SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

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

April 2024 Examination

B.Sc. Cardiac Perfusion Technology

Time : 2.30 Hrs. **[Max. Marks : 80]**

Cardiac Perfusion Technology (Clinical)

Q.P Code : K5771

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.

LONG ESSAY **2 X 10 = 20 Marks**

1. Explain the Conduct of CPB.
2. Adequacy of Perfusion.

SHORT ESSAY **6 X 5 = 30 Marks**

3. Indications of Peripheral cannulation.
4. Causes of poor venous drainage.
5. Draw the Circuit diagram of CPB.
6. Routes of Cardioplegia delivery.
7. Indicators of adequacy of Perfusion.
8. Explain Pulsatile perfusion.

SHORT ANSWERS **10 X 3 = 30 Marks**

9. Write the formula to calculate BSA and mention the unit.
10. Calculate the estimated PCV for the patient with height 162 cm, weight 63 kg, hematocrit 42%, prime volume 1200 ml.
11. Composition of St. Thomas Cardioplegia solution.
12. Causes of high arterial line pressure.
13. Mannitol.
14. Augmented venous drainage.
15. Name the drugs used in CPB.
16. Write the normal values for the following.
    i) Potassium
    ii) Hematocrit
    iii) pCo2
17. Respiratory acidosis
18. Hemolysis- causes and preventive measures.

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

April 2024 Examination

B.Sc. Cardiac Perfusion Technology

Time : 2.30 Hrs. **[Max. Marks : 80]**

Cardiac Perfusion Technology (Applied)

Q.P Code :K5772

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.

LONG ESSAY **2 X 10 = 20 Marks**

1. Blood conservation techniques during cardiac surgery.

2. What is SIRS? The strategies to reduce the effect of SIRS.

SHORT ESSAY **6 X 5 = 30 Marks**

3. Haemolysis- causes and preventive measures.

4. Heparin alternatives.

5. What is contact activation?

6. Retrograde autologous priming.

7. Strategies to check SIRS.

8. Monitoring the anti-coagulation status during cardiac surgery. Elaborate.

SHORT ANSWERS **10 X 3 = 30 Marks**

9. Protamine sulfhate.

10. Autologous blood transfusion.

11. Platelet activation.

12. Heparin sodium.

13. Metabolic alkalosis.

14. Hemoconcentrator- indications.

15. Low molecular weight heparin.

16. Management of bleeding after cardiac surgery.

17. Name the Activators used in ACT machine.

18. TEG.

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

April 2024 Examination

B.Sc. Cardiac Perfusion Technology

Time : 2.30 Hrs. **[Max. Marks : 80]**

Cardiac Perfusion Technology-Advanced

Q.P Code : K5773

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.

LONG ESSAY **2 X 10 = 20 Marks**

1. Write a note on ECMO.

2. explain the paediatric perfusion strategies. How do you manage haemodilution during CPB

SHORT ESSAY **6 X 5 = 30 Marks**

3. Write the differences between CPB and ECMO

4. Blood conservation measures in paediatric perfusion.

5. management of poor venous drainage and causes of poor venous drainage

6. what are the cannulation sites for aortic surgeries

7. Meduri's protocol

8. CPB in non cardiac surgeries.

SHORT ANSWERS **10 X 3 = 30 Marks**

9. Complications of ECMO.

10. North-south syndrome.

11. name the corrective surgeries for the following

    a. ASD b. PDA c. TOF

12. cerebral monitoring devices during paediatric CPB.

13. Retrograde cardioplegia.

14. Heparin alternatives

15. Cannulation sites of VA ECMO.

16. Protamine reaction.

17. write the difference between VA and VV ECMO

18. Double lumen cannula used in ECMO