

UNIT 4

1. Discuss the functions of the circulatory system.
2. Describe the overall flow of blood through the heart chambers and pulmonary and systemic circuits.
3. Be able to follow a drop of blood through the specific arterial vessels into the capillaries and through the specific veins as well as through the heart. For example, trace a drop of blood from the great saphenous vein to the digital arteries.
4. Describe the location of the heart in the body.
5. Describe the structure and functions of the fibrous pericardium, serous parietal, and serous visceral pericardia. Also define pericardial sac.
6. Discuss the anatomy of the heart. Include sulci, epicardium, myocardium, endocardium, chambers, valves and septa.
7. Describe the anatomy of the chordae tendineae and papillary muscles and their role during ventricular contraction.
8. Discuss the basic parts of the cardiac cycle.
9. Describe the importance of and the anatomy of the electrical conduction system in the heart that includes nodes and specialized conducting fibers.
10. List the major arteries of the coronary circulation and the areas they feed.
11. List the four major cardiac veins draining the heart and the structure they drain into.
12. Discuss coronary heart disease, its causes and risk factors.
13. Describe the anatomy of the three coats found in the wall of a blood vessel.
14. Discuss the differences in the structure and function of arteries, arterioles, capillaries, veins, sinuses, and vasa vasorum.
15. Discuss the differences between continuous capillaries, fenestrated capillaries, and sinusoids.
16. Discuss cerebral circulation.
17. Explain the function of the hepatic portal system and list the vessels of it.
18. Discuss how fetal circulation differs from postnatal circulation.
19. Describe the function of the following structures and list what they become after birth: umbilical arteries, umbilical vein, ductus venosus, foramen ovale, and the ductus arteriosus.

20. Define arteriosclerosis, hypertension, aneurysm, phlebitis, and thrombophlebitis.
21. Learn the level of oxygenation (oxygenated, mixed or deoxygenated) in all the vessels in the adult and fetus.
22. Describe the composition of blood.
23. Describe the cellular structure of erythrocytes and the structure and function of hemoglobin.
24. Describe the process of erythropoiesis and the areas where it occurs in the fetus and adult.
25. Explain where RBCs are destroyed in the body.
26. Describe the five different types of leukocytes. Include size, percent, cytoplasmic and nuclear appearance and functions.
27. Describe the production, structure and functions of thrombocytes.
28. Define hematocrit, hemophilia, leukemia, and the various types of anemia.
29. Describe the functions of the lymphatic system, vessels and structures.
30. Describe the circulation of lymph from the tissues through the thoracic duct and right lymphatic duct and then into the subclavian veins, include the cisterna chyli.
31. List the locations of the lymphatic tissue (organs and structures) in the body.
32. Describe the structure of the tonsils, appendix, and Peyer's patches.
33. List the locations where lymph nodes (glands) are aggregated in the body.
34. Describe the anatomy and physiology of the lymph node and the flow of lymph through the node.
35. Describe the anatomy and physiology of the spleen and the thymus.
36. Discuss the functions of the respiratory system.
37. List the organs of the respiratory system.
38. Describe the anatomy of the nose.
39. Describe the anatomy of the nasal cavity. Include the nasal septum, turbinates and epithelium. Discuss the functions of the nasal cavity.
40. Describe the anatomical and physiological difference between the three parts of the pharynx.

41. List the cartilages found in the larynx and state their functions.
42. Discuss the anatomy and physiology of the true and false vocal cords.
43. Describe the process of producing sound by the vocal cords, Include loudness and pitch.
44. Describe the anatomy of the trachea, bronchi and bronchioles. Include how the diameter of the lumen, amount of cartilage, epithelium type and thickness and the amount of smooth muscle in each region.
45. Describe the anatomy of the lungs. Include pleurae, lobes, fissures and segments (lobules).
46. Describe the anatomy of the gas exchange portion that includes the respiratory bronchioles, alveolar ducts, alveolar sacs, alveoli, and capillaries.
47. Define asthma, pleurisy, pneumothorax, hemothorax, lung cancer, bronchitis, emphysema, tuberculosis, and sudden infant death syndrome.