



B.Sc. Allied Health Sciences Third Year (Semester-VI)

April 2023 Examination

B.Sc. Cardiac Perfusion Technology (CPT)

Time : 3 Hrs.

[Max. Marks : 100]

Cardiac Perfusion Technology Clinical

Q.P Code : J6841

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

Long Essay

10 Marks x 2=20 Marks

1. Explain Termination of CPB?
2. Define myocardial protection. Explain strategies of myocardial protection?

Short essay (Answer any 10)

5 Marks x 10 = 50 Marks

3. Explain steps involved in separation of CPB?
4. Importance of TEE monitoring.
5. What are the constituents of Delnido cardioplegia and mention the uses of each constituent
6. Explain types of cardioplegia?
7. Explain myocardial protection in off pump CABG
8. Write principal of gases exchange in bubble oxygenator?
9. Difference between bubble oxygenator and membrane oxygenator?
10. Explain principal and modes of heat transfer in heat exchanger?
11. Explain the reason for blood prime?
12. Different types of priming solution .Advantages and disadvantages of blood prime.
13. What are the factors affecting hematocrit during CPB.
14. Write the advantages and disadvantages of collapsible bag and hard shell reservoir in membrane oxygenator?

Short answer (Answer any 10)

3 Marks x 10= 30 Marks

15. What are the hemodynamic monitoring during termination of CPB?
16. What is Left ventricular failure?
17. What is the post bypass hypertension?
18. What is the hypoxemia?
19. Write strategies of myocardial protection?
20. What are the assessment of proper cardioplegia delivery?
21. What are the modes of delivery of cardioplegia?
22. What maximum pressures of delivery in Antegrade and retrograde cardioplegia?
23. Write the additives of St Thomas cardioplegia?
24. Write the Ideal characteristics of oxygenator?
25. Uses of heat exchanger?
26. What are the commonly used colloids in prime



B.Sc. Allied Health Sciences Third Year (Semester-VI)

Examination

B.Sc. Cardiac Perfusion Technology (CPT)

Time : 3 Hrs.

[Max. Marks : 100]

Cardiac Perfusion Technology Applied

Q.P Code : J6842

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

Long Essay

10 Marks x 2=20 Marks

1. Explain different types of emboli?
2. Explain Intra-aortic balloon pump in detail?

Short Essay (Answer any 10)

5 Marks x 10 = 50 Marks

3. Ideal characteristics of arterial line filters?
4. Prebypass filter?
5. Explain insertion in IABP?
6. What are the errors that occurs during IABP?
7. Blood borne biological emboli?
8. Principle and indications of IABP?
9. What are the contraindications of IABP?
10. Weaning from IABP Counter pulsation?
11. Patient management during IABP Support?
12. Explain any 5 filters in CPB
13. Inflation and deflation in IABP
14. Explain VAD. Write the indication and contraindications of VAD

Short answers (answer any 10)

3 Marks x 10= 30 Marks

15. Complications of emboli
16. Complications of IABP
17. Effects of IABP
18. Transfusion filter
19. Why helium is used in IABP
20. Benefits of IABP
21. Monitoring during IABP
22. Sites of insertion in IABP
23. Position of IABP
24. Gas filters
25. Draw a normal balloon pressure waveform
26. TEE Monitoring



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B.Sc. Allied Health Sciences Third Year (Semester-VI)

April 2023 Examination

B.Sc. Cardiac Perfusion Technology (CPT)

Time : 3 Hrs.

[Max. Marks : 100]

Cardiac Perfusion Technology Advanced

Q.P Code : J6843

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

Long essay (No Choice)

10 Marks x 2=20 Marks

1. Explain the steps to change out of the oxygenator.?
2. Explain detailed about MICS?

Short essay (Answer any 10)

5 Marks x 10 = 50 Marks

3. Explain the management of massive air embolism.?
4. Explain clotted oxygenator causes, recognition, and management?
5. Explain about false blood group transfusion .?
6. Explain the causes and management of aortic or arterial dissection?
7. Briefly explain obstruction to venous return?
8. What is malignant hyperthermia its signs and management?
9. Explain about electrical failure during CPB and its complication?
10. Explain about high arterial line pressure?
11. Explain cannulation in MICS?
12. Describe perfusion management during MICS?
13. Describe the inadequate gas exchange?
14. Inadequate heparinisation

Short answers (Answer any 10)

3 Marks x 10= 30 Marks

15. Write the steps to perfusion safety?
16. What are the causes of massive air embolism?
17. Pump creep
18. Write the reason for change out the oxygenator?
19. Write the signs of water to blood leak?
20. What are the sites of aortic or arterial dissection?
21. What are the causes of arterial pump tube rupture?
22. What is central gas failure?
23. What is methemoglobinemia? Write its signs and management?
24. List the safety device in CPB?
25. Complication of port access cardiac surgery in MICS?
26. Contraindication of port access cardiac surgery in MICS?