Online Module Exam
Biochemistry Paper
MCQs

Time: 20 minutes

1. **Hartnup disease occurs due to**
   - a) Defect in Large neutral amino acid transporter
   - b) Defect in Glucose transfer
   - c) Defect in Na/K ATPase pump
   - d) Deficiency of vitamin B and C

Tryptophan → Naiacin requirement 1mg/day ↓ → Pallegra like symptoms

2. **Parietal cells secrete**
   - a) H_2SO_4
   - b) HCl + pepsinogen
   - c) HCl + intrinsic factor
   - d) Mucous

3. **Pepsinogen is secreted**
   - a) In the stomach by chief cells
   - b) In the intestine by chief cells
   - c) In the intestine by pancreas as zymogen
   - d) In the mouth by parotid glands

4. **Which of the following is the major transport form of NH_3 in the blood?**
   - a) Glutamate
   - b) Glutamine
   - c) Transaminase
   - d) a-Ketoglutarate

5. **In Transamination reaction**
   - a) Urea is formed
   - b) NH_3 is formed
   - c) Amino group of one amino acid is transferred to a ketoacid
   - d) Amino group from a ketoacid is transferred to amino acid

6. **In the muscles NH_3 is transported as**
   - a) Asparagine
   - b) Glutamate
   - c) Glutamine
   - d) Alanine

7. **NH_3 is put on glutamate to form glutamine on**
   - a) α-Carboxylic group
   - b) The carboxylic group other than α -carboxylic
   - c) On keto group
   - d) On β-carbon

8. **Glutamine is converted to glutamate by enzyme**
   - a) Glutamine synthase
   - b) Glutamine synthetase
   - c) Glutaminase
   - d) Glutamate dehydrogenase

9. **End product of protein metabolism**
   - a) NH_3
   - b) Urea
   - c) Glutamine
   - d) Alanine

10. **Glutamate dehydrogenase enzyme is present in**
    - a) Cytoplasm of every cell
    - b) Cytoplasm of liver
    - c) Mitochondria of liver
    - d) In mitochondria and cytoplasm of liver

11. **In urea one nitrogen comes from NH_3 and second comes from**
    a) Glutamine
    b) Alanine
    c) Glutamate
    d) Aspartate

12. **Phenylketonuria is caused by**
    a) Excess Phenylalanine intake
    b) Deficiency of Phenylalanine
    c) Absent Phenylalanine hydroxylase enzyme
    d) Deficiency of Tryptophan

13. **Albinism is caused by**
    a) Defect of Branched chain aminotransferases
    b) Defect of Tetrahydrobiopterin (THB)
    c) Defect of phenyl hydroxylase
    d) Defect of Tyrosinase

14. **Which amino acid becomes Essential in Phenylketonuria?**
    a) Alanine
    b) Aspartate
    c) Tyrosine
    d) Tryptophan

15. **Alkaptonuria is caused by the absence of which enzyme?**
    a) Tyrosinase
    b) Homegentisate lyase
    c) Branched chain aminotransferases
    d) Homegentisate oxidase

16. **Urea cycle starts in**
    a) Cytoplasm of cells
    b) Cytoplasm of liver
    c) Kidney
    d) Mitochondria of liver

17. **Daily excretion of urea from our body is**
    a) 20-40 mg/day
    b) 10-15 mg/day
    c) 20-40 gm/day
    d) 100 gm/day

18. **Urine become black on standing in which disease?**
    a) PKU
    b) Albinism
    c) Maple syrup urine disease (MSUD)
    d) Alkaptonuria

19. **Maple syrup urine is disease is caused by**
    a) Defect in metabolism of Branched Chain amino acids
    b) Defect in metabolism of methionine
    c) Malnutrition
    d) Uremia

20. **Cystinurea is caused due to**
    a) Defective transport of Na-Glucose transporter
    b) Defective transport of acidic amino acids
    c) Defective transport of large neutral amino acids
    d) Defective transport of basic amino acids

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Name: _____

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MIDTERM ASSESSMENT
2nd YEAR MBBS – MCQs

Total marks: 30
Time allowed: 25 min.

ENCIRCLE one best answer.
Any cutting or overwriting will not be accepted and no marks will be given even if the answer is correct.

05/06/2020

1 **Which of the following is primary bile salt**
(a) Fumaric acid
(b) Pyruvic acid
(c) Deoxycholic acid
(d) Chenodeoxycholic acid

2 **Salivary amylase is inactivated in stomach by**
(a) HCl
(b) Pepsin
(c) Pepsinogen
(d) Renin

3 **Increased level of serum amylase is observed in**
(a) Prostate cancer
(b) Liver disease
(c) Pancreatitis
(d) Myocardial infarction

4 **All of the following are components of electron transport chain except**
(a) FMN
(b) FAD
(c) CoQ
(d) CDP

5 **NADH+H⁺ by oxidative phosphorylation gives**
(a) More ATP than $FADH_2$
(b) Equal ATP to $FADH_2$
(c) Less ATP than $FADH_2$
(d) It gives 3.5 ATP

6 **During starvation the first nutrient to be depleted is**
(a) Proteins
(b) Glycogen
(c) Triacylglycerol
(d) Cholesterol

7 **Propionyl-SCoA which is liberated during the oxidation of odd chain fatty acids can be used for**
(a) Synthesis of cholesterol
(b) Synthesis of thyroid hormones
(c) Synthesis of epinephrine
(d) Gluconeogenesis

also Fig. 15.33 Lippincott #261 Satya

8 **All of the following statements about ketone bodies are true except**
(a) Their synthesis increases in diabetes mellitus
(b) These are synthesized in liver mitochondria
(c) These can deplete alkali reserve
(d) These can be oxidized in liver to provide energy

Thiophorase absent in liver

9 **Insulin stimulates**
(a) Hepatic glycogenolysis
(b) Hepatic glycogenesis
(c) Gluconeogenesis
(d) Lipolysis

10 Which of the following is an intestinal enzyme
(a) Maltase
(b) Ribonuclease
(c) Amylase
(d) Pepsin

11 **Glucose-1-PO_4 is liberated from glycogen by the action of**
(a) Glucokinase
(b) Hexokinase
(c) Glycogen synthase
(d) Phosphorylase

12 **Before pyruvic acid enters into the citric acid cycle it must be converted to**
(a) Lactate
(b) Acetyl-CoA
(c) Fructose-1-PO_4
(d) Citrate

13 Which of the following vitamin is the component of electron transport chain?
(a) Vitamin E
(b) Thiamine
(c) Niacin
(d) Vitamin D

14 2,4 dinitrophenol is an
(a) Inhibitor of electron transport chain
(b) Activator of electron transport chain
(c) uncoupler of oxidative phosphorylation
(d) Activator of glycogenolysis

15 Rotenone a fish poison is (a) Uncoupler of oxidative phosphorylation (b) Activator of oxidative phosphorylation (c) Inhibitor of electron transport chain (d) Activator of electron transport chain	16 Clay coloured stools are due to the absence of (a) Vitamin D (b) Calcium carbonate (c) Bile salts (d) Bile pigments
17 Biosynthesis of secondary bile acids occurs in (a) Liver (b) Lungs (c) Intestine (d) Stomach	18 Chronic exposure to drugs or toxins induce increased synthesis of (a) ~~Glucronate~~ Glucuronate (b) Citrate (c) Pyruvate (d) Malate
19 Deficiency of Dopamine in brain may lead to (a) Maple syrup urine disease (b) Albinism (c) Parkinsonism (d) Phenylketonuria	20 Hormone which activates the absorption of glucose from intestine is (a) Insulin (b) Oxytocin (c) Thyroid hormone (d) Parathyroid hormone
21 Serine is the precursor of all of the following except (a) Glycine (b) Choline (c) Ethanolamine (d) Methionine	22 Which of the following is the major transport form of NH_3 in the blood? (a) Glutamate (b) Glutamine (c) Transaminase (d) Alpha ketoglutarate
23 In Transamination reaction (a) Urea is formed (b) NH_3 is formed (c) Amino group of one amino acid is transferred to a ketoacid (d) Amino group from a ketoacid is transferred to amino acid	24 In the muscles NH_3 is transported as (a) Asparagine (b) Glutamate (c) Glutamine (d) Alanine
25 End product of protein metabolism (a) NH_3 (b) Urea (c) Glutamine (d) Alanine	26 Glutamate dehydrogenase enzyme is present in (a) Cytoplasm of every cell (b) Cytoplasm of liver (c) Mitochondria of liver (d) In mitochondria and cytoplasm of liver
27 In urea one nitrogen comes from NH_3 and second comes from (a) Glutamine (b) Alanine (c) Glutamate (d) Aspartate	28 Which amino acid becomes Essential in Phenylketonuria? (a) Tryptophan (b) Aspartate (c) Tyrosine (d) Alanine
29 Urea cycle starts in (a) Cytoplasm of cells (b) Cytoplasm of liver (c) Kidney (d) Mitochondria of liver	30 Urine become black on standing in which disease? (a) Phenylketonuria (b) Albinism (c) Maple syrup urine disease (MSUD (d) Alkaptonuria

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CLASS TEST ON LIPIDS - 2020
SECOND YEAR MBBS PART II – MCQs

Total marks: 30
Time Allowed: 25 minutes

19/06/2020

Select one best answer

1 Cholesterol is required in all except
(a) Bile acid synthesis
(b) Steroid hormone synthesis
(c) Membrane fluidity
(d) Thyroid hormone synthesis

2 Which of the following acts as lung surfactant?
(a) Phosphatidylcholine
(b) Phosphatidylethanolamine
(c) Ceramide
(d) Phosphatidylinositol

3 The conversion of acetyl CoA to malonyl CoA is the rate-limiting step in the fatty acid synthesis. Which of the following enzyme catalyzes the above-mentioned reaction?
(a) Acetyl CoA carboxylase
(b) Malonyl CoA synthetase
(c) Acetyl CoA decarboxylase
(d) Malonyl CoA synthase

4 Reducing power required for fatty acid biosynthesis is?
(a) ATP
(b) NADH
(c) NADPH
(d) FADH2

5 All are true regarding alpha oxidation except
(a) Energy is generated
(b) Oxidation does not require COA
(c) 1 molecule of CO2 is produced in each cycle
(d) 1 Carbon is removed from carboxylic end

6 21 carbon Fatty acid will be catabolized into
(a) Acetyl-SCoA
(b) Propionyl CoA
(c) Succinyl-SCoA
(d) Malonyl-SCoA

7 Which monounsaturated fatty acid is the most abundant in human adipose tissue
(a) Palmitic acid
(b) Arachidonic acid
(c) Oleic acid
(d) Linoleic acid

8 Carnitine acyl transferase I (CAT I) controls fatty acid entry into the cell for oxidation. It is inhibited by:
(a) Carnitine
(b) Malonyl CoA
(c) Palmitate
(d) Carnitine acyl transferase II

9 Lauric acid a C12 fatty acid will undergo how many beta oxidation cycles and how many acetyl SCoA are formed
(a) 6 cycles + 5 acetyl SCoA
(b) 5 cycles + 6 acetyl SCoA
(c) 5 cycles + 5 acetyl SCoA
(d) 6 cycles + 6 acetyl SCoA

10 Which statement is not correct regarding triacylglycerol
(a) They are highly reduced molecules
(b) They are highly compact molecules
(c) They contain high amount of water
(d) Oxidation leads to highest energy yield

11 Cholesterol is converted to bile acids in liver by loosing
(a) Acetyl CoA
(b) Propionyl CoA
(c) Succinyl CoA
(d) Malonyl CoA

12 HMG CoA synthase cytosolic isoform in hepatocytes is responsible for
(a) Cholesterol synthesis
(b) Ketone body synthesis
(c) Fat synthesis
(d) Fatty acid synthesis

13 Bile acid synthesis requires addition of hydroxyl group at carbon number
(a) 3
(b) 5
(c) 7
(d) 9

14 Cycloxygenase enzyme acting on arachidonic acid is inhibited by
(a) Steroids
(b) NSAIDs
(c) Diuretics
(d) Anti Histamines

15 **Rate limiting enzyme in Cholesterol synthesis which is also inhibited by the statins is**

(a) HMG SCoA synthase
(b) HMG SCoA reductase
(c) Acetyl SCoA lyase
(d) Acetyl SCoA carboxylase

16 **Liver cannot utilize ketone bodies because**

(a) It lacks glycogen synthase
(b) It lacks phophatase
(c) It lacks thiophorase
(d) It lacks phosphorylase

17 **Triacylglycerol is found in highest concentration in**

(a) VLDL
(b) HDL
(c) LDL
(d) Chylomicrons

18 **Which enzyme is deficient in adipose tissue but present in liver for conversion of glycerol to glycerol 3PO4**

(a) Glycerol kinase
(b) Glycerol phosphatase
(c) Glycerol oxidase
(d) Glycerol dehydrogenase

19 **Dicarboxylic acids are formed from long chain fatty, acids in which type of oxidation?**

(a) Beta oxidation
(b) Alpha oxidation
(c) Omega oxidation
(d) Odd chain fatty acid oxidation

20 **VLDL is converted to all except**

(a) VLDL remnants
(b) IDL
(c) HDL
(d) LDL

21 **Lipoprotein lipase deficiency leads to**

(a) Steatohepatitis
(b) Type I hyperlipoproteinemia
(c) Type II hyperlipoproteinemia
(d) Type III hyperlipoproteinemia

22 **Cholesterol is found in highest concentration in**

(a) Chylomicrons
(b) VLDL
(c) HDL
(d) LDL

23 **Primary building block of triglycerides and phospholipids is**

(a) Phosphatidic acid
(b) Sphingosine
(c) Ceramide
(d) Glucose

24 **Cephalin is formed by**

(a) Choline and phosphatidate
(b) Inositol and phosphatidate
(c) Ethanolamine and phosphatidate
(d) Serine and phosphatidate

25 **Function of Lecithin-cholesterol acyltransferase (LCAT) is**

(a) To free cholesterol
(b) To form cholesterol esters
(c) To form lecithin
(d) To form HDL

26 **Respiratory Distress Syndrome is deficiency of**

(a) Cephalin
(b) Phosphotidyl serine
(c) Phosphotidyl inositol
(d) Dipalmityl lecithin

27 **Phosphatidylglycerol + phosphatidylglycerol forms**

(a) Cardiolipin
(b) plasmalogen
(c) Lecithin
(d) Platelet activating factor

28 **Ceramide is synthesized from**

(a) Sphiingosine and glycerol
(b) Sphingosine and phosphate
(c) Sphingosine and fatty acid
(d) Sphingosine and amino acid

29 **White Adipose tissue**

(a) Has few mitochondria
(b) Is involved in thermogenesis
(c) Has important role in new borns
(d) Has numerous mitochondria

30 **Which type of oxidation takes place in brain and neural cells?**

(a) Beta oxidation
(b) Odd chain fatty acid oxidation
(c) Omega oxidation
(d) Alpha oxidation

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ENDOCRINOLOGY MODULE EXAM - 2020
SECOND YEAR MBBS PART II – MCQs

Total marks: 30
Time Allowed: 25 minutes

Select one best answer

1 Which of the following is not a cell surface receptor?
(a) TSH receptor
(b) Cortisol receptor
(c) Glucagon receptor
(d) ACTH receptor

2 Which of the following is an example of slow signaling response often requiring more than an hour?
(a) Synaptic response
(b) Change in movement of cell
(c) Change in secretions of cell
(d) Increased cell growth and division.

3 Cells can adjust their sensitivity to a signal by all means except:
(a) Receptor down regulation
(b) Receptor inactivation
(c) Inhibition of inhibitory protein
(d) Inhibition of signaling protein

4 Cyclic AMP Phosphodiesterase results in formation of
(a) 5' AMP
(b) ATP
(c) Cyclic AMP
(d) ADP

5 Protein kinase A is:
(a) A Trimeric enzyme
(b) Composed of three catalytic subunits
(c) Composed of three regulatory subunits
(d) Composed of two catalytic and two regulatory subunits

6 Insulin receptor is a type of
(a) G protein coupled receptor
(b) Ion coupled receptor
(c) Enzyme linked receptor
(d) Nuclear receptor

7 LH
(a) In males stimulate production of sperms
(b) In females stimulates release of ovum by the ovary
(c) It stimulates maturation of ovarian follicles
(d) It secretes estrogen by ovaries

8 All of the statements regarding Prolactin are true except:
(a) Prolactin is a protein hormone
(b) Increased Prolactin decrease GnRH from hypothalamus
(c) Prolactin is kept inhibited by dopamine and GABA
(d) Prolactin is secreted from posterior pituitary

9 Posterior pituitary
(a) Known as adenohypophysis
(b) Secretes Prolactin and Antidiuretic hormone
(c) Secretes Oxytocin and Aldosterone
(d) It is a collection of axonal cells from the hypothalamus

10 Vasopressin
(a) Is also known as Aldosterone
(b) Secreted by cells of hypothalamic nuclei and stored in anterior pituitary
(c) Underproduction results in Diabetes Insipidus
(d) Increases urine output

11 All regarding Growth Hormone is true except:
(a) Enhances fat utilization for energy
(b) Decreases rate of glucose utilization
(c) Increases protein catabolism
(d) Increases blood glucose concentration

12 Which of the following is true about Dwarfism?
(a) Body parts do not grow in proportion to each other
(b) In Pan hypopituitary dwarfism, Dwarfs do not pass through puberty
(c) In only Growth hormone deficiency, Dwarfs do not pass through puberty
(d) Mental retardation is seen in dwarfs with growth hormone deficiency

13 Large quantities of Growth hormone production after adolescence produces:
(a) Gigantism
(b) Acromegaly
(c) Hypoglycemia
(d) Myxedema

14 Renin
(a) Converts angiotensinogen to angiotensin-I
(b) Converts angiotensin-I to angiotensin-II
(c) Converts angiotensin-I to angiotensinogen
(d) Converts angiotensin-II to angiotensin-I

15 **In males which hormone stimulates Leydig cells to produce testosterone?**

(a) Estrogen
(b) Progesterone
(c) Luteinizing Hormone
(d) Follicle stimulating Hormone

16 **Which of the following is not a function of Progesterone?**

(a) Contracts smooth muscles
(b) Converts endometrium to its secretory phase
(c) During gestation it decreases maternal immune response
(d) Inhibits lactation during pregnancy

17 **Testosterone is converted to estradiol by enzyme**

(a) 5 α reductase
(b) Isomerase
(c) Aromatase
(d) Lyase

18 **Glucocorticoids are produced from**

(a) Zona Glomerulosa
(b) Zona Fasciculata
(c) Zona Reticularis
(d) Adrenal Medulla

19 **Pregnenolone is formed from cholesterol by the enzyme**

(a) 17 α hydroxylase
(b) Desmolase
(c) 21 hydroxylase
(d) 11 β hydroxylase

20 **Aldosterone acts on distal convoluted tubules of kidney to:**

(a) Increase reabsorption of K^+
(b) Increase reabsorption of H^+
(c) Increase reabsorption of $NH4^+$
(d) Increase reabsorption of Na^+

21 **All are Metabolic effects of Glucocorticoids except:**

(a) Promotes glycolysis
(b) Mobilization of amino acids from extra hepatic tissues
(c) Protein synthesis in liver
(d) Increases lipolysis in adipose tissues

22 **Precursor for the synthesis of catecholamines is**

(a) Methionine
(b) Arginine
(c) Tryptophan
(d) Tyrosine

23 **Proopiomelanocortin (POMC) is a precursor for**

(a) TSH
(b) LH
(c) ACTH
(d) GH

24 **Which one of the following statements describes the underlying pathology of Grave's disease?**

(a) An autoimmune disease directed against thyroid stimulating hormone receptors releasing T3, T4
(b) Inflammation of the thyroid gland leading to release of T3, T4
(c) Benign Tumor of thyroid gland
(d) Benign Tumor of anterior pituitary

25 **Which one of the following hormones binds to the pituitary and stimulates the release of luteinizing hormone (LH) and follicle stimulating hormone (FSH)?**

(a) Adrenocorticotropic hormone
(b) Corticotropic releasing hormone
(c) Gonadotrophin releasing hormone
(d) Somatostat

26 **Rate limiting enzyme in catecholamine synthesis is**

(a) Phenylalanine hydroxylase
(b) Tyrosine hydroxylase
(c) Dopamine hydroxylase
(d) Aromatic amino acid decarboxylase

27 **Beta Endorphins**

(a) Are steroid hormones
(b) Increase perception of pain
(c) Have opioid like properties
(d) Formed from TSH

28 **Oxidation of Iodide in thyroid follicle is carried out by**

(a) Isomerase
(b) Lyase
(c) Peroxidase
(d) Deiodinase

29 **Thyroid hormone biologically available to tissues is**

(a) Thyroid Hormone attached to Binding Globulin
(b) Thyroid Hormone attached to Pre-albumin
(c) Thyroid Hormone attached to Albumin
(d) Free and albumin-bound thyroid hormone

30 **Myxedema refers to deposition of mucopolysaccharides in the dermis due to**

(a) Hyperthyroidism
(b) Hypothyroidism
(c) Hypopituitarism
(d) Hyperpituitarism

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NUCLEOTIDES & GENETICS- 2020
MODULE 06 2ND YEAR – MCQs

Total marks: 30
Time Allowed: 25 minutes **17/08/2020**

Select one best answer

1 In replication
- (a) Whole of the DNA is copied
- (b) 50% of the DNA is copied
- (c) Whole of the RNA is copied
- (d) Proteins are made

2 Replication is done by
- (a) RNA polymerase I
- (b) RNA polymerase II
- (c) RNA polymerase III
- (d) DNA polymerase

3 The process of synthesizing RNA from DNA and then synthesis of protein from that RNA is called
- (a) Reverse transcription
- (b) Duplication
- (c) Replication
- (d) Gene expression

4 Gene expression takes place in all the phases of cell cycle except
- (a) G_0 phase
- (b) S phase
- (c) G_2 phase
- (d) M phase

5 Prokaryotes have
- (a) Circular DNA
- (b) Circular RNA
- (c) No DNA
- (d) DNA is present outside the nucleus

6 In replication which of the following stands is used
- (a) Coding strand
- (b) Template strand
- (c) Both coding and template strands
- (d) TATA box

7 Transcription is
- (a) Synthesis of proteins
- (b) Synthesis of RNA from DNA
- (c) Synthesis of DNA from RNA
- (d) Making a copy of the whole DNA

8 DNA polymerase requires
- (a) Sigma factor
- (b) DNA primer
- (c) RNA primer
- (d) Rho protein

9 In replication the opening of replication fork is done by which enzyme?
- (a) RNA polymerase
- (b) DNA polymerase
- (c) Helicase
- (d) Topoisomerase

10 Okazaki fragments are found in
- (a) Leading strand
- (b) Lagging stand
- (c) Coding strand
- (d) Template strand

11 In transcription RNA polymerase reads the
- (a) Coding strand
- (b) Template strand
- (c) Both coding and template strands
- (d) RNA polymerase has no function here

12 In transcription synthesis always takes place from
- (a) 3' to 5'
- (b) 5' to 3' price
- (c) Both directions
- (d) It does not take place in transcription

13 In transcription synthesis is always
- (a) Parallel to the template strand
- (b) Antiparallel to the coding strand
- (c) Antiparallel to the template strand
- (d) Antiparallel & complementary to the template strand

14 In cell cycle S phase is
- (a) Replication
- (b) Transcription
- (c) Translation
- (d) Resting phase

15 **The 3' end of tRNA always ends with** (a) AUG (b) UAG (c) UAA (d) CCA	**16** **mRNA of Prokaryotes is** (a) Monocistronic (b) Polycistronic (c) mRNA is only present in Eukaryotes (d) Bipolar
17 **The activator of CPS II in pyrimidine synthesis is** (a) GTP (b) UTP (c) N-acetyl Glutamine (d) PRPP	**18** **The activated sugar in purine & pyrimidine synthesis is** (a) Glucose 6- phosphate (b) Ribosyl phosphate (c) 5 phosphoribosyl 1 pyrophosphate (d) Deoxy ribosyl pyrophosphate
19 **The amino acids which donate amine groups for the purine biosynthesis are:** (a) Glycine, glutamine, aspartate (b) Glycine, Phenylalanine, Glutamate (c) Lysine, glutamine, aspartate (d) Glycine, Threonine, aspartate	**20** **The first purine nucleotide that is fully formed in the de novo synthesis pathway is:** (a) AMP (b) GMP (c) CMP (d) IMP
21 **Which of the following serves as the cofactor for the de novo synthesis of purine metabolism?** (a) Thiamine (b) Biotin (c) Folate (d) Flavin	**22** **Which of the following contribute nitrogen atoms to both purine and pyrimidine rings?** (a) Aspartate (b) Carbamoyl phosphate (c) Carbon dioxide (d) Glutamate
23 **The enzyme xanthine oxidase is inhibited by** (a) Allopurinol (b) Corticosteroids (c) Ibuprofen (d) Colchicine	**24** **The enzyme associated with hyperuricemia is** (a) Glucose 6 phosphatase (b) HGPRTase (c) PRPP synthetase (d) All of the above
25 **The enzyme xanthine oxidase catalyzes the conversion of** (a) Inosine to hypoxanthine (b) Guanosine to guanine (c) Xanthine to uric acid (d) Inosine monophosphate to inosine	**26** **The end product of purine degradation in humans is** (a) Urea (b) Allantoin (c) Xanthine (d) Uric acid
27 **A patient presented with cognitive disorders, behavioral disturbances and an urge to bite his lips. Which of the following disorders he must be suffering from?** (a) Hurler syndrome (b) Gouty arthritis (c) Lesch- Nyhan syndrome (d) Down syndrome	**28** **What is an activator of the enzyme "Glutamine: Phosphoribosylpyrophosphate amidotransferase" a committed step of de novo biosynthesis of purines?** (a) Adenosine Monophosphate (b) Guanosine Monophosphate (c) Inosine Monophosphate (d) Phosphoribosyl Pyrophosphate
29 **Which of the following amino acid contributes to more than half of the pyrimidine ring?** (a) Arginine (b) Glutamine (c) Aspartate (d) CO_2	**30** **The main site of de novo purine synthesis is** (a) Kidneys (b) Liver (c) Lungs (d) Red Blood Cells

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END TERM EXAM - 2020
SECOND YEAR MBBS PART II – MCQs

Total marks: 30
Time Allowed: 25 minutes

06/03/2019

Select one best answer

1 **The enzyme involved in the activation of tRNA in translation is**
(a) Amino acyl-tRNA synthase
(b) Amino acyl-tRNA synthetase
(c) Amino acyl-m RNA synthetase
(d) Helicase

2 **The amino acid binds to the tRNA at:**
(a) 5' end
(b) 3' end
(c) D-loop
(d) Anticodon arm

3 **The conversion of acetyl CoA to malonyl CoA is the rate-limiting step in the fatty acid synthesis. Which of the following enzyme catalyzes the above-mentioned reaction?**
(a) Acetyl CoA carboxylase
(b) Malonyl CoA synthetase
(c) Acetyl CoA decarboxylase
(d) Malonyl CoA synthase

.4 **The shape of tRNA is**
(a) Double Helix
(b) Single Helix
(c) Globular
(d) Clover leaf like

5 **All are true regarding alpha oxidation except**
(a) Energy is generated
(b) Oxidation does not require COA
(c) 1 molecule of CO_2 is produced in each cycle
(d) 1 Carbon is removed from carboxylic end

6 **21 carbon Fatty acid will be finally catabolized into**
(a) Acetyl-SCoA
(b) Propionyl CoA
(c) Succinyl-SCoA
(d) Malonyl-SCoA

7 **The tRNA on its 5' end has**
(a) 7 methyl guanosine cap
(b) Shine-dalgarno sequence
(c) Phosphate group attached
(d) Binds to cap of mRNA

8 **Carnitine acyl transferase I (CAT I) controls fatty acid entry into the cell for oxidation. It is inhibited by:**
(a) Carnitine
(b) Malonyl CoA
(c) Palmitate
(d) Carnitine acyl transferase II

9 **Lauric acid a C12 fatty acid will undergo how many beta oxidation cycles and how many acetyl SCoA are formed**
(a) 6 cycles + 5 acetyl SCoA
(b) 5 cycles + 6 acetyl SCoA
(c) 5 cycles + 5 acetyl SCoA
(d) 6 cycles + 6 acetyl SCoA

10 **During translation in prokaryotes the ribosomal unit that binds to the shine-dalgarno sequence of mRNA is:**
(a) Large ribosomal unit
(b) Small ribosomal unit
(c) 16s RNA
(d) 5.8s rRNA

11 **Cholesterol is converted to bile acids in liver by loosing**
(a) Acetyl CoA
(b) Propionyl CoA
(c) Succinyl CoA
(d) Malonyl CoA

12 **HMG CoA synthase cytosolic isoform in hepatocytes is responsible for**
(a) Cholesterol synthesis
(b) Ketone body synthesis
(c) Fat synthesis
(d) Fatty acid synthesis

13 **Bile acid synthesis requires addition of hydroxyl group at carbon number**
(a) 3
(b) 5
(c) 7
(d) 9

14 **During translation in eukaryotes the unit that binds to the Cap structure of mRNA is:**
(a) 70S RNA
(b) Small ribosomal unit
(c) Large ribosomal unit
(d) 16s RNA

15 **When one whole codon triplet is inserted or deleted, it is called**

(a) Silent mutation
(b) Frame shift mutation
(c) Nonsense mutation
(d) Missense mutation

16 **Renin**

(a) Converts angiotensinogen to angiotensin-I
(b) Converts angiotensin-I to angiotensin-II
(c) Converts angiotensin-I to angiotensinogen
(d) Converts angiotensin-II to angiotensin-I

17 **Triacylglycerol is found in highest concentration in**

(a) VLDL
(b) HDL
(c) LDL
(d) Chylomicrons

18 **Which of the following is not a function of Progesterone?**

(a) Inhibits lactation during pregnancy
(b) Contracts smooth muscles
(c) Converts endometrium to its secretory phase
(d) During gestation it decreases maternal immune response

19 **Testosterone is converted to estradiol by enzyme**

(a) 5 α reductase
(b) Isomerase
(c) Aromatase
(d) Lyase

20 **VLDL is converted to all except**

(a) VLDL remnants
(b) IDL
(c) HDL
(d) LDL

21 **Lipoprotein lipase deficiency leads to**

(a) Steatohepatitis
(b) Type I hyperlipoproteinemia
(c) Type II hyperlipoproteinemia
(d) Type III hyperlipoproteinemia

22 **Cholesterol is found in highest concentration in**

(a) Chylomicrons
(b) VLDL
(c) HDL
(d) LDL

23 **Primary building block of triglycerides and phospholipids is**

(a) Phosphatidic acid
(b) Sphingosine
(c) Ceramide
(d) Glucose

24 **Pregnenolone is formed from cholesterol by the enzyme**

(a) 17 α hydroxylase
(b) Desmolase
(c) 21 hydroxylase
(d) 11 β hydroxylase

25 **The end product of purine degradation in birds is**

(a) Urea
(b) Allantoin
(c) Xanthine
(d) Uric Acid

26 **Respiratory Distress Syndrome is deficiency of**

(a) Cephalin
(b) Phosphotidyl serine
(c) Phosphotidyl inositol
(d) Dipalmityl lecithin

27 **Phosphatidylglycerol + phosphatidylglycerol forms**

(a) Cardiolipin
(b) plasmalogen
(c) Lecithin
(d) Platelet activating factor

28 **Ceramide is synthesized from**

(a) Sphiingosine and glycerol
(b) Sphingosine and phosphate
(c) Sphingosine and fatty acid
(d) Sphingosine and amino acid

29 **The enzyme xanthine oxidase catalyzes the conversion of**

(a) Inosine to hypoxanthine
(b) Guanosine to guanine
(c) Xanthine to uric acid
(d) Inosine monophosphate to inosine

30 **Low activity of which enzymes leads to orotic aciduria**

(a) Dihydroorotase
(b) Carbamoyl phosphate synthetase II
(c) Dihydroorotate dehydrogenase
(d) Orotate phosphoribosyl transferase and OMP decarboxylase