

INSTRUCTIONS

1. Write Your Computer Number (Not Your Name) Clearly On Each Answer Sheet
2. Answer all questions
3. Each answer must be in its own booklet
3. You are expected to write in **VERY CLEAR LEGIBLE HANDWRITING**
4. Time Allowed: 2 Hour

**Q1 [20 marks]**

Despite modern therapeutic breakthroughs, the incidence of sepsis is still rising, becoming the most common cause of mortality in ICU.

- a. What is the appropriate definition of sepsis? [10 marks]
- b. List three (3) factors attributed to the rise in incidence of sepsis [6 marks]
- c. What is the effect of sepsis on:
  - i. Lungs [1 mark]
  - ii. Heart [1 mark]
  - iii. Endocrine and general metabolism [2 marks]

**Q2 Whooping cough** is one of the fatal respiratory tract infections causing increased mortality, especially in infants. [10 marks]

- a. What is the causative agent of whooping cough? [2marks]
- b. List any three (3) virulent factors of the organism causing whooping cough [3 marks]
- c. Mention and clearly distinguish the three (3) stages of pertussis [3 marks]
- d. What is the most effective way of preventing pertussis [2 marks]

Q3 For ENDOCARDITIS:

3.1 List three (3) Predominant Microbes

[3 marks]

3.2 List two (2) way that characterize encounter with microorganisms

[4 marks]

3.3. For successful establishment of endocarditis disease, a complex interaction of factors is necessary, List three (3) of these factors:

[3 marks]

Q4. For CNS INFECTIONS

4.1 List three (3) routes by which microorganisms gain entry into the host to cause infections of the CNS [3]

4.2 Meningitis as a CNS infection may result in tissue dysfunction in a variety of ways: list four (4) such ways [4]

4.3 List three (3) functional characteristics of the CNS infections that are useful in diagnosing specific kinds of infection and identify areas involved [3]

5. A 45-year-old man presents to the emergency room after stepping on a nail resulting in a puncture wound on his right foot. He was given a tetanus booster and he left against medical advice refusing antibiotics. Four days later, he returned to the emergency room for increasing pain in his right foot. Physical exam reveals black discoloration of the right sole with multiple ruptured bullae oozing serous drainage. On palpation, there is soft tissue crepitus. A wound culture is sent, which shows gram-positive bacilli. [20 Marks]

- What disease is the patient likely having? [2 Mark]
- What organism could be causing it? [2 Mark]
- What toxins are involved in this disease process? [2 Marks]
- What are the other species of this organism? [3 Marks]
- What diseases do these species cause? [3 Marks]
- Mention one toxin produced by each organism above [3 Marks]
- For each of the diseases mentioned above, give one method of prevention [4 Marks]

6. A 32-year-old man presents with a 4-day history of painless penile lesions. He has had 2 sexual partners in the last 6 months. Physical examination reveals 3 non-tender ulcers on the lateral aspect of the penile shaft and firm lymphadenopathy in the right inguinal region that is nontender. Oral examination and skin inspection are normal. He has no neurologic symptoms

1. What is the patient likely suffering from? [1 Marks]
2. What is the causative agent of this disease? [1 Mark]
3. Mention 3 ways by which it can be transmitted [3 Marks]
3. At what stage of the disease is the patient? [1 Marks]
4. Mention any two other stages with two symptoms for each [4 Marks]

7. Answer the following questions regarding Pyrexia of Unknown Origin (PUO):

Define the term Pyrexia of Unknown Origin [2 marks]

List and briefly describe the four types of pyrexia of unknown origin [8 marks]

8. Answer the following questions regarding foodborne diseases/illnesses:

Define the term Foodborne diseases/illnesses [2 marks]

Briefly describe the three types/classes of foodborne diseases/illnesses, giving a relevant example on each type/class [8 marks]