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DMI-ST. EUGENE UNIVERSITY
ZAMBIA

DEGREE EXAMINATION – DECEMBER 2024

Semester: IV

357BO44 HUMAN PHYSIOLOGY II

Time: 3:00 Hours

Max. Marks: 100

Answer any FIVE Questions (5 x 20 = 100 Marks)

1. Tom cannot see the blackboard clearly in class. The doctor says his eye lens has trouble focusing.
 - a) Draw the structure of the eye. **(15 Marks)**
 - b) What happens if the lens cannot focus properly? **(5 Marks)**
2. Lucy, a 25-year-old woman, has been feeling very tired and cold lately. She also notices her skin is dry, and she has gained weight without eating much. The doctor says she might have an issue with her thyroid gland.
 - a) What is the role of the thyroid gland in the body? **(5 Marks)**
 - b) Name one hormone produced by the thyroid gland and its function. **(5 Marks)**
 - c) Why is it important for the body to have the right amount of thyroid hormones? **(10 Marks)**
3. Tom lifted a heavy box at work and felt a sharp pain in his back. The doctor explained that he strained a muscle and might have put extra pressure on the bones in his spine.
 - a) What is the main function of muscles in the body? **(10 Marks)**
 - b) What is the main function of bones in the body? **(5 Marks)**
 - c) Classify bones by morphology and give basic examples. **(5 Marks)**
4. John, a 16-year-old boy, is learning about puberty in class. He notices changes in his body, such as a deeper voice and the growth of facial hair.
 - a) What is the role of the testes in the male reproductive system? **(5 Marks)**
 - b) Draw the internal structures of the female reproductive system. **(15 Marks)**
5. A 50-year-old woman has been on a restrictive diet lacking essential vitamins and minerals. Over time, she has experienced cognitive decline, mood changes, and fatigue. Her doctor suspects that the nutrient deficiency has affected her central nervous system.

- a) Describe the comprehensively the anatomical classification of the four major components of the brain and their sub-components. **(10 Marks)**
- b) Discuss comprehensively 10 primary functions of the hypothalamus. **(10 Marks)**
- 6. Jane hears a ringing sound in her ears after listening to loud music. The doctor says her ears might be affected by the loud noise
 - a) How many parts does the ear have? **(6 Marks)**
 - b) What does the ear do to help us hear sounds? **(4 Marks)**
 - c) How can we protect our ears from loud sounds? **(10 Marks)**
- 7. Peter is a football player. During practice, he felt a sudden pain in his leg and couldn't continue playing. The doctor said he pulled a muscle and may have a small injury to his shin bone.
 - a) In the bone what are the functions of the osteoblasts and osteocytes? **(5 Marks)**
 - b) Mention 5 bones in the body and list any 5 muscles of the body. **(5 Marks)**
 - c) How do muscles and bones work together to help us move? **(10 Marks)**