QUESTIONS TO MODULE "CYTOLOGY"

1. The structure of the Plasmolemma.
2. Characteristic of receptive and transport functions of the plasmolemma.
3. The structure of intercellular contacts: Simple contact, Zonular occludentes, Synapse.
4. The structure of intercellular contacts: Desmosome, Zonular adherents, Gap junctions.
5. Characteristic and structure of symplast and sincytium.
6. The structure and functions of Mitochondria.
7. The structure and functions of Lysosomes and Peroxisomes.
8. The structure and functions of Agranular Endoplasmic Reticulum.
9. The structure and functions of Granular Endoplasmic Reticulum and Ribosomes.
10. The structure and functions of Golgi Bodies.
11. The structure and functions of Microfilaments and Microtubules.
12. The structure and functions of Cytocentrum (centrosome).
13. The structure and functions of Cilia and Flagella.
14. Name of types Inclusions and their functions.
15. Reproduction of cells definition.
16. Cell cycle definition.
17. Stages of interphase, characteristic features.
18. Stages of mitosis.
19. Characteristic of polyploidy (endoreduplication).
20. Meiosis peculiarities.
21. Aging and death of cells. Necrosis and apoptosis.

QUESTIONS TO MODULE "EMBRIOLOGY"

1. Main features of Female sex cell.
2. Oocytes types.
3. Main features of the male sex cell.
4. Fertilazation, stages and biological significance.
5. Cleavage definition. Different modes of cleavage. Structure of blastula.
6. The cleavage peculiarities in the human. Chronology of the process. Structure of blastocyst.
7. Implantation site, significance and stages.
8. Vitelotrophic, histiotrophic and haematotrophic embryogenesis periods.
9. Gastrulation definition and attribute. Ways of gastrulation.
10. Human gastrulation early stage. Manners of germ layers and extraembryonal organs formation.
11. Gastrulation later stage.
12. Formation and functions of the primary streak.
13. Differentiation of mesoderm.
14. Amniotic tunic, its origin, structural components and functions.
15. The origin, structural components and functions of yolk sac.
16. Allantois origin, structure and functions.
17. Chorion formation and functions.
18. Structure and functions primary, secondary and tertiary villi of chorion.
19. Placenta definition. Structure of deciduous tunic.
20. Placenta definition. Structure of fetal part of placenta.
21. Structure and functions of placental barrier.
22. Structure and functions of umbilical cord.

MODUL OF THE TISSUES.

1. The formation of tissues (ontogenesis).
2. Structure and functional features of the epithelial tissues.
3. Structural - functional features of Simple epithelium (flat, cuboidal and columnar).
4. Structure of pseudostratified epithelium.
5. Structure of the stratified squamous nonkeratinized epithelium.
7. Structure of the stratified squamous keratinized epithelium.
8. Structure of the transitional epithelium.
9. Characteristic stages of secretion.
10. Characteristic ways of secretion.
11. Classification of glands. Characteristic of exocrine glands.
12. The common characteristic of blood. The blood functions.
13. The structure and functions of Erythrocytes.
14. The structural - functional features of Leucocytes. Leukocytic formula.
15. The structure and functions of Neutrophils.
16. The structure and functions of Eosinophils.
17. The structure and functions of Basophils.
18. The structure and functions of Monocytes.
19. The structure and functions of Lymphocytes.
20. The structure and functions of Thrombocytes.
21. The common characteristic of Loose Fibrous Connective tissue.
22. The structure and functions of Fibroblasts.
23. The structure and functions of Tissue Basophiles (Mast cells).
24. The structure and functions of Macrophages (Nistiocytes).
25. The structure and functions of Plasmatic cells.
26. The structure and functions of Adipose cells (Lipocytes).
27. The structure and functions of Pigmentocytes.
28. The structure and functions of Adventitial cells.
29. The structure of the intercellular substance of Connective tissue.
30. The structure and functions of collagenous fibers, elastic fibers, reticular fibers.
31. The common characteristic of Dense fibrous connective tissues.
32. The structure and functions of Tendons.
33. The structural - functional features of different types of Adipose tissue.
36. The common characteristic of Reticular tissue.
37. The common characteristic of Pigment tissue.
38. The common characteristic of Mucose tissue.

39. The structure of Cartilage Tissue.
40. The structure and functions of Chondroblasts.
41. The structure and functions of Chondrocytes.
42. Localization and structure of Hyaline cartilage.
43. Localization and structure of Elastic cartilage.
44. Localization and structure of Fibro cartilage.
45. Histogenesis of Cartilage Tissue. Growth and regeneration.
46. The structure of Bone (Osseous) Tissue. Classification of Osseous Tissue.
47. The structure and functions of Osteoblasts.
48. The structure and functions of Osteocytes.
49. The structure and functions of Osteoclasts.
50. Tubular bone structure.
51. Characteristic of direct osteogenesis (development from mesenchyma).
52. Characteristic of indirect osteogenesis.
53. Growth and regeneration.
54. The structure of Skeletal Muscle tissue.
55. The structure of Sarcomere.
56. The structure of Thick filament.
57. The structure of Thin filament.
58. The structure of Sarcoplasmic reticulum.
59. Mechanism of muscle contraction.
60. The structure of Smooth Muscle tissue.
61. Contraction of Smooth Muscle tissue.
62. The structure of Nervous tissue. The structure of Neurons.
63. Morphological and functional classification of Neurons.
64. The structure of Reflex arch.
65. The structure of Synapses.
66. The structure and functions of the Unmyelinated nerve fibers.
67. The structure and functions of the Myelinated nerve fibers.
69. The structure and functions of Macroglia.
70. The structure and functions of Microglia.
71. Common characteristic of Receptors.
72. The structure of free and non-free nerve endings.

Questions to the modul *"Nervous system. Sense organs.Cardiovascular system. Organs of Hemopoiesis and Immune protection. Endocrine system."*

1. Cytoarchitectonics of the hemisphere cortex of Brain.
2. The structure of the Ganglion layer of Cerebellum.
3. The structure of the Molecular layer of Cerebellum.
4. The structure of the Granular layer of Cerebellum.
5. The structure of the Cerebro-spinal ganglion.
6. The structure of the Spinal Cord.
7. The structure and functions of the Pyramidal cells.
8. The structure organization of the excitatory system of Cerebellum.
9. The structure organization of the inhibitory system of Cerebellum.
10. Classification of the Sense organs.
11. The structure and functions of the Rods.
12. The structure and functions of the Cones.
13. The structure of the Fibrous tunic of Eye.
14. The structure of the Vascular tunic of Eye.
15. The structure and functions of I – V layers of Retina.
16. The structure and functions of VI - X layers of Retina.
17. The structure of the Internal Ear.
18. The structure of the Cochlear Duct.
19. The structure of the Spiral organ of Corti.
20. Arteries: classification, structure and functions.
21. Veins: classification, structure. The peculiarities of veins wall structure.
22. Capillaries: classification, structure.
23. Arteriovenular anastomoses: classification, structure.
24. The structure and functions of the Heart.
25. The structure and functions of the Red Bone Marrow.
26. The structure and functions of the Thymus. Hemato-Thymic barrier.
27. The structure and functions of the B-dependent zone of Lymph Nodes.
28. The structure and functions of the T-dependent zone of Lymph Nodes.
29. The structure and functions of the Spleen.
30. The structure and functions of the anterior portion of Hypothalamus.
31. The structure and functions of the middle and posterior portions of Hypothalamus.
32. The structure of the Hypophysis.
33. The functions of hormones of the Hypophisis.
34. The structure and functions of the Epiphysis.
35. Structure - functional organization of the Thyroid Gland.
36. Secretory cycle thyrocyti.
37. The structure and functions of the Parathyroid Gland.
38. Embryogenesis and structure of the Adrenal Glands.
39. The functions of hormones of the Adrenal Glands.

Questions to the modul *"Digestive system. Respiratory system. Urinary system. Reproductive system."*

1. The structure features organs of the Oral cavity. Structure of the Tongue.
2. Development of the Teeth.
3. The structure of enamel, of cement end localization in teeth.
4. The structure of dentine, of tooth pulp end localization in teeth.
5. The structure of large salivary glands.
6. The structure and functions of the Esophagus.
7. The common structure and functions of the Stomach.
8. The structure and functions of the cells of the own (fundus) glands of the Stomach.
9. The structure and functions of the Small Intestine.
10. The structure and functions of intestinal villi.
11. The structure and functions of intestinal crypts.
12. The structure and functions of the Duodenum.
13. Compare the structure of Duodenum with a Jejunum.
14. The structure and functions of the Large Intestine.
15. Compare the structure of the Small Intestine with a Large Intestine.
16. The structure and functions of the Rectum.
17. The common morphology and functions of the Liver. The features of Liver blood supply.
18. The structure of classic Hepatic lobules. The structure of sinusoid capillaries.
19. Morpho-functional characteristics of hepatocytes.
20. The structure and function of the Bile-excreting ducts, Gall blade.
21. The structure and functions of the Exocrine part of Pancreas.
22. The structure and functions of the Endocrine part of Pancreas.
23. The structure and functions of the Salivary Glands.
24. Characteristic cells of the respiratory epithelium.
25. The structure and functions of respiratory and olfactory parts of the Nasal cavity and Larynx.
26. The structure and function Trachea.
27. The structure and functions of the main Bronchi, larges Bronchi and middle Bronchi.
28. The structure and functions of the small Bronchi and terminal Bronchioles.
29. The structure and functions of the Respiratory Department of the Lung
30. The structure and function of Aerohaematic barrier, Pleura.
31. The common structure and functions of the Kidney. Embriogenesis of Kidney.
32. Structure of the Renal Corpuscle. The structure of the Filtration Barrier. Filtration process.
33. The structure and function of the Proximal Renal Tubule and Henle's loop.

34. The structure and function of the Distal Renal Tubule and Collecting Tubules.
35. The structure and functions of the Endocrine system of the Kidney.
36. The structure and functions of the Excretory Passages (Ureter and Urinary Bladder) of the Kidney.
37. The structure and functions of the Ovary (structure follicles).
38. The structure and function of the yellow body and atresium.
39. Ovogenesis.
40. The structure and functions of the Uterine Tubes, Uterus.
41. The structure and function Vagina, Sexual cycle.
42. The structure and functions of the Testes.
43. Spermatogenesis.
44. Spermiogenesis (transformation of spermatids).
45. The structure of Extratesticular Genital Ducts (the ductuli efferentes, the ductus epididymis, the ductus deferens, the ejaculatory duct).
46. The structure and functions of the Accessory Genital Glands (the seminal vesicles, the prostate gland, the bulbourethral glands).
47. The structure and function of the breast (mammary glands).