List of Model Full Question Physiotherapy 2018

1. Write Haemoglobin degradation pathway. Explain Types and Causes of Jaundice. Explain how to differentiate type of Jaundice by serum and urine examination.

2. Explain Transportation – Detoxification of Ammonia with urea cycle. And Explain "why increase ammonia is toxic to brain?"

3. Enumerate factor affecting Enzyme activity. Explain type of enzyme inhibitions with examples in detail. Explain Difference in Function of Glucokinase and Hexokinase on bases of it's Vmax and Km.

4. Describe different type of Protein structure. Explain primary structure's functional relationship with relevant examples (e.g.Haemoglobin, Insulin, Enzyme,).

5. Write type, difference and diagnosis diabetes mellitus. Enumerate complication of Diabetes mellitus and Explain biochemical reason and effect of diabetes ketoacidosis.

6. Write type of oxidation of fatty acid. Give it's difference. Write pathway for beta oxidation of palmitic acid (16 carbon-Saturated fatty acid) and it's energy production.

7. Write types of Acid Base Balance. Explain Renal buffer mechanism in detail. Enumerate causes of Acidosis and Alkalosis.

8. Overview of Tyrosine & Phenylalanine metabolism. Biochemical explanation of Phenylketonuria , Alkaptonuria and albinism.

List of Model Short Question For Physiotherapy

General

1. Lecture
    a. Fluidic Model of Cell membrane
    b. Function of Organelles
    c. Type and Example of Transport mechanism.
2. Lecture
    a. Chemi-osmotic hypothesis
3. Lecture
    a. Blood Buffers
    b. Renal mechanism for Acid Base balance

Carbohydrate

4. Lecture
    a. Classification of carbohydrate
    b. Reducing Sugar & it's Characteristic
    c. Mucopolysaccharide (Glycosamino glycans)
5. Lecture
    a. Digestion & absorption of Carbohydrate
    b. Lactose intolerance
6. Lecture
    a. Energy production of Glycolysis
7. Lecture
    a. Regulation of Gluconeogenesis
    b. Von Gierke's Disease
8. Lecture
    a. Significant of HMP Shunt pathway
    b. Significant of NADPH
    c. Role of Glutathione & NADPH for maintain RBC membrane
9. Lecture
    a. Effect of Alcoholism on gluconeogenesis as well as on beta oxidation of fatty acid.
10. Lecture
    a. Polyol pathway and it's significant
11. Lecture
    a. Diagnosis of Diabetes Mellitus
    b. Metabolic alteration in Diabetes Mellitus
12. Lecture
    a. Acute and Chronic complication of Diabetes Mellitus
13. Lecture
    a. Biochemical explanation of Diabetic Ketoacidosis
    b. Define and significant of Glycated (HbA1c) haemoglobin
    c. Advance Glycated End product

Lipid

14. Lecture
    a. Type of Fatty acid
    b. Function of Phospholipids
    c. Rancidity of Fatty acid
15. Lecture
    a. Liposome & Micelle
    b. Digestion and absorption of lipid
16. Lecture
    a. Eicosanoids
    b. Formation of eicosanoids and explain its inhibitor with significance.
17. Lecture
    a. Type and differentiation of Oxidation of Fatty acid.
    b. Beta Oxidation of Long Chain Saturated fatty acid.
18. Lecture
    a. Energy production of saturated even chain fatty acid
    b. Carnitine shuttle
19. Lecture
    a. Significant and Regulation of Cholesterol & Pathogenesis of atherosclerosis in context of Oxidized LDL
20. Lecture
    a. Risk factor for Atherosclerosis
21. Lecture
    a. Type and Function Lipoproteins
    b. Type and function of Apo- lipoproteins

Protein and Amino acid

22. Lecture
    a. Essential – Semi Essential – Non Essential Aminoacid
    b. Role & Significant of Amino acid
    c. Zwitter ion
23. Lecture
    a. Type of Structure of Protein
24. Lecture
    a. Protein structural –functional relationship.
    b. Define Chaperon & Prion protein. **(Optional)**
25. Lecture
    a. Digestion & Absorption of Protein
    b. Define Protein Denaturation. Give It's significant & causative factor.
26. Lecture
    a. Fates of Tyrosine & Phenlyalanine & it's related disorder.
27. Lecture
    a. Biochemical explanation of Phenylketonuria.
    b. Biochemical explanation of Albinism & Alkaptonuria.

28. Lecture
    a. Fates of Tryptophan & it's related disorder.
29. Lecture
    a. Functional classification of protein.
30. Lecture
    a. Nitrogen disposal through GDH and Alpha ketoglutarate **(Optional)**
    b. Urea Cycle - Transport and Detoxification of Ammonia
31. Lecture
    a. Type & Structure of Haemoglobin , Variant of Haemoglobin
    b. Role of 2-3 BPG on oxygen diffusion-dissociation and effect during hypoxia **(Optional)**
32. Lecture
    a. Haemoglobin degradation pathway .
33. Lecture
    a. Type and Cause of Jaundice.
34. Lecture
    a. Types , Causes and differentiation by serum and urine examination of Jaundice.
35. Lecture
    a. Molecular and Biochemical explanation for pathogenesis of Sickle cell disease
36. Lecture
    a. Molecular and Biochemical bases of Thalassemia.
37. Lecture
    a. Haemoglobin Synthesis & Define Porphyria. **(Optional)**
38. Lecture
    a. Explain Causes, Clinical Feature and diagnosis of Acute intermittent porphyria and Congenital erythropoietic porphyria. **(Optional)**

Enzyme

39. Lecture
    a. Define Co-Enzyme ,Co-Factor & Iso-Enzyme. Give Example.
40. Lecture
    a. Diagnostic importance of isoenzyme
41. Lecture
    a. Enumerate Liver Function Test & Write it's significant. **(Optional)**
42. Lecture
    a. Enumerate Cardiac Function Test & Write it's significant. **(Optional)**
43. Lecture
    a. Write and Explain Factor affecting enzyme activity with example.
44. Lecture
    a. Type of Enzyme Inhibition. Explain with example.
45. Lecture
    a. Difference between Competitive inhibition and Non- Competitive inhibition.
    b. Explain Difference in Function of Glucokinase and Hexokinase on bases of it's Vmax and Km.

Nutrition & Vitamin

46. Lecture

a. Difference between Kwashiorkor & Murasmus

47. Lecture
    a. Factor affecting Basal Metabolic Rate
48. Lecture
    a. Clinical significance of Dietary fibre
49. Lecture
    a. Metabolism, Function and Clinical significance of Vitamin D
50. Lecture
    a. Folate trap **(Optional)**
    b. Function of Vitamin B12.
51. Lecture
    a. Function of Vitamin A & it's related disorder
    b. Effect of Warfarin & Dicoumarol on Vitamin K metabolism

Molecular

52. Lecture
    a. Type and Watson & Crick Model of DNA
53. Lecture
    a. t-RNA.
    b. Genetic codon
    c. Degeneracy & wobbling phenomena
54. Lecture
    a. Effect and Type of Mutation with example.
55. Lecture
    a. Primary & Secondary cause of Hyperuricemia & Molecular Basis of Gout
56. Lecture
    a. Name & role of the component of the DNA replication fork
    b. Define Telomer & Telomerase. It's significant
57. Lecture
    a. DNA repair mechanism. **(Optional)**
58. Lecture
    a. Initiation of Transcription **(Optional)**
    b. Post-transcription modification.
59. Lecture
    a. Post translation modification. **(Optional)**
60. Lecture
    a. Salvage pathway of Purine synthesis
    b. Lysch Nyhan Syndrome