



*(University of Choice)*

**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**SCHOOL OF NURSING MIDWIFERY AND PARAMEDICAL SCIENCES**

**UNIVERSITY EXAMINATIONS  
2021/2022 ACADEMIC YEAR**

**FIRST YEAR THIRD TRIMESTER FOR THE DEGREE OF MASTER OF  
SCIENCE IN ADVANCED NURSING PRACTICE- CRITICAL CARE  
MAIN EXAMINATION**

**COURSE CODE: *NCC 8133*:**

**COURSE TITLE: *CARDIO -VASCULAR CRITICAL CARE NURSING: THEORY  
& PRACTICUM***

**DATE: 26<sup>TH</sup> JULY 2022**

**Time:11:30-2:30 PM**

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**INSTRUCTIONS TO CANDIDATES**

All questions are compulsory

**DURATION: 3 Hours**

MMUST observes ZERO tolerance to examination cheating

This paper consists of 5 (Five) printed pages. Please turn over

1. Mr. Yablonski is awaiting a bed on the ward and is no longer on the bedside monitor. The nurse enters his room to assess him, and finds him cyanotic, apneic and pulseless. ECG leads are connected and reveal ventricular fibrillation.

- a) With the aid of a diagram describe a normal ECG in relation to the conducting system of the heart?
- b) Describe the typical ECG characteristic of myocardial infarction?

Mr. Yokobi is admitted with cardiogenic shock and oliguric acute kidney injury. Hemodynamics reveal the following: BP 105/60 (~70) Sinus rhythm (108) CI 1.8 (CO 2.4) CVP 23 PWP 25 SVRI 2088 (SVR 1566). ECHO studies showed a reduced ejection fraction (EF<45%).

- a) Discuss the pathophysiology of cor-pulmonale (right heart failure)?
- b) Using the nursing process state **three** nursing diagnoses and the rationale for your planned interventions?(10mks)

3. A 58-year-old woman is admitted with community acquired pneumonia. She has a past medical history of diabetes and asthma and is previously independent. She is hypotensive with a blood pressure of 90/40mmHg and tachycardic with a heart rate of 135 beats per minute in the resuscitation room of the emergency department.

- a) Discuss the immediate resuscitative measures you undertake to stabilize the patient(5mks)
- b) describe the inotropic and chronotropic effects of drugs used in the management of cardiac emergencies?(2mks)

4. The pericardium is dissected during cardiac surgery; pericarditis is a common post-op phenomenon. ST elevation across all leads (especially in leads I, II, III, aVF, aVL and V5-V6) is suggestive of pericarditis.

- a) Discuss the Management and Prevention of Postoperative Cardiopulmonary Complications after open heart surgery? (20marks)

5. Mr. Smith just had an AVR/CABG and has arrived in the ICU. During his first hour post-op, his chest tubes drained 360ml, his urine output is 60ml, and his heart rate rose to 106, his BP drifted to 92/60 and his arterial blood gas revealed a base excess of -4.5.

- a) What would be your appropriate initial actions?

- b) During the second hour post-op, Mr. Smith's labs reveal hemoglobin of 8.1, an INR of 1.6, and a platelet count of 81K. His serum bicarbonate was 18.1 before you gave him sodium bicarbonate. The chest tubes have drained another 360ml. Appropriate further action includes?
- c) During this third hour post-op, Mr. Smith's bleeding seems to be slowing down (about 100ml over 30 minutes) but then he awoke abruptly, thrashing about in bed and causing both ventilator and heart rate alarms to go off. He looks a little blue and the PA tracing has become dampened. You are not sure of the cardiac output and are afraid that he is going to dislodge something or start bleeding again if he does not settle down. The phone is ringing and you suspect Dr. Stahl is calling for report. The best course of action is?