

MANIPAL UNIVERSITY

FIRST MBBS DEGREE EXAMINATION – AUGUST 2010

SUBJECT: PHYSIOLOGY– PAPER I (ESSAY)

Friday, August 13, 2010

Time: 10:20 – 13:00 Hrs.

Maximum Marks: 40

- ✍ **All questions are compulsory. Write brief, clear and legible answers.**
- ✍ **Illustrate your answers with diagrams and flow charts wherever appropriate.**
1. Draw a diagram (anatomically correct) to show the pathway for tactile localization originating in lower limb. Indicate the pattern of sensory loss when there is unilateral lesion of this pathway at the level of i) Medial lemniscus. ii) First thoracic segment of spinal cord.
(6+2+2 = 10 marks)

 - 2A. Describe the metabolic actions of cortisol.
 - 2B. A thirty three-year old woman visited the hospital with complains of lower back pain. Physical examination showed excess fat deposits in the central axis of her body including the face, shoulders and abdomen. Her extremities were thin and exhibited muscle wasting. There were several ulcers on her left leg that did not heal. Her skin was thin with bruises and there were large, purple striae on her abdomen. X-rays revealed osteoporotic changes in vertebral bones
 - i) Name the above endocrine defect and give the cause.
 - ii) Explain the basis of any two clinical manifestations.

(3+(1+2) = 6 marks)

 3. Draw a labeled diagram of auditory pathway. Mention the special features of this pathway.
(6 marks)

 - 4A. Enumerate the clinical features of spinocerebellar lesion. Explain any one in terms of its connections.
(3 marks)
 - 4B. List the features of thalamic syndrome. Explain their basis.
(3 marks)
 - 4C. Give the source, target tissues and actions of calcitriol.
(3 marks)
 - 4D. Explain any three physiological differences between skeletal and smooth muscle.
(3 marks)
 - 4E. Explain the role of hormones in breast development in females.
(3 marks)
 - 4F. List the factors influencing spermatogenesis. Explain any one.
(2+1 = 3 marks)

