

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF MEDICINE

BACHELOR OF MEDICINE AND BACHELOR OF SURGERY DEGREE
PART 1 FINAL EXAMINATIONS

MBM 1101 : ANATOMY PAPER 1 (100 MARKS)

DATE : JANUARY 2013

TIME : 2 HOURS

Instructions to Candidates

- i Answer all questions.**
 - ii Answers should be written on the provided answer sheet(s)**
 - iii Try to spend proportional times in each section.**
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SECTION A (40 MARKS)

1. Describe the embryological development of the upper limb from the 'bud' stage to 'full formation'. (20)
 2. Briefly, describe the course and distribution of the femoral artery in the thigh. (20)
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SECTION B (60 MARKS)

1. Briefly describe the roots, course and innervations of the axillary nerve. (5)
2. Complete the following statement:
The hip (innominate) bone is formed by union of the _____, (2)
ischium, and _____.

3. Figure 1: Arrangement of Lower Limb bones in bipeds and quadrupeds.

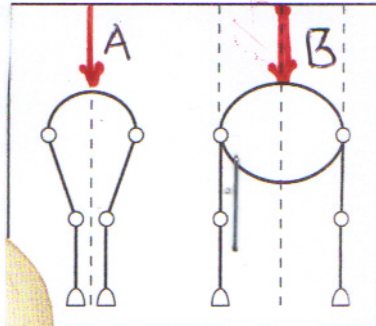


Figure 1

- Of the two diagrams, which one depicts the correct arrangement of lower limb bones in the bipedal human? (1)
 - Using the correct diagram as a guide, briefly describe how weight is transferred from the trunk to the foot. (5)
 - Describe the Q-angle and its normal variability between males and females. (2)
4. Figure 2 shows a series of specimens, **a-c** from the pancreas stained with hematoxylin, eosin, and then stained with both dyes at the same time.

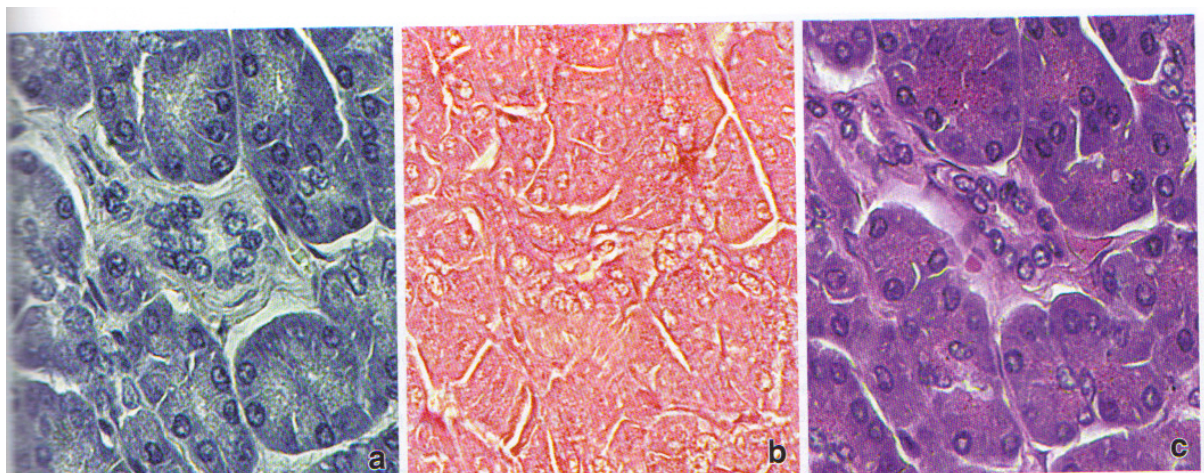


Figure 2

- List the dye used in each of **a**, **b**, and **c** (1.5)

- b. List structural components of histologic sections that are not adequately revealed by hematoxylin & eosin (H&E) staining . How can these be revealed? (3.5)
5. Name the eight (8) parts of the gait cycle that you are familiar with. (4)
6. a. List the rotator cuff muscles. (3)
- b. What is their collective action? (1)
7. Figure 3 shows a diagram of a typical light microscope.

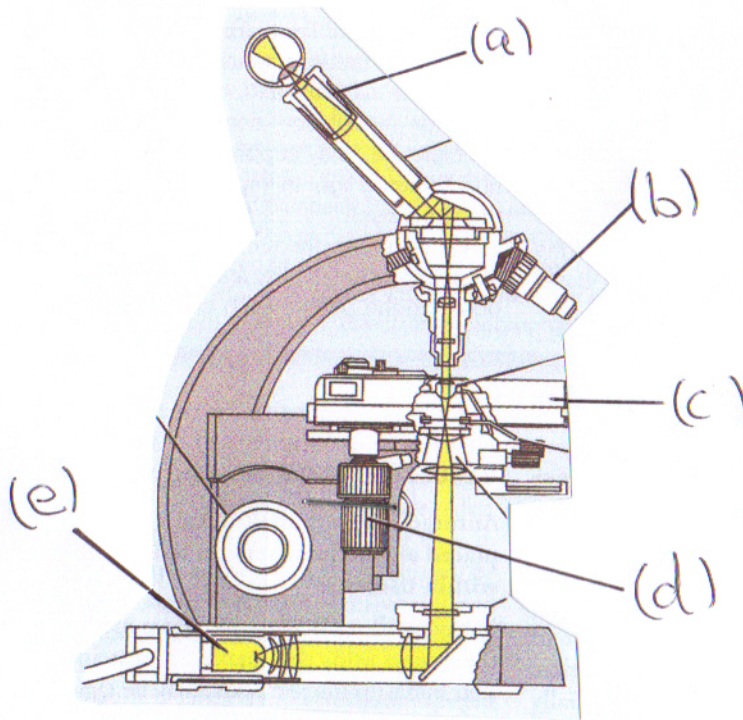


Figure 3

- a. Name one other type of microscope used in studying Histology. (1)
- b. List the parts (a-e). (in your answer sheet). (5)

8. Figure 4 below shows one of the major joints of the lower limb.

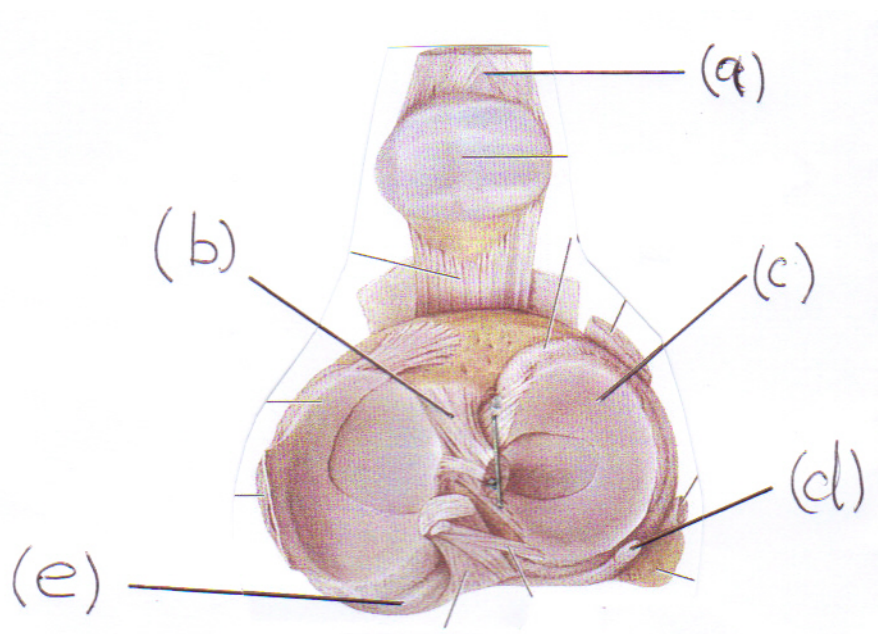


Figure 4

- a. What type of joint is this joint? (1)
 - b. In what position is it most stable? (1)
 - c. Label the parts **a - e**. (in your answer sheets). (5)
 - d. What muscles extend this joint. (2)
 - e. What functional role is the structure labelled **d** important in? (1)
 - f. What do you understand by the term 'unhappy triad' in relation to injuries to this joint? (3)
9. Briefly in note form, compare and contrast structure, adaptation and function of the upper and lower limbs. (8)
10. In Embryology, what is meant by "competence to respond" as part of tissue induction?. (4)
11. Briefly, describe how artifacts can be generated in preparing histologic slides. (6)

END OF EXAMINATION

