

**UNIVERSITY COLLEGE LONDON**

University of London

**EXAMINATION FOR INTERNAL STUDENTS**

For The Following Qualification:-

*B.Sc.*

**Health Sciences HSC25: Basis of Medicine (1)**

**COURSE CODE : HESC0025**

**UNIT VALUE : 1.00**

**DATE : 14-MAY-04**

**TIME : 10.00**

**TIME ALLOWED : 3 Hours**

# Health Sciences HSC25: Basis of Medicine (I)

## NOTES TO CANDIDATES

- MARKS ALLOCATED TO **SECTION A** WILL BE 150/300
- MARKS ALLOCATED TO **SECTION B** WILL BE 150/300

## SECTION A

Write short notes on **SIX** of the following topics:

(Spend about 15 minutes on each answer)

- 1** What are the features of a granuloma? Describe what would lead you to decide that a granuloma is due to tuberculosis.
- 2** What is an embolus? What different kinds of embolus have been described?
- 3** What are the features of an inflammatory exudates? List the different kinds of exudate that have been described in inflammatory responses.
- 4** What is neoplasia? What are the differences between benign and malignant tumours?
- 5** The common causes of peripheral neuropathy.
- 6** Different types of anaemia.
- 7** Medical negligence.
- 8** Allergic (type I) mediated immune injury (hypersensitivity).
- 9** Coagulation disorders.
- 10** Investigation of fungal infections of the foot.
- 11** Ways in which pathogens escape immunity.
- 12** Epidemiological methods of assessing the effects of treatment.
- 13** Differential diagnosis of septic arthritis and gout.
- 14** Classification of different forms of muscle pathology.

**TURN OVER**

## SECTION B

Answer **THREE** of the following seven questions:

(Spend about 30 minutes on each answer)

- 1** A 2 year old child is admitted to hospital with a high fever and severe pain in his left leg. The diagnosis of acute osteomyelitis is suggested.
  - a. Briefly outline the features of the inflammatory process as seen in this patient.
  - b. How do phagocytic cells deal with bacteria in an inflammatory site?
  - c. What are the features that would imply that the inflammation has become chronic?
  
- 2** A 65 year old woman presents with an ulcer on her left foot. She gives a history of weight gain, severe thirst, and of passing increased amounts of urine over the past six months.
  - a. What is your provisional diagnosis that would lead to these symptoms?  
How would you confirm the diagnosis?
  - b. Why should this diagnosis be associated with a foot ulcer?
  - c. What are the other potential complications of her condition?
  
- 3** A 65 year old male patient presents with pain in his left leg following exercise, and is found to have absent peripheral pulses in his left foot, and severe atheroma in his left common iliac artery.
  - a. Outline the pathological sequence of events which lead to the formation of "atheroma".
  - b. What are the risk factors which pre-dispose to this condition?
  - c. What are the possible complications of atheroma at this site?
  
- 4** A 35 year old woman presents with painful swollen joints in both hands.
  - a. What imaging and laboratory tests would you suggest should be done to investigate the cause of her arthropathy?
  - b. What are the pathological features that you would expect to find in her synovium if the diagnosis is rheumatoid arthritis
  - c. Why is this condition often called an "auto-immune" condition? What other diseases are also called "auto-immune"?
  - d. How would you distinguish between rheumatoid arthritis and systemic lupus erythematosus (SLE)?

**CONTINUE**

- 5 A 98 year old woman presents at the accident and emergency department after a fall. Radiological investigation confirms the diagnosis of a fracture of the neck of her left femur.
- Describe the different stages of the healing of such a fracture.
  - What is meant by the term pathological fracture? Why might this be the type of fracture that has occurred in this patient?
  - Is this patient at risk for osteoporosis? How would you investigate her for this?
  - During investigation the patient is diagnosed as having osteoarthritis of her right hip joint. What are the pathological features that would support this diagnosis?
- 6 A 25 year old man is admitted to hospital with pneumonia, and is asked to undergo "testing for HIV-1".
- How would you describe the possible modes of spread of HIV 1 infection to him?
  - What is the effect of HIV 1 infection on the immune system? How would this help to account for his pneumonia?
  - If he is found to have antibodies against HIV-1 in his blood, what are the complications that you would warn him about?
  - During the course of your investigations you stick the needle that is being used to take blood from him into your finger. What are the immediate and long term steps that you would take?
- 7 A 35 year old woman attends the ante-natal clinic in the 33<sup>rd</sup> week of pregnancy and complains of pain and swelling of her left foot.
- What differential diagnosis would you consider for someone with this presentation?
  - What investigations would you suggest?
  - What important complication(s) of this condition would you be concerned about, and what treatment(s) would you consider initiating as a preventative measure?

**END OF PAPER**