**SSR DEGREE COLLEGE (AUTONOMOUS) NIZAMABAD**
**DEPARTMENT OF NUTRITION**
**PG SEMESTER-I INTERNAL-II**
**PAPER-II SUB:- NUTRTIONAL BIOCHEMISTRY**
**QUESTION BANK**

# I.Multiple choice Question

**1. Transamination reactions require which coenzyme?**
A) $NAD^+$
B) FAD
C) Pyridoxal phosphate
D) Biotin
**Answer:** C

**2. Removal of amino group as ammonia is called**
A) Transamination
B) Deamination
C) Decarboxylation
D) Deamidation
**Answer:** B

**3. Oxidative deamination of glutamate is catalyzed by**
A) Glutamate synthase
B) Glutamate dehydrogenase
C) Aminotransferase
D) Glutaminase
**Answer:** B

**4. Decarboxylation of amino acids mainly produces**
A) Keto acids
B) Amines
C) Ammonia
D) Urea
**Answer:** B

**5. Deamidation involves removal of amide group from**
A) Glycine
B) Alanine
C) Glutamine and asparagine
D) Lysine
**Answer:** C

**6. Phenylalanine is converted to tyrosine by the enzyme**
A) Tyrosinase
B) Phenylalanine hydroxylase
C) Transaminase

D) Decarboxylase
**Answer:** B

**7. Deficiency of phenylalanine hydroxylase causes**
A) Alkaptonuria
B) Tyrosinemia
C) PKU
D) MSUD
**Answer:** C

**8. Tryptophan is a precursor for all EXCEPT**
A) Serotonin
B) Melatonin
C) Niacin
D) Dopamine
**Answer:** D

**9. Maple Syrup Urine Disease is due to defect in metabolism of**
A) Aromatic amino acids
B) Sulfur-containing amino acids
C) Branched-chain amino acids
D) Basic amino acids
**Answer:** C

**10. The branched-chain amino acids include**
A) Glycine, alanine, serine
B) Leucine, isoleucine, valine
C) Methionine, cysteine
D) Phenylalanine, tyrosine
**Answer:** B

**11. Methionine metabolism is important for formation of**
A) Urea
B) Creatinine
C) S-adenosyl methionine (SAM)
D) Glutathione
**Answer:** C

**12. Arginine is directly involved in**
A) Glycolysis
B) Urea cycle
C) TCA cycle
D) HMP shunt
**Answer:** B

**13. The final product of urea cycle is**
A) Ammonia
B) Citrulline
C) Arginine

D) Urea
**Answer:** D

**14. The urea cycle occurs mainly in**
A) Kidney
B) Muscle
C) Liver
D) Brain
**Answer:** C

**15. Carbamoyl phosphate synthetase I is located in**
A) Cytosol
B) Nucleus
C) Mitochondria
D) Ribosome
**Answer:** C

**16. Amino acid imbalance refers to**
A) Excess protein intake
B) Deficiency of all amino acids
C) Deficiency of one essential amino acid
D) Protein malnutrition
**Answer:** C

**17. Amino acid toxicity is mainly due to**
A) Increased fat metabolism
B) Accumulation of amino acids or metabolites
C) Vitamin deficiency
D) Low nitrogen intake
**Answer:** B

**18. Homocystinuria is associated with deficiency of**
A) Phenylalanine hydroxylase
B) Cystathionine β-synthase
C) Tyrosinase
D) Arginase
**Answer:** B

**19. Alkaptonuria results from accumulation of**
A) Phenylalanine
B) Tyrosine
C) Homogentisic acid
D) Homocysteine
**Answer:** C

**20. Darkening of urine on standing is seen in**
A) PKU
B) Tyrosinemia
C) Alkaptonuria

D) MSUD
**Answer:** C

**II. FILL IN THE BLANKS**

**1. Transamination reactions are catalyzed by _____ enzymes.**
**Answer:**Aminotransferases

**2. The coenzyme required for transamination is _____.**
**Answer:** Pyridoxal phosphate (PLP)

**3. Oxidative deamination releases free _____.**
**Answer:** Ammonia

**4. Decarboxylation of amino acids produces _____.**
**Answer:** Biogenic amines

**5. Glutamine undergoes deamidation to form _____.**
**Answer:** Glutamate

**6. Phenylalanine is an _____ amino acid.**
**Answer:** Essential

**7. Tyrosine is synthesized from _____.**
**Answer:** Phenylalanine

**8. Tryptophan metabolism leads to formation of _____ vitamin.**
**Answer:** Niacin

**9. Leucine is a _____ amino acid.**
**Answer:** Branched-chain

**10. Methionine is a sulfur-containing _____ amino acid.**
**Answer:** Essential

**11. Arginine is a key intermediate of the _____ cycle.**
**Answer:** Urea

**12. The urea cycle detoxifies _____.**
**Answer:** Ammonia

**13. The first step of urea cycle occurs in the _____.**
**Answer:** Mitochondria

**14. Phenylketonuria is caused by deficiency of _____ enzyme.**
**Answer:** Phenylalanine hydroxylase

**15. MSUD involves defective metabolism of _____ amino acids.**
**Answer:** Branched-chain

**16. Homocystinuria leads to increased levels of _____.**
**Answer:** Homocysteine

**17. Alkaptonuria is due to deficiency of _____ oxidase.**
**Answer:**Homogentisic acid oxidase

**18. Black discoloration of urine is characteristic of _____.**
**Answer:**Alkaptonuria

**19. Amino acid imbalance mainly affects _____ synthesis.**
**Answer:** Protein

**20. Excess accumulation of amino acids causes _____.**
**Answer:** Toxicity

**III. Descriptive Questions**

**1. Write aboutInborn errors of amino acid metabolism**

**2.Write the Urea cycle mechanism and its importance**

**3. DescribeDegradation of purines and pyrimidines and Gout**

**4. Briefly discuss about Protein synthesis**