SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

B.Sc. Allied Health Sciences Second Year (Semester-III)

September 2022 Examination

B.Sc. Cardiac Perfusion Technology (CPT)

Time : 3 Hrs. **Paper – II** **[Max. Marks : 100]**

Introduction to Cardiac Perfusion Technology

Q.P Code : J3810

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

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

1. What is Cardiopulmonary bypass. Describe the following components of Cardiopulmonary bypass
a) Pumps b) Heat Exchanger c) Arterial line filter d) Vents and suckers e) safety Alarms
2. Explain in detail about Haemodynamic monitoring during CPB

Short essay (Any ten) **10 X 5 = 50 Marks**

3. What is an Electrocardiogram. What are the parts of an ECG complex and its intervals?
4. what are the different equipment's used in Cardiac surgery along with its uses
5. Explain the different chambers of the heart
6. Describe intrinsic and extrinsic coagulation pathway
7. Uses of Heparin, its dose and monitoring during CPB
8. What is a Pressure transducer and syringe pump? Mention its uses
9. Describe fetal heart circulation
10. what is hypothermia and its uses
11. Explain the blood supply of the heart
12. Explain the branches of the Aorta with a neat diagram
13. Aseptic Technique and its importance in cardiac surgery
14. Describe cardiac cycle of heart

Short Answers (Any ten) **10 X 3 = 30 Marks**

15. Acid Base status and its monitoring
16. Defibrillator and Fibrillator
17. Heater Cooler machine and its uses
18. Uses of bubble detector
19. uses of angiography
20. what is ABG and its uses
21. Normal values of electrolytes
22. what is protamine sulphate and its uses
23. what is Systemic circulation
24. modes of transmission of infection
25. Uses of vents in Cardiopulmonary bypass
26. Pericardium

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B.Sc. Allied Health Sciences Second Year (Semester-III)
September 2022 Examination
B.Sc. Cardiac Perfusion Technology

Time : 2 Hrs. **[Max. Marks : 40]**

Subject : Applied Pharmacology

Q.P Code : J3820

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

LONG ESSAY **1 X 10 = 10 Marks**

1. List anticoagulants. Explain the mechanism of action, uses and adverse effects of heparin (2+2+3+3)

SHORT ESSAY (Answer any three) **3 X 5 = 15 Marks**

2. Explain the mechanism of action, uses and adverse effects alpha blockers (1+2+2)
3. Explain the mechanism of action, uses and adverse effects of nitrates (1.5+2+1.5)
4. Explain drug antagonism with examples
5. Explain the mechanism of action and uses of anticholinesterases (1.5+ 3.5)

SHORT ANSWERS (Answer any five) **5 X 3 = 15 Marks**

6. Write the mechanism of action and three uses of enalapril
7. Write three uses and three adverse effects of frusemide
8. Write the treatment of anaphylactic shock
9. Explain bioavailability and plasma half-life with examples
10. Explain tolerance and dependence with examples
11. List three differences between oral and intravenous route of drug administration

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B.Sc. Allied Health Sciences Second Year (Semester-III)
September 2022 Examination

B.Sc. Cardiac Perfusion Technology (CPT)

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

PAPER-IV

Medicine Relevant to Cardiac Perfusion Technology

Q.P Code : J3830

Your answers should be specific to the questions asked.

Long Essay **2X10=20 Marks**

1. Explain risk factors, pathophysiology, clinical presentation and diagnosis of acute coronary syndrome in detail
2. Explain cause, risk factors, pathophysiology, clinical manifestation and diagnosis of rheumatic heart disease

Short Essay (Answer any Six) **6X5=30 Marks**

3. Management of rheumatic heart disease in detail
4. Explain ASD in detail
5. Explain TOF in detail
6. What are the effects of HTN on cardiovascular system and renal system?
7. Management of thoracic aortic aneurysm in detail
8. Explain the clinical presentation and management of patients with dilated cardiomyopathy
9. Explain the classification and pathophysiology of pulmonary edema in detail
10. Explain the different patterns of restrictive cardiomyopathy in detail

Short Answers (Answer any ten) **10X3=30 Marks**

11. Pathophysiology of patent ductus arteriosus
12. Causes of dilated cardiomyopathy
13. Describe systolic anterior motion in HCM
14. Explain the stages involved in normal coagulation
15. Differentiate between obstructive and restrictive pulmonary disease
16. Pathophysiology of peripheral vascular disease
17. Describe the stages of pulmonary edema based on degree of fluid accumulation
18. Describe acute HF
19. Write a note on BP measurement
20. Classification of ventricular septal defect
21. Classification of anemia
22. Classification of HTN