

**UNIVERSITY OF ESWATINI  
FACULTY OF HEALTH SCIENCES  
DEPARTMENT OF GENERAL NURSING**

**SPECIAL EXAMINATION, JULY 2021**

**COURSE TITLE:           PATHOPHYSIOLOGY**

**COURSE CODE:           GNS 603**

**TIME ALLOCATED:       THREE (3) HOURS**

**MARKS ALLOCATED:    100**

**INSTRUCTION:**

- 1. THERE ARE FIVE (5) QUESTIONS, EACH WORTH 20 MARKS**
- 2. ANSWER ALL QUESTIONS**
- 3. ANSWER ALL QUESTIONS IN THE SEPARATE ANSWER-BOOKLET PROVIDED**
- 4. THERE ARE TWO (2) PRINTED PAGES EXCLUDING THE COVER PAGE**

***DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE TOLD TO DO SO BY THE INVIGILATOR***

## QUESTION 1

- 1.1. Discuss the pathophysiology of vitiligo [9]
- 1.2. How does vitiligo compare with albinism in terms of pathophysiology and clinical manifestation? [7]
- 1.3. Explain, using the gate control theory, how massage alleviates pain [4]

[Sub-total 20 Marks]

## QUESTION 2

- 2.1. Two adult clients of the same age, Jane, a female, and Peter, a male, were diagnosed with heart failure. Clinically Jane had difficulties in breathing without any notable swelling, while Peter had peripheral oedema but breathing well. Each had other additional manifestations, though. Discuss pathophysiologically the difference between these two clients clinically, despite having the same medical diagnosis. [8]
- 2.2. As people get old, visual changes occur that eventually warrant the use of glasses. Describe and explain the pathophysiological changes that occur with increasing age. [6]
- 2.3. Discuss the mechanism of conduction hearing loss [6]

[Sub-total 20 Marks]

## QUESTION 3

- 3.1 Explain the pathophysiologic basis of acute disseminated intravascular coagulation (DIC) [5]
- 3.2 Compare the characteristics of red blood cells in acute blood loss, aplastic anaemia, and iron deficiency anaemia. [6]
- 3.3 After suffering extensive 3<sup>rd</sup> degree burns, Simo has received epidermis graft from her younger sister as the donor. After 14 days the graft is showing signs of necrosis. Describe graft rejection by indirect recognition of alloantigen [4]
- 3.4 Discuss the pathogenesis of allergic rhinitis [5]

[Sub-total 20 Marks]

#### QUESTION 4

- 4.1 Describe the progression of chronic myelogenous leukemia through its three (3) stages. [9]
- 4.2 Explain the value of serum creatinine and blood urea nitrogen levels in evaluating renal function [6]
- 4.3 Explain the pathogenesis of kidney damage in acute and chronic pyelonephritis [5]

**[Sub-total 20 Marks]**

#### QUESTION 5

- 5.1 Nathi presents to the clinical area with acute onset of diffuse swelling and redness of the arm after an occupational injury. Discuss the vascular events of acute inflammation that have taken place in Nathi's arm. [6]
- 5.2 Nana is a 42 year old patient who has an infected wound on the left lower extremity secondary to diabetes mellitus. She presents with a fever of 38.5° Celsius, RR: 26 breaths/min and tachycardia. She is diagnosed with septic shock.
- (a) Discuss the presence of the systemic signs and symptoms in Nana. [5]
- (b) The C-reactive protein (CRP) for Nana was 15mg/L (normal <10mg/L). State the function of CRP in the presence of pathogens. [2]
- 5.3 One of the main clinical manifestations of pulmonary TB are pulmonary lesions which can be seen on a chest x-ray. Describe the series of events which lead to the development of these lesions. [7]

**[Sub-total 20 Marks]**