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(*University of Choice*)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2022/2023 ACADEMIC YEAR

2ND YEAR TRIMESTER 1 EXAMINATIONS

FOR THE DEGREE OF

BACHELOR OF SCIENCE IN NURSING

COURSE CODE: NCT 8134

COURSE TITLE: AIRWAY AND VENTILATION MANAGEMENT

DATE: 26TH JULY 2022 TIME: 11.30-2.30 P.M

INSTRUCTIONS TO CANDIDATES

ANSWER ALL QUESTIONS

TIME: 3 HOURS

MMUST observes ZERO tolerance to examination cheating

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ESSAY QUESTIONS

1. Discuss 5 most common complications associated with endotracheal tube extubation and their specific management (20 marks).
2. Mr. Tim presents to the hospital with a two-day history of fever and cough productive of brown sputum. He was hemodynamically stable at the time of admission with a blood pressure of 135/85. His chest x-ray showed a right middle lobe infiltrate and his room air arterial blood gas analysis showed: pH 7.32, PCO2 32, PO2 78, HCO3- 18. He was started on antibiotics. Three hours later, his blood pressure is 85/60, his pulse is 120 beats/minute and his oxygen saturation, which had been 97% on 2L oxygen by nasal cannula, is now 78% on a nonrebreather mask. On lung exam, he has crackles throughout the bilateral lung fields. Chest x-ray shows increasing bilateral, diffuse lung opacities.

A. Describe the immediate emergency management of Mr. Tim (12 marks)
B. The use of volume-targeted Assist Control (AC) mode of mechanical ventilation is suggested. How does this work? (6marks)
C. How does Volume targeted Assist Control (AC) differ from Synchronized Intermittent Mandatory Ventilation (SIMV) and Pressure Control (PC)? (6 marks)
D. Which mode is better for Mr.Tim? (1 mark)

3. Discuss the four preferred procedures for establishing a patent tracheal airway in an emergency situation (20 marks).
4. a. A 57-year-old male patient is being ventilated with a bag-valve resuscitator through an LMA. While providing manual breaths, you notice a significant air leak. Explain the sequential steps you will take to eliminate the leak (10 marks).
   b. Explain four primary indications for the insertion of a tracheostomy (10 marks).
5. Discuss the significance of lung volumes and lung capacities (20 marks)