

Question Paper

Exam Date & Time: 17-Mar-2021 (02:30 PM - 04:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. RESPIRATORY THERAPY DEGREE EXAMINATION - MARCH 2021
SUBJECT: BRES 307 - CRITICAL CARE MONITORING AND MANAGEMENT
(2016 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Define cardiogenic shock. Explain the pathophysiology and management of cardiogenic shock. (10)
(3+3+4 = 10 marks)
- 2) What are the general principles of dialysis? Write a short note the mechanism of peritoneal and hemodialysis. (10)
(3+3+4 = 10 marks)
- 3A) Explain adult suspected stroke algorithm. (5)
- 3B) List the indications and the functions of pacemaker? (5)
- 3C) Briefly describe the management strategies for chronic renal failure. (5)
- 3D) Explain the technique of arterial line insertion. (5)
- 4A) Mention two indications and two complications of Intercostal drainage tube placement. (2)
- 4B) Write the two indications of intracranial pressure monitoring and normal value for the same. (2)
- 4C) List four indications for coronary artery bypass graft. (2)
- 4D) How to calculate stroke volume and cardiac index with normal value and unit. (2)
- 4E) Define Systemic Inflammatory Response Syndrome (SIRS). (2)

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Question Paper

Exam Date & Time: 19-Mar-2021 (02:30 PM - 04:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. RESPIRATORY THERAPY DEGREE EXAMINATION - MARCH 2021
SUBJECT: BRES 301 - MECHANICAL VENTILATION I
(2016 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) A 70-year-old male patient with an acute on chronic respiratory failure came to the emergency room with severe breathlessness. The patient was sitting up in a tripod position and was using pursed lip breathing. The decision was made to mechanically ventilate this patient. What mode, interface and settings would be appropriate to initiate mechanical ventilation for this patient? Add a note on the relevance of humidification in these patients and also mention the appropriate humidification system you would choose for this patient. (10)
(6+4 = 10 marks)
- 2) What are the initial ventilator settings for a patient with ARDS following intubation? Explain the process of optimum PEEP selection in patients with ARDS with the help of a Pressure-Volume loop. (10)
(5+5 = 10 marks)
- 3A) Write a note on pressures measured during invasive mechanical ventilation. (5)
- 3B) With the help of a diagram, explain the physiology of gas exchange in negative pressure ventilation. (5)
- 3C) List the steps involved in placing an intubated position in prone position. (5)
- 3D) What is the principle governing the function of a capnometer? Mention the disadvantages of mainstream sampling? (5)
- 4A) What are the types of Heat Moisture Exchangers? (2)
- 4B) Mention two hazards of recruitment maneuvers. (2)
- 4C) What is the importance of calculating time constants in setting up the I:E ratio in ventilated patients? (2)
- 4D) What are the types of ventilators based on the input power source? (2)
- 4E) Mention some physiologic and technical concerns with use of pulse oximeters. (2)

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Question Paper

Exam Date & Time: 23-Mar-2021 (02:30 PM - 04:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. RESPIRATORY THERAPY DEGREE EXAMINATION - MARCH 2021
SUBJECT: BRES 305 - NEONATAL RESPIRATORY CARE
(2016 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) What are the two types of congenital diaphragmatic hernia. Write a note on the resuscitation room management of a CDH patient. (10)
(3+7 =10 marks)
- 2) Define Persistent pulmonary hypertension and list the different types of PPHN. Add a note on the inhaled nitric oxide therapy. (10)
(5+5 = 10 marks)
- 3A) Explain the pathophysiology of transient tachypnea of the newborn. (5)
- 3B) Write a note on the chest radiographic pattern of Respiratory distress syndrome based on the severity level. (5)
- 3C) Write a note on the initial ventilator settings for a neonate with meconium aspiration syndrome. (5)
- 3D) Write a note on the indication, contraindication and complication of continuous positive airway pressure (CPAP). (5)
- 4A) Enlist the acyanotic congenital heart disease (2)
- 4B) Enlist two exogenous surfactant used in NICU (2)
- 4C) What is neutral thermal environment (2)
- 4D) Define Apnea (2)
- 4E) Enlist the clinical signs of pneumothorax (2)

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