

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2024-2025)

FIRST PROFESSIONAL – (CBME)

PAPER II – BIOCHEMISTRY

Q.P. Code: 527056

Time: 20 Minutes

Maximum : 20 Marks

Answer All Questions

Shade the correct answer with Black or Blue ink ball point pen

SET - A

IV. Multiple Choice Questions:

(20 x 1 = 20)

1. Which of the following is hydroxyl aminoacid
A) Threonine B) Histidine C) Leucine D) Isoleucine
2. All of the following reagents are used in sequencing of proteins EXCEPT
A) Dansyl chloride B) Phenylhydrazine
C) Phenylisothiocyanate D) Cyanogen bromide
3. Recombinant Human Insulin differ from bovine Insulin by
A) Biological activity B) Aminoacid sequence
C) Position of disulfide bonds D) Side chains
4. A 45 year old software engineer vegetarian by diet goes for master health checkup, report shows elevated homocysteine levels. Hyperhomocysteinemia can occur in all the following Vitamin deficiency EXCEPT
A) Pyridoxine B) Cyanocobalamin C) Pantothenic acid D) Folic acid
5. All are true about Lysine EXCEPT
A) An essential aminoacid B) Ketogenic
C) Deficient in Cereals D) Deficient in Pulses
6. All of the following metabolic disorders are associated with mental retardation EXCEPT
A) Phenylketonuria B) Von Gierke's Disease
C) Maple syrup urine disease D) Morteaux Lamy Syndrome
7. An adult male in 4th decade presented with severe low back ache. Oochronosis is seen in
A) Tyrosinemia B) Carcinoid syndrome C) Albinism D) Alkaptonuria
8. Gastric acid secretion is stimulated by all EXCEPT
A) Gastrin B) Pepsin C) Vagal stimulation D) Histamine
9. Proteinuria is not a feature in
A) Diabetes insipidus B) Multiple myeloma
C) Acute Glomerulonephritis D) Nephrotic syndrome

10. Renal stones may contain any of the following constituents EXCEPT
A) Uric acid B) Calcium C) Cholesterol D) Cystine
11. A 50 year old male presented with Chronic Renal Failure and investigated for the same. Which ion in serum is decreased in Chronic Renal Failure?
A) Potassium B) Phosphate C) Hydrogen D) Bicarbonate
12. Haptoglobin is a carrier of
A) Free iron B) Free heme C) Free hemoglobin D) Free bilirubin
13. Albumin is a transporter of the following compounds in plasma EXCEPT
A) Non esterified fatty acids B) Bilirubin C) Calcium D) Iron
14. Pick out the mismatched pair
A) Albumin and bilirubin B) Hemopexin and heme
C) Transthyretin and Thyroxine D) Transcortin and estrogen
15. Which of the following enzyme is involved in Phase II detoxification?
A) Cytochrome p450 B) N acetyl transferase
C) UDP glucuronyl transferase D) Alcohol dehydrogenase
16. A 65 year old male present with features of hyperuricemia secondary to a systemic disease. Secondary hyperuricemia is seen in all the following conditions EXCEPT
A) Leukemia B) Psoriasis C) Cytotoxic therapy D) Hepatitis
17. Which enzyme protects DNA from aging?
A) DNA polymerase B) Topoisomerase
C) Deoxyribonuclease D) Telomerase
18. Denaturation of DNA is accompanied by all changes EXCEPT
A) Increase in viscosity B) Hyperchromicity
C) Unstacking of bases D) Destabilisation of DNA helix
19. A baby born to a carrier mother exhibits symptoms of the disease. All of the following are inherited through X chromosome, EXCEPT
A) Sickle cell anaemia
B) Hemophilia
C) Glucose -6-Phosphate dehydrogenase deficiency
D) Duchenne type muscular dystrophy
20. When GAC is replaced by GAA, the result is
A) Silent mutation B) Deletion mutation
C) Frameshift mutation D) Conservative mutation

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SET - B

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SET - A

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1. All of the following are Glucogenic Aminoacids EXCEPT
A) Serine B) Aspartate C) Glycine D) Leucine
2. Which of the following is retained in denaturation?
A) Primary structure B) Secondary structure
C) Tertiary structure D) Quarternary structure
3. Lectins are
A) Animal proteins having specific aminoacid binding site
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C) Antibodies against cell membranes
D) Blood group substances
4. Exopeptidase among the following is
A) Trypsin B) Elastase C) Aminopeptidase D) Pepsin
5. The donor atoms of the one carbon pool include all EXCEPT
A) Glycine B) Tryptophan C) Histidine D) Valine
6. Serine when decarboxylated will produce
A) Ethanolamine B) Betamercapto ethanolamine
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7. Urine of a young male gave a positive cyanide nitroprusside test. He had renal stones. He is likely to have
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10. An elderly male came to Geriatric OPD with complaints of polyuria. Polyuria is seen in all the following diseases EXCEPT
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11. All the following data are needed for calculating corrected creatinine clearance EXCEPT
A) Body surface area B) Plasma Creatinine and Urine creatinine
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14. The anticoagulant which is produced endogenously is
A) Heparin B) Sodium Citrate C) Potassium Oxalate D) EDTA
15. Which of the following enzymes produce free radical in macrophages?
A) Superoxidase dismutase B) Catalase
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16. During denovo synthesis of pyrimidine, which nucleotide is first formed?
A) OMP B) UMP C) TMP D) CMP
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SET - B

IV. Multiple Choice Questions:

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SET - C

IV. Multiple Choice Questions:

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1. The anticoagulant which is produced endogenously is
A) Heparin B) Sodium Citrate C) Potassium Oxalate D) EDTA
2. Which of the following enzymes produce free radical in macrophages?
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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MBBS 0726]

JULY 2026

Sub. Code: 7056

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SET – A

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1. Which of the following is an example of phase one detoxification?
A) Sulfation B) Acetylation C) Methylation D) Oxidation
2. Carcinoembryonic antigen (CEA) is most often associated with
A) Lung cancer B) Breast cancer
C) Colorectal cancer D) Pancreatic cancer
3. Uptake of iodine by the thyroid gland is inhibited by
A) Fluoride B) Perchlorate C) Bromide D) Chloride
4. Plasma calcium levels is influenced by the following EXCEPT:
A) Calcitriol B) Calcitonin
C) Parathyroid hormone D) Thyroxine
5. Zinc is present in all the enzymes EXCEPT
A) Alkaline phosphatase B) Amylase
C) Carbonic anhydrase D) RNA polymerase
6. A 19-year-old female college student presents with fatigue, dizziness on exertion, and difficulty concentrating during lectures. She also reports heavy menstrual periods. On examination, she has pale conjunctivae and spoon-shaped nails (koilonychia). There is no jaundice or lymphadenopathy.
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 - A) Amino acid is attached to 3' end
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 - C) Contains several modified bases
 - D) Has a clover leaf shape
13. All are due to defective DNA repair EXCEPT
 - A) Xeroderma pigmentosa
 - B) Fanconi anemia
 - C) Ataxia telangiectasia
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14. N-3 of purine is donated by
 - A) Ammonia
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15. Orotic aciduria is characterized by all the following EXCEPT
 - A) Megaloblastic anemia
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 - C) Failure to thrive
 - D) Deficiency of HGPRTase
16. Which amino acid is oxidatively deaminated in liver?
 - A) Aspartic acid
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 - C) Glutamic acid
 - D) Valine
17. Gamma amino butyric acid (GABA) is derived from
 - A) Tyrosine
 - B) Glutamic acid
 - C) Tryptophan
 - D) Serine
18. Name the deficient enzyme in alkaptonuria
 - A) Cystathionase
 - B) Phenylalanine hydroxylase
 - C) Homogentisic acid oxidase
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19. Mental retardation is found in the following in born errors of metabolism EXCEPT
 - A) Phenylketonuria
 - B) Alkaptonuria
 - C) Maple syrup urine disease
 - D) Homocystinuria
20. A 22-year-old male presents with facial puffiness and swelling around his eyes, especially in the morning. He reports frothy urine for the past 2 weeks. There is no history of fever, sore throat, or joint pain. On examination, his blood pressure is 120/80 mmHg.:
 - Serum albumin: 2.0 g/dL (↓)
 - Serum cholesterol: 280 mg/dL (↑)
 - Serum urea & creatinine: Normal
 - Urinalysis shows Proteinuria: 4+, No hematuria
 What is the most likely diagnosis?
 - A) Acute glomerulonephritis
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19. Which of the following is an example of phase one detoxification?
A) Sulfation B) Acetylation C) Methylation D) Oxidation
20. Carcinoembryonic antigen (CEA) is most often associated with
A) Lung cancer B) Breast cancer
C) Colorectal cancer
D) Pancreatic cancer

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MBBS 0726]

JULY 2026

Sub. Code: 7056

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2024-2025 & 2025-2026)

FIRST PROFESSIONAL – (CBME)

PAPER II – BIOCHEMISTRY

Q.P. Code: 527056

Time: 20 Minutes

Maximum : 20 Marks

Answer All Questions

Shade the correct answer with Black or Blue ink ball point pen

SET – C

IV. Multiple Choice Questions:

(20 x 1 = 20)

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A) Fluoride B) Perchlorate C) Bromide D) Chloride
12. Plasma calcium levels is influenced by the following EXCEPT:
A) Calcitriol B) Calcitonin
C) Parathyroid hormone D) Thyroxine
13. Zinc is present in all the enzymes EXCEPT
A) Alkaline phosphatase B) Amylase
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