

**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

**[DM 0822]**

**AUGUST 2022**

**Sub. Code :1487**

**D.M. – CRITICAL CARE MEDICINE  
Paper II – GENERAL CRITICAL CARE  
Q.P. Code: 161487**

**Time: Three Hours**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 15 = 30)**

1. A 26-year-old female is admitted to the ICU post operatively with faecal peritonitis because of multiple bowel perforations secondary to Crohn's disease. She has had most of her small bowel resected and is to be prescribed total parenteral nutrition (TPN).
  - a. Describe the available methods to estimate total energy expenditure in critically ill patients and outline their advantages and limitations.
  - b. The basal energy expenditure of this patient is determined to be 2000 kcal /day and she weighs 50 kg. Briefly outline how you would decide her Total parenteral nutrition (TPN) order.
2. With respect to trans-pulmonary pressure (TPP)
  - a. Explain what is meant by the phrase "trans-pulmonary pressure (TPP)".
  - b. Describe the technique of measurement, including any limitations
  - c. Discuss the rationale for its clinical use
  - d. Briefly outline the evidence for its role in the management of patients with acute respiratory distress syndrome (ARDS).

**II. Write notes on:**

**(10x7=70)**

1. Outline the key issues in the post-operative management of a morbidly obese (BMI 59) patient with type 2 diabetes following sleeve gastrectomy.
2. You are asked to admit a 46-year-old male who has just been intubated in the Emergency Department (ED) after collapsing from a brain stem stroke, two hours earlier. His Glasgow Coma Scale (GCS) prior to intubation was 6. Outline your management strategy for him for the first 24 hours.
3. Biofilm, quorum sensing and their contribution to hospital acquired infections.
4. What issues would you consider in providing renal replacement therapy to a 22-year-old patient with a traumatic brain injury and raised intracranial pressure? How would you manage these issues?

5. Regarding severe post-partum haemorrhage (PPH), list the causes and outline the management of such a patient in the ICU.
6. In a patient with acute pancreatitis admitted to the ICU, briefly discuss the following issues:
  - a. Optimal timing and method of delivery of nutrition
  - b. Role of antimicrobials
  - c. Role of endoscopic retrograde cholangiopancreatography
7. List important clinical features of thyroid storm. Outline the principles of management of myxoedema coma.
8. Brain death: criteria, recommendations for declaration and importance for organ transplant.
9. Compare and contrast SLED and CRRT.
10. A 76-year-old male returns to the ICU following a right sided thoracotomy and right upper lobectomy. He is extubated but has a large air leak from the intercostal catheter.
  - a. Describe your assessment and specific management of the air leak.
  - b. The patient desaturates and requires re-intubation. Describe your management of his ventilation.

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