

Question Paper

Exam Date & Time: 05-Jan-2023 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER M.Sc. PERFUSION TECHNOLOGY DEGREE EXAMINATION - JANUARY 2023
SUBJECT: MPFT 701 - CLINICAL APPLICATIONS OF PERFUSION TECHNOLOGY
(2018 SCHEME)

Answer ALL questions.

Draw Diagrams wherever Appropriate.

Marks: 100

Duration: 180 mins.

Long Essay:

- 1) Explain in detail about adult and pediatric extra corporeal membrane oxygenation. (20)
- 2) Explain non cardiovascular application of cardiopulmonary bypass. (20)

3. Short Essay:

- 3A) Explain the monitoring and termination of cardiopulmonary bypass in detail. (10)
- 3B) Explain oxygenator failure in detail with its causes, prevention and management. (10)
- 3C) Explain the strategies involved in thoracic aortic aneurysm surgeries. (10)
- 3D) Explain in detail about port access cardiac surgery. (10)

4. Short Notes:

- 4A) Write note on high line pressure and less venous drainage during CPB. (5)
- 4B) Write note on protamine reaction and its management. (5)
- 4C) List out the checklists before going on bypass. (5)
- 4D) Write note on deep hypothermic circulatory arrest. (5)

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Question Paper

Exam Date & Time: 07-Jan-2023 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER M.Sc. PERFUSION TECHNOLOGY DEGREE EXAMINATION - JANUARY 2023
SUBJECT: MPFT 703- CARDIAC SURGERY WITHOUT CPB MECHANICAL CIRCULATORY SUPPORT AND ROBOTIC SURGERY
(2018 SCHEME)

Answer ALL questions.
Draw Diagrams wherever Appropriate

Marks: 50

Duration: 120 mins.

Answer all the questions.

Long Essay:

1) Explain in detail about extracorporeal and intracorporeal cardiac assist devices (20)

2) Short Essay:

2A) Explain in detail about robotic cardiac surgeries (10)

2B) List out and explain any two devices used as bridge to transplant (10)

3) Short Answers:

3A) Advantages and disadvantages of minimally invasive cardiac surgeries (5)

3B) Write note on minimally invasive direct coronary artery bypass grafting (5)

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Question Paper

Exam Date & Time: 09-Jan-2023 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER M.Sc. PERFUSION TECHNOLOGY DEGREE EXAMINATION - JANUARY 2023
SUBJECT: MPFT 705- HEMATOLOGY AS RELEVANT TO PERFUSION AND ORGAN TRANSPLANTATION
(2018 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

Draw Diagrams wherever Appropriate

Long Essay:

- 1) **Describe in detail about:** (20)
- a) Common criteria for selection of patient for transplant surgery.
 - b) Preoperative lab investigations and tests for donor and recipient
 - c) Apnea test
 - d) Rejection evaluation tests
 - e) Immunosuppression management

2) **Short Essay:**

- 2A) Explain blood conservation techniques in cardiac surgery (10)
- 2B) Describe anticoagulation on CPB (10)

3) **Short Answers:**

- 3A) STEEN solution, composition and uses (5)
- 3B) Role of perfusionist in liver transplant surgery (5)

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