minutes **Maximum: 15 marks**

Register Number : | | | | | | | | | | |

Signature of the candidate **Signature of the Invigilator**

Instructions to the candidates

1. **Write your Register Number and sign at the place specified on the first page of this Question Booklet.**
2. **Do not open this question booklet until Invigilator announces the commencement of the examination.**
3. **Answer ALL the Fifteen questions. They carry equal marks. No negative marking for wrong answers.**
4. **Answers should be marked legibly in the SHEET provided in capital letters.**
5. **THE QUESTION BOOKLET SHOULD NOT BE TAKEN OUT OF THE EXAMINATION HALL.**
6. **Questions should not be copied and taken out of the Examination Hall. Any one found violating this rule shall not be permitted to write the examination and shall be sent out of the Hall.**
7. **At the end of 15 minutes, when the Invigilator announces 'STOP WRITING' you must stop writing immediately. If the candidate tries to attempt to answer the questions after the prescribed time, their answer script becomes invalid.**
8. **Hand over the questions booklet containing answer sheet to the invigilator when you finish answering or immediately after 15 minutes.**

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BOICHEMISTRY- PAPER II

SECTION-A (15X1-15 MARKS)

(Multiple choice questions)

Time: Fifteen Minutes Maximum: 15 marks

Select the most appropriate answer and answer in the answer sheet attached:

1. Xanthurenic acid is formed in the metabolism of
   A. Tryptophan
   B. Tyrosine
   C. Histidine
   D. Alanine

2. The first nucleotide to be made in denovo purine nucleotide biosynthesis is
   A. AMP
   B. GMP
   C. IMP
   D. dUMP

3. FIGLU excretion is diagnostic for
   A. Leucine
   B. Lysine
   C. Tyrosine
   D. Histidine

4. DNA repair mechanism defective in hereditary non polyposis colon cancer
   A. Mismatch repair
   B. Chain break repair
   C. Base excision repair
   D. Depurination repair

5. Which of the following is responsible for the synthesis of the short RNA molecules essential for DNA replication
   A. Helicase
   B. Primase
   C. Polymerase
   D. SSB proteins

(p.t.o.)

6. Hemoglobin electrophoresis is based on
   A. Molecular weight
   B. Charge and mobility
   C. Solubility
   D. Colorimetric properties

7. Sickle cell anemia is a classical example of
   A. Silent mutation
   B. Frame-shift mutation
   C. Non-sense mutation
   D. Missense mutation

8. Plasma ferric ($Fe^{3+)}$ iron is converted to ferrous (Fe^{2+}) iron by
   A. Ferritin
   B. Hemosiderin
   C. Ceruloplasmin
   D. Transferrin

9. As per WHO criteria, a person is said to suffering from diabetes if his fasting plasma glucose value is
   A. >110 mg/dl
   B. >140 mg/dl
   C. >126 mg/dl
   D. >200 mg/dl

10. Normal anion gap
    A. 0-8 MEQ/L
    B. 8-18 MEQ/L
    C. 18-25 MEQ/L
    D. 25-32 MEQ/L

11. Mutation in mitochondrial DNA causes
    A. Lebers hereditary optic neuropathy
    B. Xero derma pigmentosum
    C. Fanconi’s anaemia
    D. Cockayne’s syndrome

12. Total number of codons available to code 20 amino acids
    A. 20
    B. 32
    C. 64
    D. 61

13. Zidovudine inhibits the following enzyme in HIV virus
    A. DNA polymerase
    B. RNA polymerase
    C. Tibozyme
    D. Reverse transcriptase

14. The amino acids involved in purine ring formation
    A. Aspartate, glutamate and glycine
    B. Asparagine, glutamate and glycine
    C. Aspartate, glutamine and glycine
    D. Aspartate, glutamine and cysteine

15. The disease severe combined immunodeficiency (SCID) is due to a defect in the enzyme
    A. HGPRT
    B. Adenosine deaminase
    C. Xanthine oxidase
    D. Purine nucleotide phosphorylase

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Time : Three hours Maximum : 80 marks

Answer ALL Questions

Answer Section A in the Answer Sheet attached to it 15 marks – 15 minutes to be handed over to the invigilator immediately after 15 minutes

Answer Section B in the same answer book

Time : 2 hours 45 minutes **SECTION – B** Maximum : 65 marks

I. Write essays on : **(2 x 15 = 30)**

1. List the parameters used in clinical practice to assess the liver function in humans. Explain the different types of jaundice. How do you investigate a case of jaundice ? (4+5+6)
2. Describe the metabolism of phenylalanine and tyrosine Write briefly on the inborn errors of metabolism associated with it. (8+7)

II. Short notes on : **(5 x 5= 25)**

3. Absorption, storage and transport of iron.
4. DNA repair mechanisms.
5. Tumour markers.
6. Renal regulation of blood PH.
7. Recombinant DNA technology.

III. Answer briefly on : **(5 x 2 = 10)**

8. Spliceosome.
9. Mechanism of action of steroid hormones.
10. Lesch- Nyhan syndrome.
11. Acute phase proteins in blood.
12. Silent mutation.

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