## GENERAL MEDICINE

### Histology and embryology – questions

### I.

1. **General structure of the cell, its size and shape. The structure of the cell membrane.**
2. **Nucleus, nuclear envelope, chromatin, function of the nucleus.**
3. **Nucleolus, LM and EM structure.**
4. **Mitochondria, LM and EM structure, function.**
5. **Lysosomes and peroxisomes.**
6. **Endoplasmic reticulum - rough (granular) and smooth. Ribosomes.**
7. **Golgi complex, LM and EM structure, function.**
8. **Centriole, LM and EM structure, function.**
9. **Microtubules, microfilaments and intermediate filaments.**
10. **The ultrastructural and molecular structure of cell membrane.**
11. **Covering epithelial tissue, classification, structure and function.**
12. **Glandular epithelial tissue, classification, structure and function.**
13. **Basement membrane, ultrastructure, function.**
14. **Intercellular junctions. Specialization of apical surface of cells.**
15. **Connective tissue cells.**
16. **Fixed connective tissue cells.**
17. **Free connective tissue cells.**
18. **Intercellular ground substance of connective tissue.**
19. **Collagen, elastic and reticular fibers.**
20. **Types of connective tissue.**
21. **Connective tissue proper.**
22. **Connective tissue with special function.**
23. **Types of cartilage.**
24. **Microscopic structure of bone tissue.**
25. **Bone cells.**

**26. Compact and spongy bone.**

**27. Endochondral ossification.**

**28. Intramembranous and endochondral ossification.**

**29. Blood cells.**

**30. Erythrocytes.**

**31. Leukocytes.**

**32. Granulocytes.**

**33. Agranulocytes and platelets.**

**34. Maturation of erythrocytes.**

**35. Skeletal muscle tissue.**

**36. Sarcoplasmic reticulum and mechanism of contraction.**

**37. Cardiac muscle tissue.**

**38. Smooth muscle tissue.**

**39. Neurons.**

**40. Dendrites and axon.**

**41. Synapses.**

**42. Neuroglia.**

**43. Myelinated nerve fibers.**

**44. Preparation of tissues for light microscopic examination.**

**45. Fixation and embedding.**

**46. Staining methods.**

**47. The principle of transmission electron microscopy.**

**II.**

1. **Structure and function of hypophysis.**
2. **Structure and function of thyroid gland.**
3. **Structure and function of suprarenal gland.**
4. **LM and EM structure of adenohypophysis.**
5. **Microscopic structure of kidney.**
6. **Structure and function of nephron.**
7. **Juxtaglomerular apparatus of kidney.**
8. **Blood circulation in kidney.**
9. **Urinary passages.**
10. **Microscopic structure of testis.**
11. **Spermiogenesis.**
12. **Intratesticular genital ducts.**
13. **Excretory genital ducts – ductus epididymidis, ductus deferens.**
14. **Accessory genital glands – seminal vesicles, prostate.**
15. **Microscopic structure of ovary, ovarian follicles.**
16. **Microscopic structure of uterus. The menstrual cycle.**
17. **Structure and function of placenta.**
18. **Mammary gland – structure, function**
19. **Structure and function of the skin.**
20. **Glands of the skin, hairs and nails.**
21. **Microscopic structure of cerebellum.**
22. **Microscopic structure of isocortex.**
23. **Microscopic structure of spinal cord.**
24. **Dorsal root ganglia and meninges.**
25. **Fibrous layer of the eye.**
26. **Vascular layer of the eye.**
27. **Retina.**
28. **External and middle ear.**
29. **Internal ear – organ of Corti.**

**30. Microscopic structure of heart.**

**31. Microscopic structure of capillaries.**

**32. General structure of blood vessels.**

**33. Elastic and muscular arteries.**

**34. Structure and function of lymph nodes.**

**35. Structure and function of spleen.**

**36. Structure and function of thymus.**

**37. Larynx and trachea.**

**38. Structure of bronchi and bronchioles.**

**39. Respiratory portion of lungs.**

**40. Structure of alveoli and blood – air barrier.**

**41. Oral cavity – tongue, teeth, salivary glands.**

**42. General structure of the digestive tract.**

**43. Microscopic structure of stomach.**

**44. Small and large intestine.**

**45. Microscopic structure of pancreas.**

**46. Microscopic structure of liver, function.**

**47. Biliary tract and gallbladder.**

**III.**

1. **Spermiogenesis.**
2. **Oogenesis.**
3. **Fertilization, cleavage of the zygote and development of the blastocyst.**
4. **Implantation and differentiation of the decidua.**
5. **Formation of the two-layered plate – the embryonic disc.**
6. **Formation of the intraembryonic mesoderm.**
7. **Development of notochord and somites.**
8. **Germ layer derivatives.**
9. **Development of the external form of the embryo.**
10. **Differentiation of decidua.**
11. **Development of placenta and umbilical cord.**
12. **Development of the fetal membranes – chorion, amnion and yolk sac.**
13. **Intrauterine implantation sites, placenta praevia, multiple pregnancy.**
14. **Pronephros, mesonephros and metanephros.**
15. **Development of the urinary system.**
16. **Development of the testis and ovaries.**
17. **Development of the external genitalia.**
18. **Development of the female genital ducts and vagina.**
19. **Early and later heart development.**
20. **Aortic arches and their derivatives.**
21. **The primitive circulation.**
22. **Prenatal and postnatal circulation.**
23. **Development of the vertebral column, ribs, skull and limbs.**
24. **Development of the CNS.**
25. **Development of the spinal cord and histogenesis.**
26. **Development of the brain vesicles.**
27. **Development of the hindbrain (rhombencephalon).**
28. **Development of the brain and histogenesis.**
29. **Development of the eye.**

**30. Development of the ear.**

**31. Development of the face and neck.**

**32. Development of nasal and oral cavities.**

**33. Development of the branchial apparatus.**

**34. Development and derivaties of the pharyngeal pouches.**

**35. Development of the branchial arches.**

**36. Development of the respiratory system.**

**37. Development of the lungs.**

**38. Development of the digestive system.**

**39. Development of the foregut.**

**40. Development of the teeth.**

**41. Development of the tongue.**

**42. Development of esophagus and stomach.**

**43. Rotation of the intestines and mesenteries.**

**44. Development of the midgut and hindgut.**

**45. Partitioning of the cloaca.**

**46. Development of the liver, biliary apparatus, pancreas and spleen.**

**47. Development of the body cavities and mesenteries.**