

Question Paper

Exam Date & Time: 18-Apr-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER M.Sc. PERFUSION TECHNOLOGY DEGREE EXAMINATION - APRIL 2022
SUBJECT: MPFT 701 - CLINICAL APPLICATIONS OF PERFUSION TECHNOLOGY
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

Draw Diagrams wherever Appropriate.

Long Essay:

- 1) Enlist unusual problems during cardiopulmonary bypass. Explain in detail about any two unusual problems with its causes, prevention and management. (20)
- 2) Describe in detail about: (20)
 - i) CPB strategies for thoracic aortic surgery.
 - ii) CPB strategies for port access cardiac surgery.

3. Short Essay:

- 3A) Extra Corporeal Membrane Oxygenation. (10)
- 3B) Causes, prevention and management of protamine reaction. (10)
- 3C) Explain conduct and monitoring of cardiopulmonary bypass in detail. (10)
- 3D) Explain in detail about causes and management of: (10)
 - i) Low venous drainage.
 - ii) Low urine output.

4. Short Notes:

- 4A) Methemoglobinemia. (5)
- 4B) Checklists before weaning off bypass. (5)
- 4C) Conventional and modified ultrafiltration. (5)
- 4D) Non-cardiovascular applications of CPB. (5)

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Question Paper

Exam Date & Time: 20-Apr-2022 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER M.Sc. PERFUSION TECHNOLOGY DEGREE EXAMINATION - APRIL 2022
SUBJECT: MPFT 703 - CARDIAC SURGERY WITHOUT CPB MECHANICAL CIRCULATORY SUPPORT AND ROBOTIC SURGERY
(2018 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

Draw Diagrams wherever Appropriate

Long Essay:

- 1) Explain in detail about various types of mechanical circulatory assist devices. (20)

Answer all the questions.

Short Essay:

- 2) Explain in detail about MICS (10)
3) Explain about robotic cardiac surgery (10)

Answer all the questions.

Short Answers:

- 4A) Explain in detail about intracoronary shunts and its clinical uses (5)
4B) Off pump coronary artery bypass surgery (5)

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Question Paper

Exam Date & Time: 22-Apr-2022 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER M.Sc. PERFUSION TECHNOLOGY DEGREE EXAMINATION - APRIL 2022
SUBJECT: MPFT 705 - HEMATOLOGY AS RELEVANT TO PERFUSION AND ORGAN TRANSPLANTATION
(2018 SCHEME)

Answer ALL Questions.
Draw Diagrams wherever Appropriate.

Marks: 50

Duration: 120 mins.

Long Essay:

- 1) Describe in detail about: (20)
- i) Anticoagulation for CPB.
 - ii) Heparin neutralization.
 - iii) Hematologic effects of CPB.
 - iv) Management of coagulopathy associated with CPB.

Short Essay:

- 2) Describe about various blood conservation techniques in detail. (10)
- 3) Describe about homograft and synthetic grafts used in cardiac surgery. (10)

4. Short Answers:

- 4A) Cell salvage. (5)
- 4B) Role of Perfusionist in Renal and Liver transplant. (5)

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