1. Describe the intracranial course of the facial nerve. What are the signs and symptoms of damage to the facial nerve during this course? (5, 5)

2. How is the portal vein formed? What are its other tributaries? What are the three major sites of porto-systemic anastomosis? Name the veins involved in each of these sites. (2, 2, 3, 3)

3. What are the movements that take place at the knee joint? Name the muscles producing each of these movements. Discuss the mechanism of locking and unlocking of this joint. (2, 3, 5)

4. What is lateral medullary (Wallenberg) syndrome? Which structures are damaged in this condition and what signs and symptoms are produced as a consequence? (2, 8)

5. Describe the floor of the inferior horn of the lateral ventricle. Give the origin, course and termination of the fibres running in the fornix. (4, 6)
1. Describe the light microscopic structure of pseudostratified columnar ciliated epithelium with goblet cells. Give the ultrastructure of cilia and goblet cells. (5, 3.5, 1.5)

2. Describe the structural features of active and inactive fibroblast. Describe the structural organization of the elastic fibres in the extracellular matrix of connective tissue. (6, 4)

3. Describe the microscopic structure of the different types of lingual papillae. Give an account of the structure of a taste bud. (6, 4)

4. Give an account of the microscopic structure of the juxtaglomerular apparatus. What are the functions of its different structural components? (7, 3)

5. Describe the process of neurulation in the human embryo. What are the consequences of defective neurulation in the cranial part of the neural tube? (7, 3)

6. Describe the various steps involved in the process of human fertilization. Explain how polyspermy is prevented. (8, 2)

7. Compare the process of gastrulation in human embryo and amphioxus embryo. (10)

8. Give an account of development and fate of the temporary kidney systems formed in the human embryo. Describe the development of the excretory units of permanent kidney. (4, 6)

9. Name and explain the various functional components present in cranial nerves. What are the functional components carried by each of the twelve cranial nerves. (3, 7)

10. Give the characteristic anatomical features of a typical synovial joint. Classify synovial joints according to the number of axes of movement; give one example of each type. (6, 4)

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