

[LP 1019]

OCTOBER 2019

Sub. Code: 1711

**M.Sc. CRITICAL CARE TECHNOLOGY EXAMS
SECOND YEAR
PAPER I – GENERAL CRITICAL CARE**

Q.P. Code: 281711

Time: Three hours

Maximum: 100 Marks

I. Elaborate on: **(2 x 20 = 40)**

1. What are the methods and significance of measuring the following Lung Volume and flow in ICU?
 - a) Tidal Volume
 - b) Vital Capacity
 - c) Increased Peak Pressure
 - d) Positive End Expiration Pressure (PEEP)
2. Define Pressure Sore. Mention a common Pressure Ulcer Sites. Enumerate the classification of Pressure Ulcer Sites in detail.

II. Write notes on: **(10 x 6 = 60)**

1. Care and Maintenance of ECG Machine. What are the causes of abnormal ECG Tracing?
2. What is Extubation? What are the indications and precautions for extubation? Explain the Procedure and Post Procedure of an Extubation.
3. End Tidal CO₂ Monitoring-principles, advantages and Pitfalls in monitoring.
4. What is the difference between Defibrillation and Cardioversion? Draw the sequence for Adult Basic Life Support.
5. Classify ventilator alarm settings? Mention the conditions where you get on High Peak alarm and Low Peak alarm.
6. Define Pericardiocentesis. What are the indications and contraindications?
7. What is weaning failure? Enumerate the causes of weaning failure. What are the causes signs of weaning failure?
8. Airway Pressure Release Ventilation.
9. What is IABP? What is the indication of IABP? Describe the pathophysiology of IABP.
10. What are the indications in Echocardiogram in ICU? What are the important four views? Draw the figure of four views of Echocardiography seen in ICU. What is the significance of Measuring IVC in ICU?

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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[AHS 0122]

**JANUARY 2022
(OCTOBER 2021 EXAM SESSION)**

Sub. Code: 1711

**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 the definition of Positioning of the Patients?
b) Explain the Purpose, Principle and types of Positioning.
c) What are the effects of positioning of the patient?
d) What are the different Types of Positioning?
2. a) Define Airway Suctioning.
b) Explain about the Closed Airway Suctioning.
c) What are the indications of Closed Airway Suctioning and explain its the Procedure.
d) What are the complications and how will you minimize the complication of Closed Airway Suctioning?

II. Write Short Notes on:

(10x6 = 60)

1. What are the four views in Echocardiography seen in ICU? Review in detail the significance of Parasternal long Axis and short axis view.
2. When Pulmonary Artery Catheter is used? What are the indications and contraindications of pulmonary Artery Catheterization (PAC)?
3. a) Define Cardioversion. b) Indications of Cardioversion
c) Types of Cardioversion d) Complication of Cardioversion
e) Difference between Cardioversion & Defibrillation
4. Glasgow Coma Scale.
5. Pulse Oximeter – Principles, Advantages and pitfalls in monitoring.
6. Explain the basic troubleshooting method in ECG Machine.
7. Importance of Monitoring Sedation and Analgesia in ICU.
8. What is IABP. What are the indications of IABP? Describe the pathophysiology of the IABP.
9. What is Weaning Failure. What are the causes of Weaning Failure? Signs of Weaning Failure. What is Terminal Weaning.
10. a) Define Pericardiocentesis
b) Indications and Contraindications of Pericardiocentesis
c) Procedure of Pericardiocentesis
d) Complications of Pericardiocentesis

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[AHS 1022]

OCTOBER 2022

Sub. Code: 1711

**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. Non Invasive Ventilation
 - a) What is non-invasive ventilation and mention its types?
 - b) What are the goals, indication and contraindication of NIV?
 - c) Mention the benefit of NIV over invasive mechanical ventilation.
 - d) Explain the CPAP and BIPAP setting in NIV.
2. What is Cardiac arrest? What is the role of early defibrillation? What are the rhythm respond to defibrillation?

II. Elaborate notes on: (10 x 6 = 60)

1. Define Abdominal compartment syndrome. What are the indication of intra-abdominal pressure monitoring?
2. Management of tension Pneumothorax.
3. Rule of nine in burns.
4. Write a note on Tracheal Intubation.
5. Write a note on Plasmapheresis.
6. Nutritional support in ICU patient.
7. Significance of Echocardiography in ICU.
8. Define Pericardiocentesis.
 - a. Indication and Contraindication of Pericardiocentesis
 - b. Procedure of Pericardiocentesis.
 - c. Complication of Pericardiocentesis.
9. Pulse Oximetry-Principles, advantages and pitfalls in monitoring.
10. What are the alarm setting in ventilator? Explain the significance of difference type of alarm.

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[AHS 1023]

OCTOBER 2023

Sub. Code: 1711

**M.Sc. CRITICAL CARE TECHNOLOGY
SECOND YEAR (From 2020-2021 onwards)
PAPER I - GENERAL CRITICAL CARE**

Q.P. Code: 281711

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Burns assessment,
 - a) Physical assessment and classification of burns.
 - b) Etiology and pathophysiology of burns.
 - c) Clinical manifestations, Rule of nine in burns.
 - d) Diagnosis and treatment modalities of burns.
2. Monitoring gas exchange,
 - a) Pulse oximetry.
 - b) Oxygen consumption.
 - c) Oxygen delivery.
 - a) Capnography.

II. Write Short notes on:

(10 x 6 = 60)

1. High Flow Nasal Oxygen Therapy (HFNO).
2. Define Pressure Sore. Mention a common Pressure Ulcer Sites. Enumerate the classification of Pressure Ulcer Sites in detail.
3. Define nebulization. Write in detail about types, advantages and disadvantages of inhaled drug therapy.
4. Non- invasive ventilation.
5. Importance of Monitoring Sedation and Analgesia in ICU.
6. Importance of securing ET tube and cuff pressure measurement.
7. Monitoring of ventilator graphics.
8. Explain the basic troubleshooting method in Defibrillator.
9. Significance of Echocardiography in critically ill.
10. Describe Manual in line stabilization?
