SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

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

March 2021 Examination

B.Sc. Cardiac Perfusion Technology

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

Applied Pathology & Microbiology

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.
(Use separate answer booklet for Section A & B)

Section – A

Applied Pathology (50 Marks)

Q.P Code :J3805

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

1. Define atherosclerosis and describe the risk factors, etiopathogenesis, clinical features and morphology of atherosclerosis ?
2. Define and Classify anemia? Describe the etiopathogenesis and laboratory findings in iron deficiency anemia ?

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

3. Describe the laboratory findings in Acute Myeloid Leukemia ?
4. Describe the pathophysiology of heart failure ?
5. Define cardiac hypertrophy and list the etiology for right and left ventricular hypertrophy ?
6. Classify Congenital heart diseases and describe tetralogy of fallot?
7. Describe the etiopathogenesis and laboratory findings in immune thrombocytopenic purpura?

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

8. List the laboratory findings in Myocardial Infarction
9. Describe the morphology of heart in hypertensive heart disease
10. List 06 acquired valvular heart disease
11. List 03 types of pericardial effusion with their etiology
12. List 03 causes for microcytic hypochromic anemia
13. List the laboratory investigations used in bleeding disorder
14. Classify aneurysms

Section – B

Applied Microbiology (50 Marks)

Q.P Code : J3806

(Use separate answer booklet for Section-B)

LONG ESSAY **2 X 10 = 20 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+3+5)
2. Define the term multidrug resistance in microorganisms. Discuss in detail the risk factors and preventive measures for occurrence of multidrug resistance organism (2+4+4)

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

3. Clostridium difficile: Disease caused by, Risk factors and its preventive measures
4. Define Ventilator associated Pneumonia, agents causing VAP and its preventive measures
5. The impact and cost attributed to Health care associated infection
6. Biomedical waste management in health care settings
7. Blood borne pathogens: risk factors and its preventive measures

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

8. Steps of hand hygiene
9. Name 3 organisms transmitted to health care workers through feco oral route
10. Mention 3 vaccines recommended for health care workers
11. Mention three routes of transmission of infection
12. Mention 3 indications for Microbiological surveillance of ICU
13. Three indications for isolation of patients
14. Mention three personal protective equipment

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

March 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 X 10 = 20 Marks**

1.What is Cardiopulmonary bypass? Explain all the components of CPB

2. Explain in detail about Haemostatic monitoring during CPB

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

3. Briefly explain hemodynamic monitoring during CPB
4. Explain anticoagulation during CPB and its monitoring
5. What are the different equipment's used in Cardiac surgery along with its uses
6. What is an Electrocardiogram. What are the parts of an ECG complex and its intervals?
7. Explain a cardiac surgical team and their role in cardiac surgery
8. What are the common causes of LAD and RAD
9. Explain the parts of the heart lung machine
10. What are the uses of an oxygenator
11. What is Hemodilution. What are the uses of Priming an Extracorporeal circuit?
12. What are the important laboratory investigations in cardiac surgery?
13. A 50 Kg Female patient with height 155 cms was posted for Cardiac surgery. Her hemoglobin was 14gm/dl and hematocrit of 43%. The blood volume of the patient is 65ml/kg. The priming volume used for the CPB circuit is 1500ml. Calculate the following
    a) BSA, b) patient blood volume, c) Flow rate for 2.2 and 2.4 Cardiac Index, d) Predicted hematocrit
14. Explain Neurological monitoring in cardiac surgery

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

15. Uses of heater cooler machine
16. Different sites of temperature monitoring in Cardiopulmonary bypass
17. Uses of Level alarm in a CPB machine
18. Uses of angiography
19. What is ABG and its uses
20. Normal values of electrolytes
21. What is protamine sulphate and its uses
22. Azygous flow technique
23. What is the ACT and normal dose of heparin used in cardiopulmonary bypass
24. Name the 4 heart valves and their location
25. Name the branches of aorta
26. what are the branches of Left coronary artery

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

March 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 X 10 = 10 Marks**

1. Classify adrenergic receptor blockers. Explain the mechanism, uses and contraindications of propranolol (3+2+3+2)

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

2. Explain the mechanism, uses and adverse effects of amlodipine (1.5+2+1.5)

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

4. List the crystalloids and colloids and write their uses (2+3)

5. Explain the mechanism, uses and precautions to be taken while using dopamine (1.5+2+1.5)

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

6. Write the mechanism of action and two uses of streptokinase.

7. Explain tolerance and dependence with examples.

8. Mention the targets of drug action with examples.

9. Write three uses and three adverse effects of ramipril.

10. Write the mechanism of action and uses of clopidogrel.

11. Explain enzyme induction with examples.

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B.Sc. Allied Health Sciences Second Year (Semester-III)
March 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. Explain congenital Heart disease?
2. Explain cause, clinical manifestation diagnosis and treatment of thoracic aortic aneurysm

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

3. What are the effects of HTN on cardiovascular system and renal system?
4. Explain types of TAPVC in detail
5. Describe unstable angina and NSTEMI
6. Clinical manifestations in RHD
7. Etiology of HF in detail
8. Myocardial Infarction and its management
9. What is Anemia? Explain types of anemia, signs and symptoms of anemia
10. Write clinical signs and symptoms of PVD & risk factors for PVD

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

11. Raynaud's phenomenon
12. Etiology of non-cardiogenic pulmonary edema
13. Describe LVH in HTN patients
14. Symptoms of restrictive cardiomyopathy
15. Jones criteria for Rheumatic fever
16. Haemophilia A
17. what is atherosclerosis
18. Cardiac amyloidosis
19. Treatment of pulmonary edema
20. Write a note on venous insufficiency in PVD
21. Haemophilia
22. Risk factors of IHD