Memory Test - Metabolism_Class Test_Online_Foundation_1

Total Mark: 100
Time: 90 Min

1. Acctyl CoA is the precursor of
A) Cholesterol
B) Fatty acid
C) Beta-hydroxy butyric acid
D) Eicosanoids
E) Bile pigments
Answer: T, T, T, F, F
Discussion:
Reference: (Ref: ABC, Bio 7th/Page-186)

2. Fates of acetyl CoA-
A) Synthesis of fatty acid
B) Synthesis of Amino acid
C) Synthesis of Keton body
D) Synthesis of Lactate
E) Oxidation in TCA cycle
Answer: T, F, T, F, T
Discussion:
Reference: (Ref: ABC, Metabolism, 7th/Page-186)

3. Features of hypervitaminosis A:
A) Polyuria
B) Hepatomegaly
C) Teratogenicity
D) Raised ICP
E) Metastatic calcification
Answer: F, T, T, T, F
Discussion:
Reference: (Ref: ABC , Vitamins & minerals, 7th/Page-502)

4. Regarding vit-D:
A) Calcitriol is produced in liver
B) Binds with cell membrane receptor
C) Production is decreased by PTH
D) Causes bone mineralization
E) Causes bone demineralization
Answer: F, F, F, T, T
Discussion:
Reference: (Ref: ABC, Vitamins & minerals, 7th/Page-505)

5. Use of NADPH are
A) Reduction of H2O2
B) Helps in Cytochrome P450 system
C) Phagocytosis by WBC
D) Degradation of NO
E) Lipid metabolism
Answer: T, T, T, F, F
Discussion:
Reference: (Ref: ABC, Metabolism, 7th/Page-179)

6. BMR is increased in:
A) Fever
B) Leukemia
C) Nephrotic syndrome
D) CCF
E) Addison's disease
Answer: T, T, F, T, F
Discussion:
Reference: (Ref: ABC, Vitamins & minerals, 7th/Page-479)

7. Following are the calorigenic vit:
A) Pantothenic acid
B) Ascorbic acid
C) Folic acid
D) Biotin
E) Thiamin
Answer: T, F, F, T, T
Discussion:
Reference: (Ref: ABC, Vitamins & minerals, 7th/Page-497)

8. Following are the routes of iron loss:
A) Sweating
B) Urine
C) Hair loss
D) Mensrual bleeding
E) Skin desguamation
Answer: T, T, T, T, T
Discussion:
Reference: (Ref: ABC, Bio 7th/Page-600)

9. Following lipoproteins have no atherogenic potential:
A) Chilomicron
B) VLDL
C) IDL
D) HDL
E) Chilomicron remnant
Answer: T, F, F, T, F
Discussion:
Reference: (Ref: ABC, Metabolism, 7th/Page-234)

10. Following vitamins are synthesized by gut flora
A) Cobalamine
B) Niacin
C) Folic acid
D) Biotin
E) Phylloquinone
Answer: T, F, F, T, F
Discussion:
Reference: (Ref: ABC, Vitamins & minerals, 7th/Page-497)

11. Followings are the fate of NH3-
A) Synthesis of glutamine
B) Synthesis of Urea
C) Synthesis of Purine and pyrimidines
D) Synthesis of Keton body
E) Synthesis of Non essential amino acids
Answer: T, T, T, F, T
Discussion:
Reference: (Ref: ABC, Metabolism, 7th/Page-197)

12. Glycogenesis requires
A) Active phosphorylase
B) Branching enzyme
C) A primer
D) Glucose -6- phosphatase
E) Glucagon
Answer: F, T, T, F, F
Discussion:
Reference: (Ref: ABC, Bio 7th/Page-182)

13. Inhibitors of respiratory chain -
A) Barbiturates
B) H2S
C) Cyanide
D) Cu
E) Mg
Answer: T, T, T, F, F
Discussion:
Reference: (Ref: ABC, Metabolism, 7th/Page-156)

14. Metabolic pathway occurring in mitochondrial matrix:
A) Glycogenolysis
B) HMP shunt
C) ETC
D) TCA cycle
E) Ketogenesis
Answer: F, F, F, T, T
Discussion:
Reference: (Ref: ABC, Metabolism, 7th/Page-146)

15. Pathway of ATP formation
A) Oxidative phosphorylation
B) Glycolysis
C) TCA cycle
D) □-oxidation of fatty acid
E) Urea cycle
Answer: T, T, T, T, F
Discussion:
Reference: (Ref: ABC, Metabolism, 7th/Page-150-156)

16. Regarding □ oxidation of fatty acids:
A) 2NADP is produced in each cycle
B) Major source of energy for heart
C) Only even chain fatty acids are substrate
D) Propionyl Co-A is produced from palmitic acid
E) Provides energy for gluconeogenesis
Answer: F, T, F, F, T
Discussion:
Reference: (Ref: ABC, Metabolism, 7th/Page-216)

17. Regarding cholesterol:
A) Precursor of Na-taurocholate
B) Precursor of leukotriene
C) Essential nutrient
D) Produced in smooth ER
E) Synthesis is reduced by atorvastatin
Answer: T, F, F, T, T
Discussion:
Reference: (Ref: ABC, Bio 7th/Page-85)

18. Regarding Co-enzyme activity:
A) NAD □□ HMP shunt
B) PP □ glycogenolysis
C) FAD □ ETC
D) NADP□□ oxidation of FA
E) NAD□ Deamination
Answer: F, T, T, F, T
Discussion:
Reference: (Ref: ABC, Bio 7th/Page-158,178,216)

19. Regarding energy value of food:
A) Protein: 4kcal/gm
B) Fat: 9 kcal/gm
C) CHO: 4 kcal/gm
D) Alcohol: 7 kcal/gm
E) Thiamin: 2 kcal/gm
Answer: T, T, T, T, F
Discussion:
Reference: (Ref: ABC, Metabolism)

20. Regarding leucine:
A) Yields acetyl Co-A
B) Yields pyruvate
C) Substrate for gluconeogenesis
D) Intermediate of TCA cycle
E) Is synthesized within body
Answer: T, F, F, F, F
Discussion:
Reference: (Ref: ABC, Bio 7th/Page-60)

21. Regarding Lipoproteins
A) Largest lipoprotein in chylomicron
B) VLDL is a low density lipoprotein
C) HDL is highest TAG containing lipoproteins
D) HDL is highest cholesterol containing lipoprotein
E) Origin of HDL is in Liver
Answer: T, T, F, F, T
Discussion:
Reference: [Ref: ABC]

22. Regarding pyruvate:
A) Oxidised into lactate
B) Reduced into oxaloacetate
C) Carboxylalated into oxaloacetate
D) Deaminaed into alanin
E) Decarboxylated to acetyl co-A
Answer: F, F, T, F, T
Discussion:
Reference: (Ref: ABC, Bio 7th/Page-166)

23. Regulatory Enzymes of EM pathway
A) Glucokinase
B) Phosphofructokinase
C) Puruvate kinase
D) Glyeraldehydes -3- phosphate dehydrogenase
E) Lactate dehydrogenase
Answer: T, T, T, F, F
Discussion:
Reference: (Ref: ABC, Bio 7th/Page-161-162)

24. Respiratory chain
A) Is on the outer mitochondial membrane
B) Is inhibited by fluoride
C) Is poisoned by barbiturate
D) Is poisoned by cyanide
E) Contains vitamin derivatives
Answer: F, F, T, T, T
Discussion:
Reference: (Ref: ABC, Bio 7th/Page-156)

25. Zinc deficiency results in:
A) Loss of taste
B) Dementia
C) Poor wound healing
D) Impaired spermatogenesis
E) Acrodrmatitis enteropathica
Answer: T, T, T, T, T
Discussion:
Reference: (Source: ABC, Bio 7th/Page-489)

26. Abnormal storage of glycogen results from deficiency of ----except
A) Phosphorylase
B) Lactate dehydrogenase
C) Phosphofructokinase
D) Amylo-1,6 glucosidase
E) Glycogen synthetase
Answer: B
Discussion:
Reference: [Ref. Robbin's 9th P-156 + Smiddy Q-24.11 P-304]

27. Anerobic glycolysis occurs in except
A) Testes
B) Kidney medulla
C) Brain
D) Liver
E) Red blood cell
Answer: D
Discussion:
Reference: [Ref. Lippincott- 5th/P-103+Retina, GIT, Brain, Herper 30th/P-171]

28. Blood urea may fall in patients with
A) Acute renal failure
B) Chronic renal failure
C) Chronic Liver disease
D) High protein diet
E) Upper Gl bleeding
Answer: C
Discussion: (Explanation: a) Due to tissue break down & catabolic state b) In CKD loss of excretory, Metabolic, endocrine funciton of kidney c) Urea not form so □ Urea level d) □ blood urea e) As absorbed product of laminal blood, metabolized by live
Reference: (Ref: ABC, Bio, 7th/Page-199-200)

29. Catabolism of ketogenic amino acid produce

A) Acetyl CoA
B) 6- hydroxybutyl CoA
C) Acetone
D) Alanine
E) Serine
Answer: A
Discussion:
Reference: (Ref: ABC, Bio, 7th/Page-60)

30. Coenzymes required for the conversion of pyruvate to acetyl-CoA are except
A) Thiamine pyrophosphate
B) Biotin
C) NAD
D) CoA
E) FAD
Answer: B
Discussion:
Reference: (Ref: ABC, Bio, 7th/Page-166)

31. Enzymes of carbohydrate metabolism except
A) Aldolase
B) Lactate dehydrogenase
C) HMG CoA reductase
D) Ribose 5-P isomerase
E) Triose-P isomerse
Answer: C
Discussion:
Reference: [Ref: ABC Biochemistry-5th]

32. Fatty acid synthesis occurs primarily in --- except
A) liver
B) lactating mammary gland
C) brain
D) intestine
E) kidney
Answer: D
Discussion:
Reference: [Ref: ABC Biochemistry/5th/P-178]

33. Following statement is false for oxidative deamination
A) Substrate is pyruvate
B) It occurs in mitochondria
C) Removal of amino group from an aminoacid in the form of NH3
D) Nature of the pathway is catabolic
E) Generate carbon skeleton of amino acid
Answer: A
Discussion:
Reference: [Ref: ABC Biochemistry-5th/P-220]

34. HMG - CoA reductase activity is inhibited
A) insulin
B) Thyroid hormone
C) Glucagon
D) Parathyroid
E) Mevalonate
Answer: C
Discussion:
Reference: [Ref: Sattanarayan-4th/P-313]

35. Hormone-sensitive lipase is activated by
A) TSH
B) ACTH
C) Nicotinic acid
D) Prostaglandin E1
E) Vasopressin
Answer: B
Discussion: (Explanation: Activated by CAMP dependent protein kinase , epinephrine, norepinephrine, glucoagon , thyroxin, ACTH. Inaclivated by high plasma level of glucose. (Ref: Lippincott / 5th /190, satyanarayana/3rd / 287: TSH , GH & Vision physiology/ 445 9th).
Reference: [Ref: Vision physiology page:445; Edition-9th]

36. Hormones causing glycolysis
A) Insulin
B) Aldosterone
C) Catecholamines
D) Growth hormone
E) Pancreatic polypeptide
Answer: A
Discussion: (Explanation: Glycolysis Inducer –Insulin supressor –Glucagon Activator –Insulin)
Reference: [Ref: Harper/30th/P-188]

37. Hormones responsible for gluconcogenesis are except
A) Thyroxine
B) Epinephrine
C) Glucagon
D) Insulin
E) Cortisone
Answer: D
Discussion: (Explanation: Gluconeogenesis Inducer -Gluco corticoids - Epine phrine - Glucagon Repressor Suppressor -Insulin Activator -Glucagon -Acetylco-A

Reference: [Ref. Harper-30th/P-188]

38. Irreversible fates of pyruvate in the body are

A) Alanine
B) Glycerol
C) Lactate
D) Ketoacid formation
E) Acetyl CoA
Answer: E
Discussion:
Reference: [Ref: ABC Biochemistry-5th/P-160]
Explanation: Oxaloacetate, Acetyl CoA

39. Major products of pentose phosphate pathway are
A) NADPH
B) Six carbon sugar
C) Four carbon sugar
D) NADH
E) Glucose -6-phosphate
Answer: A
Discussion: (Explanation: Product of HMP shunt 1. Ribose sugar (Five carbon sugar) 2. NADPH

Reference: [Ref: ABC Biochemistry-5th/P-167]

40. Post translational modifications are ---except

A) limited proteolysis
B) hydroxylation
C) splicing
D) glycosylation
E) carboxylation
Answer: C
Discussion: Explanation: a+e) Post transcriptional modification Post translational modification: It is the chemical modification of protein synthesized through translation to make the protein functionally active. It is done by different mechanisms: 1. Removal of N-terminal methionine (initiating amino acid). 2. Limited proteolysis, e.g. Pepsionogen produced by translation is modified to pepsin by limited proteolysis. 3. Covalent modification by i. Hydroxylation,e g Lysine and proline of collagen are hydroxylated after synthesis of collagen. ii. □-carboxylation, e.g. Clotting factor(II, VII, IX, X) are carboxylated after synthesis. iii. Glycosylation. It is done by addition of carbohydrate. e.g. blood group substances. iv. Phosphorylation. It is done by addition of phosphate. v. Acetylation. Attachment of acetyl group. e.g. Histone acetylation.
Reference: [Ref: ABC Biochemistry-5th/P-419,425]

41. Precursors of gluconeogenesis except
A) Lactate
B) Leucine
C) Propionate
D) Glycerol
E) pyruvate
Answer: B
Discussion:
Reference: [Ref: ABC Biochemistry-5th/P-161]

42. Secondary hypercholesterolaemia occurs in
A) Hypothyroidism
B) Fiber rich food intake
C) Excess alcohol intake
D) Pregnancy
E) Beta blocker
Answer: D
Discussion:
Reference: (Ref: ABC, Bio, 7th Page-615)

43. Sources of ammonia are except
A) purines
B) phosphatidic acid
C) glutamine
D) amines
E) urea
Answer: B
Discussion:
Reference: [Ref: ABC Biochemistry-5th/P-220]

44. Glucose-6- phosphatase enzyme is found in

A) Liver
B) Kidney
C) □-cell of pancreatic islets
D) Intestinal mucosa
E) Brain
Answer: D
Discussion: (Explanation: Glucose 6 phosphatase also required in gluconeogenesis (Liver& Kidney). Other site of Glucose 6 phosphatase: □-cell of pancreatic islets, Intestinal mucosa)
Reference:

45. Highest triacylglycerol rich lipoprotein
A) Low density lipoprotein
B) Chylomicron
C) High density lipoprotein
D) Apolipoprotein
E) Very low density lipoprotein
Answer: B
Discussion:
Reference: [Ref: ABC Biochemistry-5th/P-200]

46. Pentose phosphate pathway is active in except
A) Liver
B) Spleen
C) Adrenal cortex
D) Erythrocytes
E) WBC
Answer: B
Discussion: Explanation : Others:- Adipose tissue, testes, ovary, Macrophage, Lactating breast
Reference: [Ref: ABC Biochemistry-5th/P-166]

47. Pyruvate is metaboliozed by the following enzymes except
A) Lactate dehydrogenase
B) Aspartate aminotransferase
C) Pyruvate carboxylase
D) Alanine aminotransferase
E) Phosphoenol pyruvate carboxykinase
Answer: B
Discussion:
Reference: [Ref: ABC Biochemistry-5th/P-160]

48. Rate limiting enzymes for TCA cycle are
A) citrate synthase
B) succinate dehydrogenase
C) malate dehydrogenase
D) Hexokinase
E) Lactate dehydrogenase
Answer: A
Discussion:
Reference: [Ref: ABC Biochemistry/5th/P-155]

49. The rate limiting enzymes for glycolysis
A) Glucokinase
B) Aldolase
C) Phosphofructokinase
D) Pyruvate kinase
E) Glucose-6-phosphatase
Answer: C
Discussion:
Reference: [Ref: ABC Biochemistry-5th/P-150]

50. Under basal conditions the following tissues produce lactate except
A) Erythrocyte
B) Renal medulla
C) Skin
D) Liver
E) Intestine
Answer: D
Discussion:
Reference: [Ref: ABC Biochemistry-5th/P-521]
Explanation: Gut, RBC, Skin, Skeletal muscle, Brain