SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

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 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 cardiopulmonary bypass. Its steps and process?
2. Define Myocardial protection myocardial protection, and explain the different strategies employed in it

Short essay (Answer any 10) **5 Marks x 10 = 50 Marks**

3. Oxygenators
4. What are the steps of patient care during termination of CPB?
5. Difference between Membrane and Bubble oxygenator.
6. Write a short note on priming fluids.
7. Heat exchangers
8. Advantages of priming in cardiopulmonary bypass, what are the different types of priming fluids used.
9. Rewarming during termination of Cardiopulmonary bypass.
10. Write a short note on the types of prime used during CPB.
11. Describe the advantages and the need for Colloid priming solution.
12. Advantages of crystalloid prime over blood prime.
13. crystalloid priming solution
14. Explain Problematic situations of weaning off CPB

Short answer (Answer any 10) **3 Marks x 10= 30 Marks**

15. Steps involved in Termination of CPB
16. What are the advantages of Del Nido Cardioplegia
17. What are the three different forms of energy transfer
18. Write the principle of membrane oxygenator
19. Priming and it effect on hematocrit.
20. What are the complications associated with heat exchangers.
21. Advantages of membrane oxygenator over bubble oxygenator.
22. What are the ideal characteristics of an oxygenator?
23. What are the materials used in oxygenator.
24. What are the different types of cardioplegia used and write their Interval of redosing.
25. what are the importance of TEE monitoring
26. Reasons for alternatives of blood prime

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

September 2022 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 in detail about filters used in CPB?
2. Describe in detail about IABP?

Short Essay (Answer any 10) **5 Marks x 10 = 50 Marks**

3. Explain the foreign /particulate emboli
4. Gaseous micro emboli
5. Explain the biologic blood borne emboli.
6. Write the complication of emboli
7. Write the prevention of emboli
8. Ideal characteristic of arterial line filters
9. Explain arterial line filter and its types.
10. Write the indication and contraindication of IABP?
11. What are the beneficial effects of IABP?
12. Explain method of insertion of IABP?
13. Explain balloon Inflation and Deflation
14. What are the different errors that occur during IABP?

Short answers (answer any 10) **3 Marks x 10= 30 Marks**

15. Categories of emboli?
16. What are the cellular products in biological blood borne emboli?
17. Position of Balloon catheter
18. What are the types of filters?
19. Leukocyte filters?
20. Cardiotomy filter?
21. Write working principle of IABP
22. Diagram of normal augmented arterial waveform of balloon
23. Write the Complication of IABP?
24. What are the IABP operative modes?
25. Write the trigger modes of IABP?
26. Factors affecting diastolic augmentation

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

September 2022 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 x 2=20 Marks**

1. Explain in detail change out of oxygenators?
2. Explain minimally invasive cardiac surgery? Describe briefly about Cannulation in MICS?

Short essay (Answer any 10) **5 x 10 = 50 Marks**

3. Massive air embolism and its managements?
4. Oxygenator failure and its management?
5. Explain ex-vivo lung perfusion?
6. Explain aortic occlusion and cardioplegia in MICS?
7. Perfusion management during minimally invasive cardiac surgery?
8. Explain arterial dissection and its management?
9. Causes, management and prevention of obstruction to venous return?
10. Anaesthesia management during MICS?
11. Incisional approaches for aortic valve surgeries in MICS?
12. Causes , recognition and management of Clotted oxygenator
13. Venous drainage in MICS
14. False blood group transfusion management

Short answers (Answer any 10) **3 x 10= 30 Marks**

15. Malignant hyperthermia
16. Methemoglobinemia
17. Vacuum assisted venous drainage
18. TEE Monitoring in MICS
19. Kinetic assisted venous drainage
20. Contraindication of PACS
21. Pump creep
22. Inadequate blood flow
23. Minimal extracorporeal circuit
24. What are the causes of inadequate venous return
25. Clotted Oxygenator
26. Write any 6 Perfusion emergencies