

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**FACULTY OF MEDICINE**

**BACHELOR OF MEDICINE AND BACHELOR OF SURGERY DEGREE**  
**PART 2 EXAMINATIONS**

**MBM 2104 : HEAD, SKIN, SENSES & ASSOCIATED ORGANS**

**DATE : JUNE 2006**

**TIME : 3 HOURS**

**Instructions to Candidates**

**Answer all questions**

---

**SECTION A (40 MARKS)**

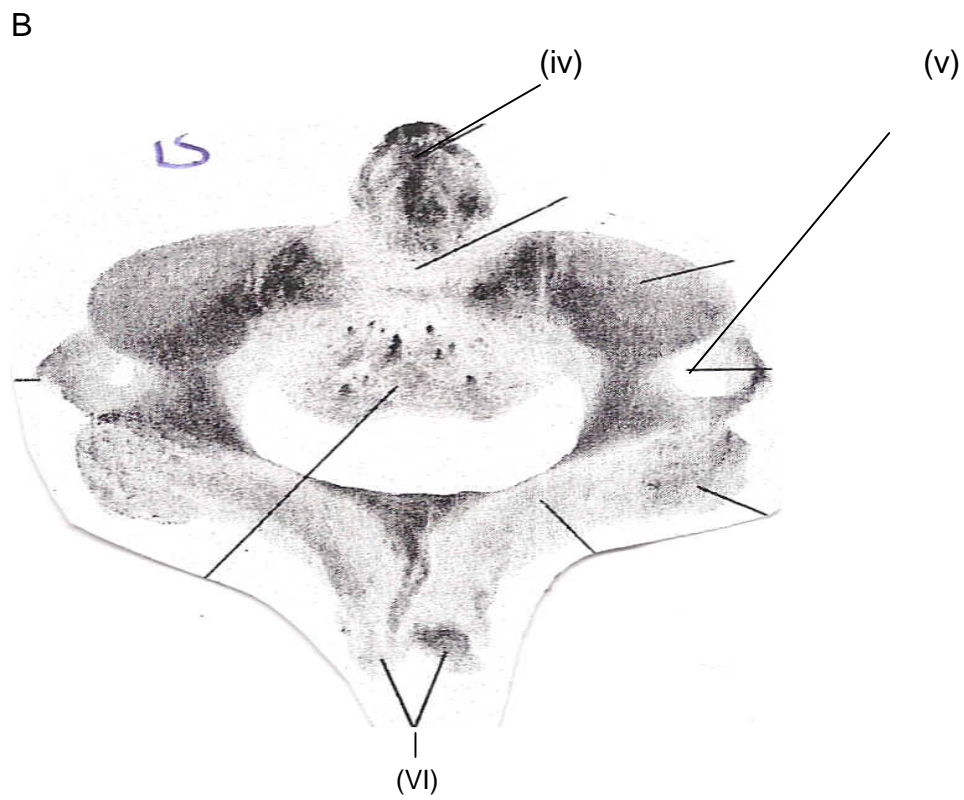
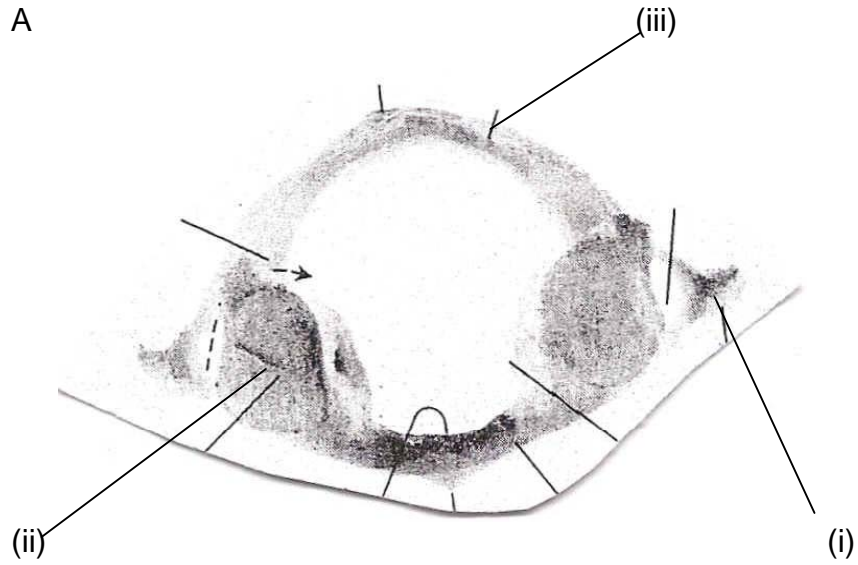
1. Write a brief essay on the thyroid gland with special emphasis on
  - a. its morphology, location and relations
  - b. arterial supply
  - c. venous, lymphatic and nerve supply. (20)
  
2. Write an essay on the inferior division of the Trigeminal nerve (CNV<sup>3</sup>) (20)

**SECTION B (60 MARKS)**

1. List five structures that pass through the foramen magnum in the occipital bone. (2<sup>1/2</sup>)

2. a) Name the two atypical cervical vertebrae in the diagram ; A and B (1)

**Fig 1.**



- b) Name the labelled parts i,ii,iii,iv ,v and vi. (3)
- c) Name the artery transmitted by (V) (1/2)
- d) Name the other (or third) atypical cervical vetebra. (1/2)

3. Fig 2

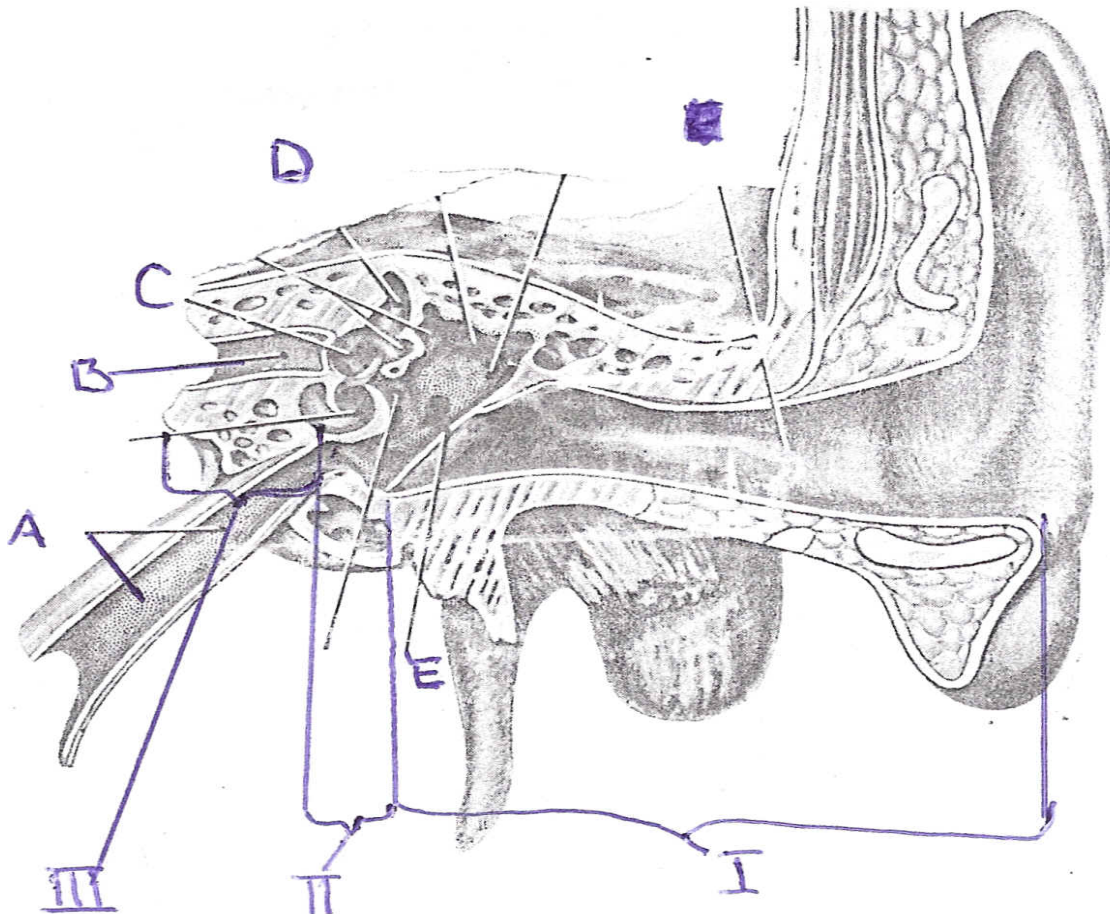
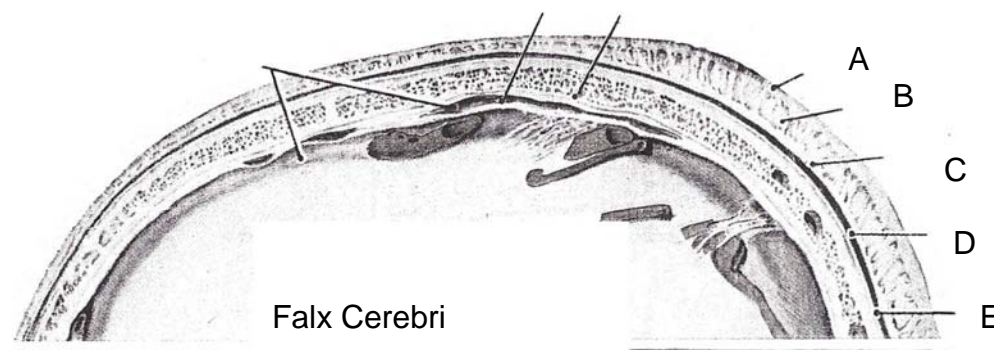


Fig 2 shows a coronal section across the ear with the ossicles removed.

- a) Name the labelled parts I, II, III, A, B, C, D, E, (4)
- b) Name the two muscles of the middle ear and the respective ossicles to which they are attached. (2)

- c) Which of the muscles in (b) would be affected by a lesion of the facial nerve(CN VII) intracranially, and what would be its effect on the quality of hearing? (1)
- d) Blockage of (A) for instance from inflammation of its walls, impairs hearing. Describe how this happens. (1)
- e) Describe one important route of spread of infection from the part labelled (II).(1/2)
- f) i) List three constituents of the membranous labyrinth (11/2)  
 ii) From the labeled parts on the diagram (Fig 2) which two labelled parts would contain the membranous labyrinth? (1)
4. List four bones that form the posterior cranial fossa. (2)
5. **Fig 3**

Fig 3 shows a para-sagittal section through the scalp as well as the calvaria.



- a) Name the labeled layers A, B, C, D, E. (21/2)
- b) Which layers are usually regarded as the scalp proper and why? (2)
- c) i) Briefly describe the fourth layer of the scalp. (1)  
 ii) Why is the fourth layer important clinically? (1)  
 iii) How may infection spread from the fourth layer into the cranial cavity? (1/2)

- iv) Why would it be difficult for infection from the fourth layer of the scalp to spread into the neck? (1)
- v) Oxygenated blood to the scalp derives from both the internal and external carotid arteries. Name the principal scalp branches from each of these large arteries. (21/2)
6. Muscles of facial expression develop embryologically from the second branchial arch as part of a subcutaneous muscle sheet in the head and neck known as the platysma that spreads over the face.
- a) Name two of the major muscles of facial expression. (1)
- b) What is the embryonic nerve supply of the second branchial arch? (1/2)
- d) Describe five clinical signs resulting from a unilateral injury to the nerve in (b). (21/2)
7. Briefly describe the important anatomical as well as clinical effects of a continuing or sustained rise in intracranial pressure supratentorially (e.g. from a ruptured middle méningeal artery resulting from a blow to the temporal region, causing extradural haemorrhage).
- How would such increased intracranial pressure produce a life-threatening situation? (5)
8. (a) Describe the various lesions that may involve the visual pathway. (10)
- (b) Briefly describe the Rinne's test. (5)
- (c) What are the differences between rods and cones of the retina? (5)

**END OF EXAMINATIONS**