Q.P. CODE: M102A031

Dr NTR UNIVERSITY OF HEALTH SCIENCES:AP:VIJAYAWADA-520 008

M.B.B.S. DEGREE EXAMINATION – OCTOBER, 2024

FIRST M.B.B.S. EXAMINATION

BIOCHEMISTRY – PAPER-II(SET-A)

(Multiple Choice Questions)

Time : 20 minutes Max. Marks: 20

Note : Answer all questions

SECTION – I (MCQs- 20 MARKS) 1×20=20

1) Mitochondrial DNA is
   a) Circular double stranded
   b) Circular single stranded
   c) Linear double helix
   d) None of these
2) The following points about microfilaments are true except
   a) They form cytoskeleton with microtubules
   b) They provide support and shape
   c) The form of intracellular conducting channels
   d) They are involved in muscle cell contraction
3) Which of the following is a tripeptide?
   a) Anserine
   b) Oxytocin
   c) Glutathione
   d) Kallidin
4) Plasma proteins which contain more than 4% hexosamine are
   a) Microglobulins
   b) Glycoproteins
   c) Mucoproteins
   d) Orosomucoids
5) The apolipoprotein which forms the integral component of chylomicron is
   a) B-100
   b) B-48
   c) C
   d) D
6) The amino acid which detoxicated benzoic acid to form hippuric acid is
   a) Glycine
   b) Alanine
   c) Serine
   d) Glutamic acid

Contd ... 2

Q.P. CODE: M102A031

Dr NTR UNIVERSITY OF HEALTH SCIENCES:AP:VIJAYAWADA-520 008

M.B.B.S. DEGREE EXAMINATION – OCTOBER, 2024

FIRST M.B.B.S. EXAMINATION

BIOCHEMISTRY – PAPER-II(SET-A)

(Multiple Choice Questions)

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Contd ... 2

7) In urea synthesis, the amino acid functions solely as an enzyme activator
   a) N-acetyl glutamate
   b) Ornithine
   c) Citrulline
   d) Arginine

8) An amino acid that does not take part in a helix formation is
   a) Histidine
   b) Tyrosine
   c) Proline
   d) Tryptophan

9) Maple syrup urine diseases is an inborn error of metabolism of
   a) Sulphur-containing amino acids
   b) Aromatic amino acids
   c) Branched chain amino acids
   d) Dicarboxylic amino acids

10) Insulin is made up of
   a) A single polypeptide chain having 51 amino acid residues
   b) A single polypeptide chain having 84 amino acid residues
   c) A-chain having 21 and B-chain having 30 amino acid residues
   d) A-chain having 30 and B-chain having 21 amino acid residues

11) NH_3 is removed from brain mainly by
   a) Creatinine formation
   b) Uric acid production
   c) Urea formation
   d) Glutamine formation

12) Plasma proteins act as
   a) Buffers
   b) Immunoglobulins
   c) Reserve proteins
   d) All of these

13) In mammalian cells, ribosomal RNA is produced mainly in the
   a) Nucleus
   b) Nucleolus
   c) Ribosome
   d) Golgi apparatus

Contd 3

14) Niacin can be synthesized in human beings from
   a) Histidine
   b) Phenylalanine
   c) Tyrosine
   d) Tryptophan

15) All are Amino acid-derived hormones except:
   a) Thiamine
   b) Epinephrine
   c) Testosterone
   d) Nor-epinephrine

16) The immunoglobulin which provides the highest antiviral activity is
   a) Ig D
   b) Ig E
   c) Ig A
   d) Ig G

17) Meningitis and encephalitis cause
   a) Metabolic alkalosis
   b) Respiratory alkalosis
   c) Metabolic acidosis
   d) Respiratory acidosis

18) Which of the following statements about Menke's disease are true
   a) It is an inherited disorder of copper metabolism
   b) It occurs only in males
   c) Plasma copper is increased in it
   d) Hair becomes steely and kinky in it

19) Zinc is a constituent of the enzyme
   a) Succinate dehydrogenase
   b) Carbonic anhydrase
   c) Mitochondrial superoxide dismutase
   d) Aldolase

20) A characteristic pheochromocytoma is elevated urinary excretion of
   a) Dopamine
   b) Tyrosine
   c) Vanillylmandelic acid
   d) Phenylalanine

Q.P. CODE: M102A030

Dr NTR UNIVERSITY OF HEALTH SCIENCES:AP:VIJAYAWADA-520 008

M.B.B.S. DEGREE EXAMINATION – OCTOBER, 2024

FIRST M.B.B.S. EXAMINATION

BIOCHEMISTRY – PAPER-I(SET-A)

(Multiple Choice Questions)

Time : 20 minutes Max. Marks: 20

Note : Answer all questions

SECTION – I (MCQs- 20 MARKS) 1x20=20

1) Two sugars which differ from one another only in configuration around a single carbon atom are termed.
   a) Epimers
   b) Anomers
   c) Optical isomers
   d) Stereoisomers
2) On boiling Benedict's solution is not reduced by
   a) Fructose
   b) Sucrose
   c) Lactose
   d) Maltose
3) Gluconeogenesis is decreased by
   a) Glucagon
   b) Epinephrine
   c) Insulin
   d) Glucocorticoids
4) Cori's cycle transfers
   a) Glucose from muscles to liver
   b) Lactate from the liver to muscles
   c) Pyruvate from the liver to muscles
   d) Lactate from muscles to liver
5) Catalytic activity of salivary amylase requires the presence of
   a) Bromide ions
   b) Iodide ions
   c) Sodium ions
   d) Chloride ions
6) Anaemia can occur due to the deficiency of all of the following except:
   a) Thiamine
   b) Pyridoxine
   c) Folic acid
   d) Cyanocobalamin

Cont-d.2..

7) Which of the following metabolite integrates glucose and fatty acid metabolism?

   a) Pyruvate
   b) Acetyl CoA
   c) Citrate
   d) Lactate

8) Among the following, the most sensitive indicator of glomerular function is

   A) Creatinine clearance
   B) Serum Creatinine
   C) Urea clearance
   D) Serum Urea

9) Gaucher's disease is due to a deficiency of the enzyme
   a) Glucocerebrosidase
   b) Sphingomyelinase
   c) Galactocerebrosidase
   d) B-Galactosidase
   e)

10) Phrynoderma is a deficiency of
   a) Proteins
   b) Essential fatty acids
   c) Amino acids
   d) None of these

11) All the following statements correctly describe ketone bodies except:
   a) They may result from starvation
   b) They are utilized by the liver during starvation
   c) They include – OH β-butyrate and acetone
   d) They are present at high levels in uncontrolled diabetes

12) HMG CoA is formed in the metabolism of
   a) Cholesterol, fatty acid and Leucine
   b) Lysine, Leucine and Isoleucine
   c) Ketones, Leucine and Lysine
   d) Cholesterol, ketones and Leucine

13) The most potent Vitamin D metabolite is
   a) 25-Hydroxycholecalciferol
   b) 24, 25-Dihydroxycholecalciferol
   c) 7-Dehydrocholesterol
   d) 1,25-Dihydroxycholecalciferol

Contd.3..

14) The vitamin required for the formation of hydroxyproline during collagen synthesis is
   a) Vitamin A
   b) Vitamin D
   c) Vitamin C
   d) Vitamin E

15) Both folic acid and vitamin B_{12} are required in
   a) Deamination of serine
   B)Methylation of homocysteine to methionine
   C) Deamination of threonine
   d) Conversion of pyridoxal phosphate to pyridoxamine phosphate

16) Serum lactate dehydrogenase rises in
   a) Viral hepatitis A
   b) Myocardial infarction
   c) Carcinomatosis
   d) Viral hepatitis B

17) Glucose-6-phosphate dehydrogenase is induced by
   a) Insulin
   b) 6-Phosphogluconolactone
   c) Glucose-6-phosphate
   d) Ribose-5-phosphate

18) Acetyl CoA carboxylase is activated by
   a)Citrate
   b)nsulin & Citrate
   c) glutamate
   d)None of these

19) 'Clearing factor' is
   a) Crotonase
   b) 7-dehydro cholesterol
   c) Lipoprotein lipase
   d) B-sitosterol

20) An example of feedback inhibition is
   a) Cyanide action on cytochrome
   b) Sulpha drug on folic acid synthesizer bacteria
   c) Reaction between succinic dehydrogenase and succinic acid
   d) Allosteric inhibition of hexokinase by glucose-6-phosphate

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Q.P. CODE: M102A031

Dr NTR UNIVERSITY OF HEALTH SCIENCES:AP:VIJAYAWADA-520 008

M.B.B.S. DEGREE EXAMINATION – AUGUST, 2024

FIRST M.B.B.S. EXAMINATION

BIOCHEMISTRY – PAPER-II(SET-A)

(Multiple Choice Questions)

Time : 20 minutes | Max. Marks: 20

Note : Answer all questions

SECTION – I (MCQs- 20 MARKS) 1x20=20

1) Purely ketogenic amino acid is
   a. Leucine
   b. Threonine
   c. Isoleucine
   d. Tyrosine

2) The greatest buffering capacity at physiological p H would be provided by a protein rich in which of the following amino acids
   a. Serine
   b. Cysteine
   c. Alanine
   d. Histidine

3) Which of the following contributes nitrogen atoms to both purine and pyrimidine rings
   a. Aspartate
   b. Carbamoyl phosphate
   c. Carbon dioxide
   d. Glutamate

4) Which of the following enzymes requires Adenosine Triphosphate (ATP) for its action
   a. Argino Succinate lyase
   b. Argino Succinate synthetase
   c. Arginase
   d. Glutaminase

5) Which out of the following is not a product of tyrosine metabolism
   a. Melanin
   b. Melatonin
   c. Thyroxin
   d. Epinephrine

6) Nucleosomes are a fundamental unit of DNA organization. It consists of histones complexed to DNA. Histone proteins present in nucleosomes are rich in which of the following amino acids
   a. Histidine and lysine
   b. Lysine and arginine
   c. Arginine and histidine
   d. Histidine and valine

Contd 2

7) The translation factor which helps in forming ternary tRNA methionine complex is
   a. eIF2C
   b. eIF4A
   c. eIF4B
   d. eIF3
8) RNA synthesis is different from DNA synthesis in following ways, except:
   a. No efficient proof reading function during RNA synthesis
   b. Primer is not involved in RNA synthesis
   c. DNA synthesis occur with 5-3 polarity, whereas RNA synthesis occurs with 3-5 polarity
   d. U replaces T as the complementary base for A in RNA synthesis
9) The major urinary buffer is
   a. Bicarbonate
   b. Phosphate
   c. Protein
   d. Hemoglobin
10) Normal anion gap metabolic acidosis is caused by
   a. Cholera
   b. Starvation
   c. Ethylene glycol poisoning
   d. Lactic acidosis
11) Which is the major intracellular cation
   a. Na+
   b. K+
   c. Ca2+
   d. Mg2+
12) Which one of these inhibit adenylyl cyclase
   a. ACTH
   b. ADH
   c. Angiotensin II
   d. Glucagon
13) Which of the following immunoglobulin crosses placenta
   a. IgG
   b. IgM
   c. IgE
   d. IgA
14) Plasmids contain a
   a. Circular single stranded DNA
   b. Linear single stranded DNA
   c. Circular double stranded DNA
   d. Linear double stranded DNA

Contd 3

15) Which of the following is a negative phase reactant
    a. C Reactive protein
    b. Albumin
    c. Fibrinogen
    d. Ferritin
16) Marker enzyme for golgi complex is
    a. Galactosyl transferase
    b. Catalase
    c. Glucose 6 phosphatase
    d. None
17) All are involved in iron metabolism except
    a. Hepcidin
    b. Transthyretin
    c. Ceruloplasmin
    d. Ferroprotein
18) Which enzyme defect is seen in Homocystinuria type I
    a. Methionine synthase
    b. Cystathionine beta synthase
    c. Cystathioninase
    d. None of the above
19) Highly repetitive DNA is seen in
    a. Telomere
    b. Centromere
    c. Both
    d. None
20) Which of the following activity is not seen in DNA polymerase I
    a. 5′ – 3′ polymerase
    b. 3′ – 5 polymerase
    c. 5′ – 3′ exonuclease
    d. 3′ – 5′ exonuclease

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Dr NTR UNIVERSITY OF HEALTH SCIENCES:AP:VIJAYAWADA-520 008

M.B.B.S. DEGREE EXAMINATION – AUGUST, 2024

FIRST M.B.B.S. EXAMINATION

BIOCHEMISTRY – PAPER-I(SET-A)

(Multiple Choice Questions)

Time : 20 minutes | Max. Marks: 20

Note : Answer all questions

SECTION – I (MCQs- 20 MARKS) 1x20=20

1) Which complexes are involved when FADH2 enters ETC
   a. Complex I, II, III, IV
   b. Complex II, III
   c. Complex II, III, IV
   d. Complex I, III, IV
2) Which of the following enzymes is not classified under transferases
   a. Hexokinase
   b. SGOT
   c. Tryptophan pyrrolase
   d. Thiophorase
3) Glycogen synthase is highly active under the conditions of
   a. Excess glycogen stores
   b. Starvation
   c. High-fat feeding
   d. High carbohydrate feeding
4) Uses of the NADPH generated from the pentose phosphate pathway are all except
   a. Steroid synthesis
   b. Regeneration of glutathione to its reduced state
   c. Synthesis of fatty acids
   d. Synthesis of ketone bodies
5) Which of the following cofactor is not required by this enzyme to convert pyruvate to Acetyl co A
   a. Thiamine
   b. Lipoic acid
   c. Pantothenic acid
   d. Pyridoxine
6) The heteropolysaccharide which does not contain uronic acid is
   a. Keratan sulphate
   b. Dermatan sulphate
   c. Chondroitin sulphate
   d. Hyaluronic acid

Contd 2

7) Omega – 3 fatty acid is
   a. Alpha linolenic acid
   b. Linoleic acid
   c. Gamma linolenic acid
   d. Arachidonic acid
8) All the following statement are true with regard to phospholipids, except:
   a. They can act as antigens
   b. They have surfactant properties
   c. They are components of bio membranes
   d. They are resistant to the action of enzymes
9) Biochemical test required for assessing thiamine deficiency is
   a. FIGLU test
   b. Xanthurenic acid excretion
   c. RBC transketolase test
   d. Ferric chloride test
10) Calcitriol synthesis involves
   a. Liver and kidney
   b. Intestine and kidney
   c. Only liver
   d. Only Intestine
11) Requirement of vitamin E increases with the increasing intake of
   a. Calories
   b. Proteins
   c. PUFA
   d. Cholesterol
12) One of the following amino acid is most frequently found at the active site of several enzymes
   a. Glycine
   b. Leucine
   c. Serine
   d. Threonine
13) In normal condition which LDH isoenzyme is predominantly found in serum
   a. LDH-1
   b. LDH-2
   c. LDH-3
   d. LDH-4
14) High levels of lead can affect heme metabolism by combining with SH groups of which out of the following enzymes
   a. ALA synthase
   b. ALA dehydratase
   c. PBG deaminase
   d. Coproporphyrinogen oxidase

Contd 3

15) The highest level of protein structure seen in myoglobin is
    a. Primary
    b. Secondary
    c. Tertiary
    d. Quaternary
16) Specific Dynamic Action (SDA) is highest for
    a. Carbohydrates
    b. Proteins
    c. Lipids
    d. Mixed diet
17) Which of the following supplies the 2 carbon units that are added to the elongation of fatty acid chain
    a. Acetyl co A
    b. Malonyl co A
    c. β- keto acyl co A
    d. Glucose
18) A 75 year old female is seen in the emergency room with fractured arm. Physical examination reveals multiple bruises, perifollicular hemorrhages and bleeding gums. Laboratory result indicates microcytic hypochromic anemia. Which of the following enzymes should be less active than the normal in this patient
    A. Glutathione peroxidase
    B. Prolyl hydroxylase
    C. Gamma Glutamyl transferase
    D. ALA synthase
19) A weight loss advertisement claims that drug causes your body to burn calories without the need of exercise. Which of the following compounds could make this claim
    a. Barbiturates
    b. Antimycin
    c. Dinitrophenol
    d. BAL
20) Which of the following Apo proteins is an activator of lipoprotein lipase
    a. Apo A
    b. Apo B
    c. Apo C II
    d. Apo D

CBME

DR. YSR UNIVERSITY OF HEALTH SCIENCES:AP:VIJAYAWADA-520 008
M.B.B.S. DEGREE EXAMINATION – JANYUARY, 2023
FIRST M.B.B.S. EXAMINATION
BIOCHEMISTRY – PAPER-I (SET – A)
(Multiple Choice Questions)

Time : 20 minutes Max. Marks: 20
Note : Answer all questions

SECTION – I (MCQs- 20 MARKS) 1x20=20

1) A constitutive enzyme is:
   a) Activated by an inducer
   b) Inhibited by a repressor
   c) Always present in the cell in the same concentration
   d) A constituent of the cell membrane
2) Long term regulation of enzyme action is affected by
   a) Altering the activity of enzyme protein
   b) Induction and repression of enzyme protein synthesis
   c) Premature breakdown of enzyme protein
   d) Partial denaturation of enzyme protein
3) Which of the following is not a high energy compound?
   a) Creatine phosphate
   b) Glucose 6 phosphate
   c) Phosphoenol pyruvate
   d) 1,3 bisphosphoglycerate
4) Which of the following conenzyme is required for HMP pathway?
   a) Pyridoxal phosphate
   b) Biotin
   c) Thiamine pyrophosphate
   d) Flavin adenine diphosphate
5) Which of the following cannot be converted back to glucose?
   a) Acetyl CoA
   b) Lactate
   c) Alanine
   d) Propionyl CoA
6) Which of the following enzyme generated NADPH?
   a) Pyruvate carboxylase
   b) Pyruvate dehydrogenase
   c) Glucose 6 phosphate dehydrogenase
   d) Lactate Dehydrogenase

Contd ... 2

7) Deficiency of Folic acid leads to:
   a) Pellagra
   b) Night Blindness
   c) Macrocytic Anemia
   d) Microcytic Anemia
8) Insulin favors:
   a) Gluconeogenesis
   b) Cholesterol Synthesis
   c) Lipogenesis
   d) Ketogenesis
9) Large dose of Vitamin K in neonate can cause:
   a) Cyanosis
   b) Porphyria
   c) Jaundice
   d) Skin Disorder
10) Negative nitrogen balance is observed in:
   a) Pregnancy
   b) Chronic fever
   c) Convalescence
   d) Growth period
11) Which of the below mentioned compound has highest calorific calue:
   a) Glucose
   b) Amino Acid
   c) Palmitic acid
   d) Ethanol
12) The main apoprotein present in HDL is:
   a) Apo A1
   b) B-100
   c) B-48
   d) Apo E
13) The tissue that cannot use fatty acids as fuel is:
   a) Liver
   b) Brain
   c) Skeletal Muscle
   d) Cardiac muscle

Contd 3

14) Refsum's disease is due to accumulation of:
    a) Sphingomyelin
    b) Glucocerebroside
    c) Phytanic Acid
    d) Ganglioside
15) The organelle concerned with free radical scavenging is:
    a) Lysosome
    b) Golgi Bodies
    c) Nucleolus
    d) Peroxisomes
16) Heme is converted to bilirubin in:
    a) Mitochondria
    b) Microsomes
    c) Golgi Bodies
    d) Plasma Membrane
17) Renal plasma flow is measured by:
    a) Creatinine Clearance
    b) Specific gravity of urine
    c) Para amino Hippurate clearance
    d) Urine output
18) Steroid hormone is produced from:
    a) Purine
    b) Pyrimidine
    c) Cholesterol
    d) Stercobilinogen
19) The pathway which takes place in mitochondria is
    a) Glycolysis
    b) HMP pathway
    c) Ketogenesis
    d) Cholesterol synthesis
20) Which of the following is Phase 3 reaction of Detoxification:
    a) Epoxidation
    b) Glucuronidation
    c) Deconjugation
    d) Dealkylation

CBME

DR. YSR UNIVERSITY OF HEALTH SCIENCES:AP:VIJAYAWADA-520 008
M.B.B.S. DEGREE EXAMINATION – JANUARY, 2023
FIRST M.B.B.S. EXAMINATION
BIOCHEMISTRY – PAPER-II (SET – A)
(Multiple Choice Questions)

Time : 20 minutes Max. Marks: 20
Note : Answer all questions

SECTION – I (MCQs- 20 MARKS) 1x20=20

1) Tertiary structure of protein describes:
   a) The sequence of amino acids
   b) The location of disulfide bonds
   c) Amino terminal end amino acid
   d) The nature of protein folding
2) Ammonia is trapped in the brain by:
   a) Glutamine synthase reaction
   b) Carbamoyl phosphate synthase 1
   c) Citrate synthase
   d) Glutamate dehydrogenase
3) Acetylcholine can be synthesized from which amino acid:
   a) Tyrosine
   b) Serine
   c) Threonine
   d) Tryptophan
4) In pheochromocytoma, there is excess synthesis of
   a) Vanillyl mandelic acid
   b) Polyamines
   c) Hippuric acid
   d) Indole acetic acid
5) Zinc is constituent of all the following enzymes except:
   a) Alkaline phosphatase
   b) Amylase
   c) Carbonic anhydrase
   d) RNA polymerase
6) Which of the below mentioned enzyme does not contain copper:
   a) Polycythemia
   b) Cytotoxic drug therapy
   c) Leukemia
   d) Hepatitis

Contd. 2

7) Secondary hyperuricemia is present in all the following conditions **except:**
   a) Polycythemia
   b) Cytotoxic drug therapy
   c) Leukemia
   d) Hepatitis
8) Formation of dTMP requires
   a) Coenzyme A
   b) NADPH
   c) Vitamin C
   d) Molybdenum
9) Denaturation of DNA is accompanied by all the following changes **except:**
   a) Hyperchromicity
   b) Increase in viscosity
   c) Unstacking of base
   d) Double helix structure
10) Unusual nucleotide bases are found in significant quantity in:
   a) Messenger RNA
   b) Ribosomal RNA
   c) Transfer RNA
   d) snRNA
11) The following are the vectors for gene therapy **except:**
   a) Retrovirus
   b) E. Coli
   c) Adenovirus
   d) Liposome
12) Which of the enzyme listed below is heat stable?
   a) Restriction endonuclease
   b) Thermo thermophilus
   c) Reverse transcriptase
   d) Enterokinase
13) The uptake of iodine by thyroid gland is inhibited by:
   a) Fluoride
   b) Perchlorate
   c) Bromide
   d) Chloride
14) Which of the following is due to Oncosuppressor mutation?
   a) Retinoblastoma
   b) Hyperthyroidism
   c) Cystic Fibrosis
   d) Sickle cell disease

Contd 3

15) Hydroxylation occurs in which of the following amino acids in collagen:
    a) Threonine
    b) Alanine
    c) Lysine
    d) Tryptophan
16) Administration of diuretics causes loss of potassium ions which can cause:
    a) Metabolic alkalosis
    b) Metabolic acidosis
    c) Respiratory acidosis
    d) Respiratory alkalosis
17) Patients treated with carbonic anhydrase inhibitor can develop:
    a) Metabolic acidosis
    b) Respiratory acidosis
    c) Respiratory alkalosis
    d) Metabolic alkalosis
18) Oncogenes are specific sequences in DNA:
    a) That are tumor markers
    b) When expressed produce cancer
    c) That code for reverse transcriptase
    d) Required for DNA replication
19) Sodium potassium pump is inhibited by:
    a) Aspirin
    b) Digoxin
    c) Methotrexate
    d) Rifampicin
20) The following is not an acute phase protein:
    a) CRP
    b) Ceruloplasmin
    c) HDL
    d) Haptoglobin

CBME

DR. YSR UNIVERSITY OF HEALTH SCIENCES:AP:VIJAYAWADA-520 008

M.B.B.S. DEGREE EXAMINATION – DECEMBER, 2023

FIRST M.B.B.S. EXAMINATION

BIOCHEMISTRY – PAPER-II(SET-A)

(Multiple Choice Questions)

Time : 20 minutes Max. Marks: 20

Note : Answer all questions

SECTION – I (MCQs- 20 MARKS) 1x20=20

1) The amino acid which does not allow formation of alpha helix is
   a. Glutamate
   b. Glycine
   c. Aspartic acid
   d. Proline
2) The two nitrogen atoms of urea are delivered from
   a. Ammonia and arginine
   b. Ammonia and aspartate
   c. Ammonia and alanine
   d. Ammonia and creatinine
3) Which amino acid does not undergo transamination
   a. Lysine
   b. Serine
   c. Glutamate
   d. Valine
4) Which of the following amino acid can give rise to a vitamin
   a. Tryptophan
   b. Proline
   c. Histidine
   d. Phenylalanine
5) Hyperparathyroidism is characterized by all the following except:
   a. Osteoporosis
   b. Hypercalciuria
   c. Alkalosis
   d. Recurrent urinary calculi formation
6) The daily requirement of iron in adult is
   a. 10-20 microgram
   b. 10-20 gram
   c. 0.1-0.5 mg
   d. 10-20 mg

Contd ... 2

7) The drug of choice for treating primary gout is:
   a. Allopurinol
   b. Aspirin
   c. Tetracycline
   d. Colchicine
8) During Denovo synthesis of pyrimidine nucleotide which nucleotide is first synthesized
   a. IMP
   b. OMP
   c. UMP
   d. CMP
9) Nucleosome is
   a. Alternate name for nucleolus
   b. Promoter sequence for transcription
   c. DNA-RNA complex present in nucleus
   d. DNA wrapped around histones
10) Which is not a transcription initiation signal?
   a. CAAT box
   b. Hogness box
   c. Pribnow box
   d. Homeo box
11) Hemopexin carries
   a. Free bilirubin
   b. Free hemoglobin
   c. Free heme
   d. Free iron
12) DNA finger printing is based on unique
   a. Tandam repeats
   b. Blood group
   c. Mutagens
   d. Coding sequence
13) The following compounds can act as secondary messenger except:
   a. Calcium ions
   b. Inositol triphosphate
   c. cAMP
   d. 2,3 bisphosphoglycerate

Contd 3

14) Alpha fetoprotein level is increased in serum in
    a. Hepatoma
    b. Hyperthyroidism
    c. Nephritis
    d. Urinary tract infection
15) Which of the following is not a contractile protein?
    a. Tubulin
    b. Actin
    c. Desmosine
    d. Dynen
16) Causes of metabolic alkalosis includes all the following except:
    a. Continuous gastric aspiration
    b. Ingestion of antacids
    c. Prolonged vomiting
    d. Hyperventilation
17) Proximal Renal tubular acidosis is characterized by all except:
    a. Anemia
    b. Urinary pH 4,5
    c. Normal anion gap acidosis
    d. Hyperchloremia
18) Oncogenes are activated by all, except:
    a. Viral infection
    b. Promoter insertion
    c. Mutation in proto oncogene
    d. Reverse transcriptase
19) Peroxisomes are
    a. Site of oxidative phosphorylation
    b. Site of protein synthesis
    c. Concerned with drug detoxification
    d. Involved in production of free radicles
20) ATP synthase is a marker enzyme present in
    a. Golgi complex
    b. Cytoplasm
    c. Mitochondria
    d. Lysosome

CBME

DR. YSR UNIVERSITY OF HEALTH SCIENCES:AP:VIJAYAWADA-520 008
M.B.B.S. DEGREE EXAMINATION – DECEMBER, 2023
FIRST M.B.B.S. EXAMINATION
BIOCHEMISTRY – PAPER-I (SET-A)
(Multiple Choice Questions)

Time : 20 minutes Max. Marks: 20
Note : Answer all questions

SECTION – I (MCQs- 20 MARKS) 1x20=20

1) Enzymes binds to substrate
   a. By covalent bonds
   b. By glycosidic bond
   c. At catalytic site only
   d. Peptide bond
2) The coenzyme
   a. Increases the affinity of apoenzyme to substrate
   b. Lowers the activation energy
   c. Accepts one of the products of the reaction
   d. Increases the number of active sites of the enzyme
3) Oxidative phosphorylation and electron transport chain are inhibited by the following compounds, except
   a. Carbon monoxide
   b. Hydrogen cyanide
   c. Oligomycin
   d. Pyrophosphate
4) The following amino acid can enter citric acid cycle as oxaloacetate
   a. Lysine
   b. Proline
   c. Aspartate
   d. Serine
5) Which of the following enzyme catalyzes substrate level phosphorylation
   a. Hexokinase
   b. Phosphofructokinase
   c. Glycogen phosphorylase
   d. Pyruvate kinase
6) Which of the following enzyme is inhibited in starvation?
   a. Alanine transferase
   b. Glucokinase
   c. Pyruvate carboxylase
   d. Carbonic anhydrase

Contd ... 2

7) Mac Ardle's syndrome is due to deficiency of
   a. Pyruvate kinase
   b. Glycogen synthase
   c. Muscle glycogen phosphorylase
   d. Debranching enzyme
8) A vitamin not available from plant source
   a. Vitamin B1
   b. Vitamin B12
   c. Vitamin B2
   d. Vitamin K
9) The structure of vitamin A contains
   a. Naphthoquinone ring
   b. Chromane ring
   c. Beta ionone ring
   d. Thiazole ring
10) Lysine is deficient in
   a. Cereals (rice and wheat)
   b. Maize and corn
   c. Pulses (Bengal gram dal)
   d. Tapioca (Cassava)
11) Which of the following is not included in calculating calorie requirement of an individual
   a. RQ
   b. BMR
   c. SDA
   d. Nature of work
12) The serum lipoprotein with highest cholesterol content is
   a. High density lipoprotein
   b. Low density lipoprotein
   c. Very low density lipoprotein
   d. Chylomicron
13) The chain elongation of fatty acid takes place in
   a. Mitochondria
   b. Microsomes
   c. Golgi complex
   d. Peroxisome
14) Hypercholesterolemia is seen in the following conditions except
   a. Diabetes mellitus
   b. Hyperthyroidism
   c. Nephrotic syndrome
   d. Obstructive jaundice

Contd ... 3

15) Which of the following process makes use of free radical
    a. Cell adhesion
    b. Phagocytosis
    c. Contact inhibition
    d. Pinocytosis
16) The following enzyme of heme biosynthesis is inhibited by lead
    a. ALA dehydratase
    b. UBG I Synthase
    c. ALA synthase
    d. Coproporphyrinogen oxidase
17) Congenital erythropoietic porphyria is caused due to deficiency of
    a. Coproporphyrinogen oxidase
    b. Uroporphyrinogen III cosynthase
    c. PBG deaminase
    d. Protoporphyrinogen oxidase
18) Beta oxidation of fatty acid forms all the following except
    a. NADH
    b. Acetyl CoA
    c. Malonyl CoA
    d. FADH2
19) Specific gravity of urine is increased in
    a. Chronic glomerulonephritis
    b. Diabetes mellitus
    c. Liver disease
    d. Intake of vegetables
20) The following are the feature of starvation except
    a. Ketoacidosis
    b. Glycogenolysis
    c. Increase in BMR
    d. Gluconeogenesis

CBME

DR. NTR UNIVERSITY OF HEALTH SCIENCES:AP:VIJAYAWADA-520 008
M.B.B.S. DEGREE EXAMINATION – JAN/FEB, 2022
FIRST M.B.B.S. EXAMINATION
BIOCHEMISTRY – PAPER-I (Set A)
(Multiple Choice Questions)

Time : 20 Minutes Max. Marks: 20
Note : Answer all questions

SECTION – I (MCQs- 20 MARKS) 1x20=20

1) Digestive enzymes belong to the class of
   a) Hydrolases
   b) Ligases
   c) Lysates
   d) Oxidoreductases

2) Enzymes which are synthesized in inactive form are called
   a) Coenzymes
   b) Apoenzymes
   c) Lysozymes
   d) Proenzymes

3) Km value indicates
   a) Affinity of enzyme for substrate
   b) Maximum velocity
   c) Specificity of substrate
   d) Saturating concentration of substrate

4) Which of the electron carriers is soluble and mobile?
   a) Co Q
   b) Cytochrome c
   c) Cytochrome a
   d) Cytochrome b

5) Which of the hormone can uncouple oxidative phosphorylation in high concentrations?
   a) Insulin
   b) Cortisol
   c) Thyroxine
   d) Glucagon

6) Which tissue is most insulin sensitive
   a) Brain
   b) Liver
   c) Adipose tissue
   d) Cardiac muscle

Contd 2

7) Blood is collected in fluoride oxalate bottle to
   a) Prevent clotting
   b) Preserve glucose
   c) Preserve glucose prevent clotting
   d) Get quick results

8) Which enzyme catalyses an irreversible reaction?
   a) Transketolase
   b) Phosphofructokinase
   c) Phosphate dehydrogenase
   d) Aldolase

9) Gluconeogenesis is inhibited by
   a) Glycogen
   b) Growth hormone
   c) Insulin
   d) Glucocorticoids

10) Formiminoglutamic acid is excreted in urine in the Deficiency of
   a) Folic acid
   b) Vitamin B12
   c) Niacin
   d) Pyridoxal phosphate

11) Deficiency of pantothenic acid leads to
   a) Night blindness
   b) Rickets
   c) Macrocytic Anaemia
   d) Burning foot syndrome

12) A patient who has undergone gastrectomy is likely to develop deficiency of
   a) Vitamin A
   b) Vitamin B12
   c) Vitamin B1
   d) Vitamin K

13) The organelle in the body mainly concerned with free radical scavenging is
   a) Lysosomes
   b) Golgi bodies
   c) Nucleolus
   d) Peroxysomes

14) Which of the following processes make use of free radical effects?
   a) Cell adhesion
   b) Phagocytosis
   c) Contact inhibiton
   d) Transcytosis

Contd 3

15) For the de no fatty acid synthesis, the coenzyme required is
   a) NADH
   b) NADPH
   c) Thiamine Pyro Phosphate
   d) FADH2

16) The enzyme which is active only in the liver is
   a) HMGCoA reductase
   b) Carnitine acyl transferase
   c) Lecithin cholesterol acyl transferase
   d) HMGCoA Lyase

17) Which of the following tissue cannot derive energy from fatty acids
   a) Brain
   b) Cardiac muscle
   c) Skeletal muscle
   d) Erythrocytes

18) Which is required for synthesis of porphyrins
   a) Ammonia
   b) Methionine
   c) Glycine
   d) CO2

19) Specific gravity of Urine increases in
   a) Chronic glomerulonephritis
   b) Diabetes Mellitus
   c) Liver disease
   d) Intake of vegetables

20) Renal plasma flow is measured by
   a) Creatinine clearance
   b) Inulin clearance
   c) PAH Clearance
   d) Urine output

CBME

DR. NTR UNIVERSITY OF HEALTH SCIENCES:AP:VIJAYAWADA-520 008
M.B.B.S. DEGREE EXAMINATION – JAN/FEB, 2022
FIRST M.B.B.S. EXAMINATION
BIOCHEMISTRY – PAPER-II (Set A)
(Multiple Choice Questions)

Time : 20 Minutes
Max. Marks: 20

Note : Answer all questions

SECTION – I (MCQs- 20 MARKS) 1x20=20

1) During urea cycle two nitrogen atoms are derived from
   a) Ammonia and arginine
   b) Ammonia and aspartic acid
   c) Both from Ammonia
   d) Ammonia and Ornithine

2) Ammonia is trapped in brain by
   a) Glutamine Synthetase reaction
   b) Glutaminase reaction
   c) Urea Synthesis cycle
   d) Glutamate dehydrogenase reaction

3) The Major Donor of Carbon Atoms to the One-Carbon Pool is
   a) Serine
   b) Tyrosine
   c) Threonine
   d) Proline

4) Which amino acid will give rise to major pigment of the body?
   a) Histidine
   b) Glutamic acid
   c) Ornithine
   d) Tyrosine

5) Homogentisic acid is excreted in urine in
   a) Phenylketonuria
   b) Maple syrup urine disease
   c) Tyrosinosis
   d) Alkaptonuria

6) Ochronosis is seen in
   a) Phenyl Ketonuria
   b) Alkaptonuria
   c) Tyrosinosis
   d) Albinism

Contd. 2

7) The anti-coagulant found in the body
   a) Potassium oxalate
   b) Sodium Citrate
   c) Heparin
   d) EDTA

8) Hemopexin carries
   a) Free hemoglobin
   b) Free heme
   c) Free bilirubin
   d) Free iron

9) Administration of diuretics cause loss of potassium which may lead to
   a) Metabolic acidosis
   b) Respiratory acidosis
   c) Respiratory alkalosis
   d) Metabolic alkalosis

10) Which of the following conditions will produce high anion gap acidosis?
   a) Diarrhea
   b) Renal tubular acidosis
   c) Renal failure
   d) Uretero sigmoidostomy

11) ECF volume does not change with
   a) ADH
   b) Aldosterone
   c) Calcitriol
   d) Renin

12) The cation with lowest intra cellular concentration
   a) Potassium
   b) Magnesium
   c) Sodium
   d) Calcium

13) Which contains iron
   a) Ceruloplasmin
   a) Xanthine oxidase
   b) Albumin
   c) Superoxide desmutase

14) Which enzyme do not contain copper?
   b) Cytochrome Oxidase
   c) Superoxide dismutase
   d) Xanthine oxidase
   e) Tyrosinase

Contd 3

15) The micro mineral present in teeth is
   a) Calcium
   b) Iodine
   c) Fluorine
   d) Manganese

16) Which of the following trace element has antioxidant role?
   a) Chromium
   b) Zinc
   c) Selenium
   d) Nickel

17) Sigma factor is
   a) A sub unit of DNA polymerase
   b) A sub unit of RNA polymerase
   c) A sub unit of 50 S ribosome
   d) responsible for initiation of replication

18) Intron is portion of
   a) DNA that is cleaved of during replication
   b) mRNA that is removed after transcription
   c) tRNA that is added on after its synthesis
   d) Protein removed after translation

19) Which hormone does not act at the level of transcription
   a) Cortisol
   b) Calcitriol
   c) Aldosterone
   d) Calcitonin

20) M band in serum protein electrophoresis is seen in which condition?
   a) Cirrhosis
   b) Chronic infections
   c) Multiple myeloma
   d) Heavy chain disease
