

D.M. – CRITICAL CARE MEDICINE

**Paper I – APPLIED BASIC MEDICAL SCIENCES ETHICS,
COMMUNICATION / COUNSELLING**

Q.P.Code: 161481

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Describe the implications of the physiological changes in pregnancy for the intensive care physician. How would you manage cardiac arrest in a 30 weeks pregnant mother?
2. How would you go about designing a phase three clinical trial of a drug in the intensive care unit?

II. Write notes on:

(10 x 7 = 70)

1. What is the role of surrogates in the ICU?
2. What is the mechanism of oxygenation in a high frequency oscillator ventilator?
3. Give an overview on Starling's equation. Discuss briefly about role of glycocalyx in a critically ill patient.
4. What is oxygenation index and ventilation index? Discuss alveolar gas equation? What is the best way to quantify oxygenation in a critically ill patient?
5. What is "Conflict resolution"? How would you implement this in your clinical practice as an Intensivist?
6. What are the cardiopulmonary effects of Continuous positive airway pressure? How would you use this technique for the benefit of the patient with cardiogenic shock?
7. What do you mean by dead space in respiratory physiology? What factors in mechanical ventilation increases dead space? How would you calculate dead space?
8. Enumerate the approach of management of the airway of a 5 years old child who needs mechanical ventilation for hypoxemic respiratory failure. What is the difference in the airway between an adult and a 5 years old child?
9. Discuss the aetiology, diagnosis and management of clinically important Dyshaemoglobinemias.
10. Write a brief notes on the methods of cycling available in mechanical ventilators? What is SIMV period and spontaneous period?
