



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH
(A DEEMED TO BE UNIVERSITY)

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

March 2024 Examination

B.Sc. Cardiac Perfusion Technology

Time : 2 Hrs.

[Max. Marks : 40]

Applied Pharmacology

Q.P Code : J3820

LONG ESSAY

1 X 10 = 10 Marks

1. Classify adrenergic receptor alpha blockers. Explain the mechanism of action uses and contraindications of propranolol

SHORT ESSAY (Answer any three)

3 X 5 = 15 Marks

2. Explain mechanism of action, uses and adverse effects of dopamine
3. Mention low molecular weight of heparins. Explain mechanism of action and uses
4. Explain mechanism of action , uses and adverse effects of calcium channel blockers
5. Define antagonism. Write the differences between competitive antagonism and noncompetitive antagonism

SHORT ANSWERS (Answer any five)

5 X 3 = 15 Marks

6. Mention the targets of drug action with examples
7. Mention three antiplatelet agents with their uses
8. Mention three inhalational anesthetic agents and their adverse effects
9. Define side effects, toxic effect, teratogenicity with examples
10. Write mechanism of action and two uses of Clopidogrel
11. Write uses and adverse effects of adrenaline

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March 2024 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.

Draw neat labeled diagrams wherever necessary.

Long Essay

2X10=20 Marks

1. Define Rheumatic fever. Discuss RHD with following points a) Etiology b) Pathogenesis c) Clinical features d) Investigations.
2. Define and Enlist cyanotic heart diseases (3 **marks**). Explain TOF in detail (7 **marks**)

Short Essay (Answer any Six)

6X5=30 Marks

3. Write clinical signs and symptoms of PVD & risk factors for PVD
4. Define Hypertension & classify it
5. Classification of Aortic aneurysm and its management
6. Obstructive and restrictive lung disease
7. What is Anemia? Explain types of anemia, signs and symptoms of anemia
8. Myocardial Infarction and its management
9. Define COPD with its pathophysiology
10. Pulmonary function test

Short Answers (Answer any ten)

10X3=30 Marks

11. what are defects in tetralogy of fallot
12. Treatment of coronary artery disease
13. Symptoms of restrictive cardiomyopathy
14. Jones criteria for Rheumatic fever
15. Haemophilia A
16. what is atherosclerosis
17. cardiomyopathy and its types
18. clinical features of anemia
19. antithrombotic therapy
20. Mention the factors that contribute to the development of Peripheral Vascular Disorders
21. Name the 3 layers of arteries
22. comparison of characteristics of arterial and venous disorders



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B.Sc. Cardiac Perfusion Technology

Time: 2.30 Hrs.

Paper –II

[Max. Marks : 80]

Introduction to Cardiac Perfusion Technology

Q.P Code: K3710

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

LONG ESSAY

2 X 10 = 20 Marks

1. Define cardiopulmonary bypass. Enlist various components of CPB and its uses
2. Explain in details various types of monitoring during CPB

SHORT ESSAY

6 X 5 = 30 Marks

3. Explain the standard precaution followed in operation theatre
4. What are pre-operative investigations during cardiac surgery and its normal values
5. Explain cardiac cycle
6. What is ECG. Explain all the waves in a ECG with their intervals
7. What is a cardiac surgical team and role of each one of the team members
8. What is echocardiography and its importance in cardiac surgery

SHORT ANSWERS

10 X 3 = 30 Marks

9. Normal arterial blood gas values
10. Formula for calculating estimated or predicted Hematocrit on CPB
11. What are the safety devices in CPB and its uses
12. Venous drainage during CPB
13. What are different sites and types of venous cannulas
14. What is heater cooler machine and its uses
15. What is Systemic circulation
16. Modes of transmission of infection
17. Uses of vents in Cardiopulmonary bypass
18. Alarms systems used in CPB.

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B.Sc. Cardiac Perfusion Technology

Time: 2.30 Hrs.

Paper –IV

[Max. Marks: 80]

Medicine Relevant Cardiac Perfusion Technology

Q.P Code: K3730

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Briefly explain classification of HTN and effect of HTN on cardiovascular system and renal system
2. Explain the classification, pathophysiology, and treatment of ASD, VSD and PDA

SHORT ESSAY

6 X 5 = 30 Marks

3. Management of patients with IHD
4. Explain the clinical presentation of RHD in detail
5. Describe the etiology and pathophysiology of aortic aneurysm
6. Explain the classification and pathophysiology of hypertensive cardiomyopathy in detail
7. Pathophysiology of TAPVC in detail
8. Explain cardiogenic pulmonary edema in detail

SHORT ANSWERS

10 X 3 = 30 Marks

9. Etiology of dilated cardiomyopathy
10. Clinical presentation of abdominal aortic aneurysm
11. Cardiac amyloidosis
12. Pathophysiology of RHD
13. Classification of anemia based on morphology
14. Classification of truncus arteriosus
15. Management of PVD
16. Name the bleeding disorders
17. Raynaud's phenomenon
18. Hemophilia

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

March 2024 Examination

B.Sc. Cardiac Perfusion Technology

Time: 2.30 Hrs.

Paper – I

[Max. Marks: 80]

Applied Pathology & Microbiology

(Use separate answer booklet for Section A & B)

Section – A

Applied Pathology (40 Marks)

Q.P Code : K3705

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

LONG ESSAY

1 X 10 = 10 Marks

1. Define anemia. Classify anemia based on morphology and etiological factors and add a note on laboratory investigations in anemia

SHORT ESSAY

3X 5 = 15 Marks

2. Define leukemia. Write the classification of leukemia
3. Hypertension – Definition types, pathogenesis and its effects.
4. Describe the pathogenesis of Hemophilia and discuss the laboratory diagnosis

SHORT ANSWERS

5 X 3 = 15 Marks

5. Describe the causes for right sided heart failure
6. Causes for pericardial effusion
7. What is Leukemoid reaction and 3 causes
8. Causes of obstructive congenital heart diseases
9. Causes for neutrophilia

Section – B

Applied Microbiology (40 Marks)

Q.P Code : K3706

(Use separate answer booklet for Section-B)

LONG ESSAY

1 X 10 = 10 Marks

1. Define needle stick injury in health care setting, discuss in detail source of infection, mode of transmission, risk factors associated with needle stick injury in health care workers (2+2+2+4).

SHORT ESSAY

3 X 5 = 15 Marks

2. Define health care associated infection discuss the role of health care worker in preventing the transmission of infections
3. Describe the risk factors and preventive measures to prevent Clostridium difficile infection
4. Discuss the types of biomedical waste generated in hospitals

SHORT ANSWERS

5 X 3 = 15 Marks

5. Mention the Source of infection and modes of transmission of Ventilator Associated Pneumonia
6. Name three PPE
7. Name three multidrug resistant organisms prevalent in health care setting
8. Define the term CLABSI and its risk factors
9. List three infections transmitted through faeco oral route