

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

**MBBS DEGREE EXAMINATION – August 2018**

**First Year**

**BIOCHEMISTRY - PAPER I**

**SECTION A**

**Time: Fifteen Minutes**

**Maximum: 15 marks**

**Register Number :**

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**Signature of the candidate**

**Signature of the Invigilator**

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**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.**

**BIOCHEMISTRY - PAPER I**  
**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. Which form of carbohydrate is present in the blood?
  - A. Fructose
  - B. Galactose
  - C. Glucose
  - D. Glycogen
2. Name the bond present in Trehalose
  - A.  $\alpha$ , 1,4 Glycosidic
  - B.  $\alpha$ ,1,6 Glycosidic
  - C.  $\beta$ ,1,4 glycosidic
  - D.  $\alpha$ ,1,1 Glycosidic
3. Which mammalian cell does not have aerobic pathway of Glucose catabolism
  - A. Nerve cell
  - B. Sperm Cell
  - C. Ovum
  - D. Red Cell
4. How many ATPs are synthesised in Citric Acid Cycle?
  - A. 14
  - B. 12
  - C. 10
  - D. 8
5. One of the following cell utilizes fructose but not glucose
  - A. Adipose tissue
  - B. Mammary gland
  - C. Ovum
  - D. Spermatozoa
6. All are Gluconeogenic substances except
  - A. Aminoacids
  - B. Fatty acids
  - C. Glycerol
  - D. Lactate

7. By which test Diabetic and Renal Glycosuria can be distinguished
  - A. Bebedict's test with urine
  - B. Fasting plasma Glucose
  - C. HbA1C
  - D. 2h Glucose tolerance test
8. What is the naturally occurring form of Vitamin D in the human
  - A. Calciferol
  - B. 7 dehydro cholesterol
  - C. 25 OH cholecalciferol
  - D. 1,25 dihydro cholecalciferol
9. In which vitamin deficiency the triad of diarrhoea, Dementia and Dermatitis is seen?
  - A. Niacin
  - B. Pyridoxin
  - C. Riboflavin
  - D. Thiamine
10. Which of the following inborn errors of metabolism can give rise to thrombo embolic manifestation in a child?
  - A. Galactosemia
  - B. Gaucher's disease
  - C. Homocystinuria
  - D. Phenyl Ketonuria
11. Vitamin K dependent clotting factors include all except
  - A. Factor II
  - B. Factor VIII
  - C. Factor IX
  - D. Factor X
12. The dietary fat is transported as
  - A. Micelles
  - B. Chylomicrons
  - C. VLDL
  - D. Albumin complex
13. The Key regulatory enzyme of fatty acid synthesis is
  - A. Acyl CoA synthase
  - B. Acyl CoA Carboxylase
  - C. Keto acyl Synthase
  - D. Thioesterase

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14. The Key regulatory enzyme of Cholesterol Synthesis

- A. HMG CoA Synthase
- B. HMG CoA lyase
- C. HMG CoA Reductase
- D. Mevalonate Kinase

15. Metabolism of \_\_\_\_\_ chain fatty in the liver does not require carnitine

- A. Long
- B. Medium
- C. Short
- D. Very Long

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**MBBS DEGREE EXAMINATION – August 2018**

**First Year**

**BIOCHEMISTRY - PAPER I**

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. Define lipoprotein & draw its structure. Mention the different lipoprotein and its function. Discuss in detail the Endogenous lipid transport with suitable Diagram. Mention about the other functions of HDL.
2. Discuss in detail the Chemistry, Source, RDA, Digestion & Absorption, Transport, Functions and Deficiency of Vitamin B12. Add a note on the relationship between Vitamin b12 & folic acid. (1+1+1+1+1+1+4+2+3)

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

3. Regulation of blood glucose
4. Competitive & non-competitive inhibition of Enzyme (2 ½ + 2 ½ )
5. Sickle Cell Anaemia & Thalassemia (2 ½ + 2 ½ )
6. Peroxisome
7. Biomarkers to identify & differentiate Jaundice

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

8. Mention any 2 inhibitors for complex 1 and any 2 inhibitors for complex 4 of Electron transport Chain
9. Name the hormones playing major role in energy metabolism
10. Draw the structure of cholesterol & name the compounds derived from it.
11. Name the end products of Carbohydrate digestion and its fate in liver
12. Anabolic actions of TCA cycle