PATHOPHYSIOLOGY TOPIC LIST

1. Inflammation: definition, development, phases & major features of acute inflammation
2. Characterization of plasma derived inflammatory mediators
3. Characterization of cell derived inflammatory mediators
4. Characterization of cellular elements in inflammation; pathophysiological significance
5. Regulation and outcome of the acute inflammatory response
6. Disturbances of phagocyte and complement system
7. Pathomechanism of chronic inflammation
8. Systemic effects of inflammation; inflammatory pain

9. Pathophysiological significance of non-specific and specific defense system
10. Pathogenesis and consequences of type I hypersensitivity reaction
11. Pathogenesis and consequences of type II hypersensitivity reaction
12. Pathogenesis and consequences of type III hypersensitivity reaction
13. Pathogenesis and consequences of type IV hypersensitivity reaction
14. Pathogenesis of autoimmune diseases: antibody mediated diseases and characterization
15. Pathogenesis of autoimmune diseases: T-cell mediated diseases and characterization
16. Pathogenesis of combined immunodeficiencies
17. Pathogenesis of primary antibody deficiencies
18. Pathogenesis of secondary immunodeficiency

19. Pathogenesis of pituitary hyperfunction: hyperprolactinemia
20. Pathogenesis and forms of hypopituitarism
21. Alterations of growth in child- and adulthood; adult GH deficiency
22. Pathogenesis of thyrotoxicosis
23. Pathogenesis of hypothyroidism; development of goiter
24. Pathogenesis and consequences of acute and chronic hypoadrenalisms
25. Pathogenesis and consequences of hyperadrenalisms: Cushing’s syndrome, aldosteronism and adrenogenital syndromes
26. Pathogenesis and consequences of paraganglial tumors
27. Disorders of menstrual cycle
28. Female reproductive tract disorders; chronic anovulations
29. Disorders of androgen metabolism and testicular dysfunction; male infertility
30. Disturbances of estrogen metabolism in males
31. Pathophysiological aspects of the posterior pituitary gland
32. Pathogenesis and consequences of hypercalcemia
33. Pathogenesis and consequences of hypocalcemia
34. Pathomechanism of hyper- and hypoparathyroidism

35. Regulation of body weight regulation and energy homeostasis; definition of obesity
36. Pathogenesis, types and consequences of obesity
37. Pathogenesis of malnutrition, protein-energy malnutrition and starvation
38. Definition and diagnostic criteria of prediabetes and diabetes mellitus; classification of diabetes mellitus
39. Pathomechanism, forms and consequences of type 1 diabetes mellitus
40. Pathomechanism and consequences of type 2 diabetes mellitus
41. Pathomechanism of insulin resistance; metabolic syndrome
42. Pathomechanism, forms and pathobiochemistry of microvascular complications in diabetes mellitus
43. Pathomechanism of macrovascular complications in diabetes mellitus
44. Pathomechanism of diabetic ketoacidosis and hyperosmolar hyperglycemic state
45. Pathogenesis and classifications of hypoglycemia
46. Pathogenesis of hypercholesterolemia
47. Pathogenesis of hypertriglyceridemia
48. Pathogenesis of mixed hyperlipidemia
49. Forms of arteriosclerosis; pathogenesis of atherosclerosis
50. Risk factors and complications of atherosclerosis

51. Pathogenesis and types of angina pectoris
52. Pathogenesis and types acute coronary syndrome
53. Pathogenesis, classifications, consequences, and laboratory diagnosis of myocardial infarction
54. Changes in blood pressure during lifetime; definition of arterial hypertension in adult and childhood
55. Pathogenesis and consequences of essential (primary or idiopathic) hypertension
56. Pathogenesis and consequences of secondary hypertensions
57. Complications of hypertension; hypertensive crises and consequences
58. Definition and characterization of cyanosis
59. Adaptation to and compensation of reduced cardiac contractility; cardiac hypertrophy
60. Acyanotic congenital heart diseases: pathogenesis and consequences
61. Cyanotic congenital heart diseases: pathogenesis and consequences
62. Definition and consequences of acute rheumatic fever
63. Pathomechanism of aortic stenosis and regurgitation (acute, chronic)
64. Pathomechanism of mitral stenosis and regurgitation (acute, chronic)
65. Definition, types and development of heart failure
66. Adaptive and maladaptive changes in heart failure
67. Pathophysiology of symptoms and signs in heart failure
68. Acute heart failure: definition, forms and pathogenesis
69. Sodium balance disorders: forms and development of hypervolemia
70. Development, forms and pathogenesis of edema
71. Characterization of the major forms of edemas: heart failure, edema in liver- and kidney disease & pregnancy
72. Sodium balance disorders: forms and development of hypovolemia
73. Pathogenetic classification and main features of circulatory shock
74. Stages and compensatory mechanisms of circulatory shock
75. Progressive and irreversible shock
76. Anti-inflammatory and metabolic dysfunctions in shock
77. Molecular, cellular and systemic changes in shock: DIC and shock
78. Complications of shock, pathophysiological features
79. Causes and characterization of hypovolemic shock
80. Causes and characterization of cardiogenic shock
81. Causes and characterization of obstructive shock
82. Causes and characterization of distributive shock; septic shock and vasodilatory shock
83. Definition, forms of hypotension and syncope: reflex-mediated syncope
84. Definition, forms of hypotension and syncope: cardiovascular and orthostatic syncope

**HIGHLIGHTS OF ECG**
*(FOR DETAILS SEE YOUR LECTURE NOTES)*

ECG registration techniques
Changes of waves under normal and pathological conditions
Determination of electrical axis
How to analyze an ECG?
Practical use of ECG in everyday practice; ECG reference ranges
Classification of arrhythmias: development and mechanism
Classification of arrhythmias: the site of origin of arrhythmia
A-V blocks
Bundle branch blocks
Premature beats
Supraventricular tachyarrhythmias
Ventricular tachyarrhythmias
ECG signs of myocardial ischemia and injury
ST segment elevation acute coronary syndromes
ECG signs of myocardial infarction
ECG signs of atrial strain and ventricular hypertrophy
ECG signs of major electrolyte disorders