



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

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

September 2024 Examination

B.Sc. Cardiac Care Technology (CCT)

Time: 2.30 Hrs.

[Max. Marks:80]

Applied Pathology & Microbiology
(Use Separate answer booklet for Section A & B)
(SECTION A)

APPLIED PATHOLOGY (40 Marks)

Q.P Code: K4655

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

Long Essay

1 X 10 = 10 Marks

1. Define acute renal failure (ARF) and list the causes, pathogenesis and effects of acute renal failure.

Short Essay

3 X 5 = 15 Marks

2. Describe etiopathogenesis, clinical features, morphology, treatment of Asbestosis.
3. End stage renal disease- discusses the causes and effects.
4. Write the differences between restrictive and obstructive lung diseases

Short Answers

5 X 3 = 15 Marks

5. Name three uses of renal dialysis.
6. Briefly describe chronic bronchitis.
7. Briefly describe chronic pyelonephritis
8. Pulmonary edema
9. List the various lesions under pneumoconiosis

Sec-B

Applied Microbiology(40 Marks)

Q.P Code:K4656

LONG ESSAY

1 X 10 = 10 Marks

1. Enumerate the source and factors contributing to infection and describe the infection control measures in ICU.

SHORT ESSAY

3 X 5 = 15 Marks

2. Mention the significant activities and describe the sterilisation methods in detail in Central Sterile Supply Department.
3. Enumerate Halogens used in disinfection. Describe the mechanism of action and uses of Halogens.
4. Describe the gaseous methods of disinfection.

SHORT ANSWERS

5 X 3 = 15 Marks

5. Mention the disinfection method of the Heart-lung machine, Blood pressure cuff and glucometer.
6. Mention three indications of microbiological surveillance in OT.
7. Name three chemical sterilants.
8. Mention the holding temperature and time of Autoclave
9. Mention three articles sterilised by Hot air oven.

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Introduction to Cardiac Care Technology

Q.P Code : K4660

Long Essay

2 X 10= 20 Marks

1. Trans Esophageal Echo (TEE)- indications, contraindications, procedure and complications
2. Discuss the identification of various Echocardiography segments of left ventricle with labelled diagram.

Short Essay

6 X 5= 30 Marks

3. M mode of mitral valve and aortic valve with neat labelled diagram
4. Write in detail about different types of Resolution
5. Write in detail about the different flow patterns
6. Transthoracic Parasternal short axis views with appropriate diagrams
7. Clinical application of contrast echo
8. Principle of Doppler Echocardiography

Short Answers

10 X 3= 30 Marks

9. Name the Ultrasound artifacts
10. Piezoelectric effect
11. Types of transducers
12. Structures seen in apical five chamber view
13. Doppler principle
14. M mode of pulmonary valve
15. Types of resolution
16. Overall gain and TGC
17. Mention normal variants in echocardiography
18. Basic principles of ultrasound



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Time : 2.30 Hrs.

[Max.Marks : 80]

Medicine Relevant to Cardiac Care Technology

Q.P Code: K4670

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 the Fetal circulation and write a note on cardiovascular changes that occur after birth
2. Definition, classification, etiology, diagnosis and management of Obesity

Short Essay

6 X 5= 30 Marks

3. Pathophysiology and clinical features of ARF
4. Explain the types of diabetes Mellitus
5. Write a note on cardiovascular system changes that occurs during pregnancy
6. Indications and contraindications of kidney transplantation
7. Diagnosis and management of ARF
8. Diagnosis and management of CRF

Short Answers

10 X 3= 30 Marks

9. Pathophysiology of CRF
10. Modifiable and non-modifiable risk factors of obesity
11. Disadvantages of hemodialysis
12. Management of chronic kidney disease
13. Classification of peripheral nervous system
14. Definition and risk factors of Acute renal failure
15. Diagnosis of diabetes mellitus
16. Treatment of Diabetes Mellitus
17. Risk factors of chronic renal failure
18. Etiology of chronic renal failure