SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

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

September 2021 Examination

B.Sc. Cardiac Perfusion Technology

Time: 3 Hrs.

Paper – I

Applied Pathology & Microbiology

[Max. Marks: 100]

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(Use separate answer booklet for Section A & B)

Section - A

Applied Pathology (50 Marks)

Q.P Code :J3805

LONG ESSAY

 $2 \times 10 = 20 \text{ Marks}$

- 1. Define and Classify anemia. Describe the etiology, laboratory findings and clinical features in iron deficiency anemia?
- 2. Describe the clinical features, etiopathogenesis, morphology, laboratory findings and ECG changes in myocardial infarction?

SHORT ESSAY (Answer any three)

 $3 \times 5 = 15 \text{ Marks}$

- 3. Describe the morphology of vessels in atherosclerosis?
- 4. Classify congenital heart diseases and describe the clinical features and morphology of heart in tetralogy of fallot
- 5. Describe the etiology, morphological features and effects of mitral stenosis?
- 6. Describe the etiology, peripheral smear findings and clinical features in chronic myeloid leukemia?
- 7. Define and classify cardiomyopathies?

SHORT ANSWERS (Answer any five)

5 X 3 = 15 Marks

- 8. Describe the laboratory findings in hemophilia?
- 9. Describe the morphology of heart in hypertensive heart disease?
- 10. List the normal range of activated partial thromboplastin time with its utility?
- 11. Define heart failure and list 04 causes of heart failure?
- 12. Define leucopenia and list 04 causes of leucopenia?
- 13. List 06 causes of anemia?
- 14. List the types of pericardial effusion with their etiology?

Section - B

Applied Microbiology (50 Marks)

Q.P Code: J3806

(Use separate answer booklet for Section-B)

LONG ESSAY

 $2 \times 10 = 20 \text{ Marks}$

- 1. Define and enumerate the various causative agents of catheter associated urinary tract infection. Discuss in detail the predisposing factors and infection control and preventive measures of Catheter associated urinary tract infection (2+2+3+3)
- 2. Mention different personal protective equipment available in health care setting. What is the PPE required to protect from respiratory borne infections?

SHORT ESSAY (Answer any three)

 $3 \times 5 = 15 \text{ Marks}$

- 3. Risk factors and preventive measures of HIV infection in health care settings
- 4. Surveillance of infectious diseases
- 5. Define health care associated infection discuss the role of health care worker in preventing the transmission of infections
- 6. Discuss the risk factors and infection control and preventive measures in Surgical site infection
- 7. How will you prevent the spread of drug resistant E coli in the hospital?

SHORT ANSWERS (Answer any five)

 $5 \times 3 = 15 \text{ Marks}$

- 8. Source of infection and mode of transmission of Ventilator Associated Pneumonia
- 9. Mention into which colour coded bag are masks, urine bag and needle discarded
- 10. Define the term CLABSI and its risk factors
- 11. List three method of sampling for Microbiological surveillance
- 12. List three infections transmitted through direct contact
- 13. Importance of hand washing in health care settings
- 14. List three infections transmitted through feco oral route



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

September 2021 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

 $2 \times 10 = 20 \text{ Marks}$

- 1. Explain what are the different equipment's used during Cardiac surgery and its uses
- 2. Describe the following components of Cardiopulmonary bypass
 - a) Pumps b) Heat Exchanger c) Arterial line filter d) Vents and suckers e) safety Alarms

Short essay (Any ten)

 $10 \times 5 = 50 \text{ Marks}$

- 3. Different type of monitoring during Cardiopulmonary bypass
- 4. Explain the standard precaution followed in operation theatre
- 5. What are Pre-operative investigations during cardiac surgery and its normal values
- 6. Explain ECG in detail
- 7. Anaesthesiologist and their role in cardiac surgery
- 8. Acid Base status and its monitoring
- 9. Defibrillator and Fibrillator
- 10. Describe intrinsic and extrinsic coagulation pathway
- 11. Uses of Heparin, its dose and monitoring during CPB
- 12. What is a Pressure transducer and syringe pump? Mention its uses
- 13. What are the uses of Pulse oximeter, Temperature probe, ventilator's in Cardiac surgery?
- 14. What are piped gases and mention its uses

Short Answers (Any ten)

10 X 3 = 30 Marks

- 15. Normal electrolytes values
- 16. Formula for calculating Body Surface Area
- 17. uses of cardiopulmonary bypass
- 18. List the surgeries which are performed under cardiopulmonary bypass
- 19. Venous drainage in cardiopulmonary bypass
- 20. what are the different types of venous cannulation
- 21. complications of arterial cannulation
- 22. Types of Pumps used in cardiopulmonary bypass
- 23. uses of cardiotomy suction in Cardiopulmonary bypass
- 24. Benefits of hypothermia
- 25. what are the means of transmission of infection
- 26. what are the two adult circulatory system



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

September 2021 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

 $1 \times 10 = 10 \text{ Marks}$

1. Classify drugs used in hypertension. Explain the mechanism of action, uses and adverse effects of calcium channel blockers (3+2+3+2)

SHORT ESSAY (Answer any three)

 $3 \times 5 = 15 \text{ Marks}$

- 2. Explain the mechanism of action, uses and adverse effects of frusemide (1.5+2+1.5)
- 3. Explain the mechanism of action, uses and adverse effects of heparin (1+2+2)
- 4. Explain enzyme induction and three routes of drug excretion with examples (2+3)
- 5. Explain the mechanism of action, uses and contraindications of propranolol (1+2+2)

SHORT ANSWERS (Answer any five)

 $5 \times 3 = 15 \text{ Marks}$

- 6. Write mechanism of action and two uses of clopidogrel
- 7. Mention three crystalloids and write three uses
- 8. Write the mechanism of action and two uses of nitroglycerine
- 9. Define side effect, toxic effect, teratogenicity with examples
- 10. Write the treatment of organophosphate poisoning
- 11. Write three uses of adrenaline and three uses of neostigmine

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B.Sc. Allied Health Sciences Second Year (Semester-III)
September 2021 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.a) Explain congenital Heart disease?

b) Describe Tetralogy of Fallot in detail

2.a) what is Pulmonary Edema b) Explain Pathophysiology, Classification, Clinical manifestation, complications and treatment methods of Pulmonary Edema

Short Essay (Answer any Six)

6X5=30 Marks

3. What is ASD? Types of ASD and treatment of ASD

4. Causes and Risk factors of Hypertension

5. what is anemia and explain its causes

6. Explain pathophysiology and clinical manifestations of peripheral vascular disease

7. Briefly explain cardiogenic Pulmonary edema

8. Pathogenesis of Coronary artery disease

9. Signs, Symptoms and complications of Chronic obstructive pulmonary disease

10. Treatment for Aortic aneurysm

Short Answers (Answer any ten)

10X3=30 Marks

11. Complications of Dilated cardiomyopathy

12. what is cardiomyopathy and its types

13. Patent ductusarteriosus and its treatment

14. Jones criteria for the diagnosis of Rheumatic fever

15. Angina Pectoris

16. Acyanotic heart disease with examples

17.causes and prevention of varicose veins

18. Staging of Pulmonary edema

19. Treatment of anemia

20. Diagnosis of COPD

21. Pathophysiology of RHD

22.clinical manifestation of Arteriosclerosis obliterans