

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

[AHS 0321]

**MARCH 2021**

**Sub. Code: 1711**

**(OCTOBER 2020 EXAM SESSION)**

**M.Sc. CRITICAL CARE TECHNOLOGY  
SECOND YEAR (From 2017-2018 onwards)  
PAPER I – GENERAL CRITICAL CARE  
Q.P. Code : 281711**

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate notes on:**

**(2 x 20 = 40)**

1. a) What is Non Invasive Ventilation (NIV) and mention its types?  
b) What are the goals, Indications and contraindications of NIV  
c) Mention the benefits of NIV over Invasive Mechanical Ventilation  
d) Explain the CPAP and BIPAP settings in NIV  
e) What are the complications of NIV?
2. a) Define Renal Replacement Therapy (RRT).  
b) What are the Types of RRT.  
c) What is Hemodialysis and mention its Indication.  
d) Explain the principles and procedure of Hemodialysis.  
e) What are the complications of Hemodialysis.

**II. Write Short Notes on:**

**(10x6 = 60)**

1. Significance of Basic Echocardiography in ICU.
2. What is PICCO. Explain the principles of PICCO. What are its indication and contraindications?
3. High Flow Nasal Oxygen Therapy (HFNO).
4. Adult Cardiac Arrest Algorithm. What are the Reversible Cause of Cardiac Arrest?
5. Write in detail about the care and maintenance of an Ultrasound Machine.
6. Define Capnography. Draw an Normal Capnogram and explain the waves. Add a note on Capnogram waves in Abnormal.
7. What is a Normal Intracranial Pressure (ICP)? Explain Significance, Indication, Contraindications and Complications of ICP. What are the ICP Waveforms.
8. What is ECMO. What are the types of ECMO? Indications and contraindications of ECMO.
9. What are the alarm settings in the ventilator? Explain the significance of Different types of alarms.
10. a) Define Bronchoscopy  
b) Indication and Contraindications of Bronchoscopy  
c) Procedure of Bronchoscopy  
d) Complications of Bronchoscopy

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