



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

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

October 2023 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 End stage renal disease, Describe the etiology, effects and role of dialysis and renal transplantation in its management.

Short Essay

3 X 5 = 15 Marks

2. Describe the etiology, pathogenesis, morphology and clinical features of Pulmonary congestion.
3. Obstructive uropathy – causes and clinical manifestations
4. Write the pathogenesis of Pneumoconiosis and write in brief about asbestosis

Short Answers

5 X 3 = 15 Marks

5. Describe briefly chronic bronchitis
6. Write 3 points to differentiate restrictive from obstructive lung diseases
7. List out 2 criteria for chronic renal failure
8. Write the histopathological findings in silicosis.
9. Causes of obstructive uropathy

Sec-B

Applied Microbiology(40 Marks)

Q.P Code:K4656

LONG ESSAY

1 X 10 = 10 Marks

1. Define the terms Sterilization and Disinfection. Classify Disinfectants and describe the working principle, uses, advantages, and disadvantages of Ethylene Oxide Sterilization. Add a note on its sterilization control.

SHORT ESSAY

3 X 5 = 15 Marks

2. Describe Spaulding's classification and mention the appropriate methods of disinfection.
3. Describe different methods of cold sterilisation with examples.
4. Describe the types, uses, advantages, and disadvantages of aldehydes used in hospitals.

SHORT ANSWERS

5 X 3 = 15 Marks

5. Mention the disinfectants used to disinfect the bed railing, floor and trolley.
6. List three Alcoholic disinfectants used in hospital and their uses.
7. List three methods of sampling for Microbiological surveillance of OT.
8. Mention six important steps to prevent bedsores in ICU.
9. Mention three articles sterilised by Hot air oven.



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B.Sc. Cardiac Care Technology (CCT)

October 2023 Examination

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. Define obesity. What are its causes and briefly explain the effects of obesity on cardiovascular system
2. Define acute renal failure. Briefly explain its pathophysiology, clinical features, diagnosis and management

Short Essay

6 X 5= 30 Marks

3. Diagnosis and management of chronic renal failure
4. Describe DM. write its clinical features and etiology
5. Indications and contraindications of kidney transplantation
6. Explain the management of acute renal failure
7. Briefly explain the function of Autonomic nervous system
8. What are the normal physiologic changes that occur during pregnancy

Short Answers

10 X 3= 30 Marks

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

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

October 2023 Examination

B.Sc. Cardiac Care Technology

Paper – I

[Max. Marks: 100]

Time: 3 Hrs.

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 :J4755

LONG ESSAY

2 X 10 = 20 Marks

1. Define and list the types of chronic obstructive diseases. Describe the etiopathogenesis, clinical features and morphology of chronic bronchitis
2. Classify renal diseases. Describe the etiology, clinical features and morphology of Acute renal failure (ARF)

SHORT ESSAY (Answer any three)

3 X 5 = 15 Marks

3. Describe the etiology, clinical features and morphology of pulmonary edema
4. Describe the etiology, clinical features and morphology of Chronic pyelonephritis
5. List the types of pneumonia and describe the stages in lobar pneumonia
6. List the types of urinary stones and the etiology and gross appearance of the urinary stones
7. Describe the etiology, clinical features and morphology of bronchiectasis

SHORT ANSWERS (Answer any five)

5 X 3 = 15 Marks

8. List 06 causes of pleural effusion
9. Describe morphology of lung abscess
10. Classify stages of chronic kidney disease
11. List 03 differences between obstructive and restrictive lung diseases
12. List 06 functions of kidney
13. List 03 pneumoconiosis with their etiology
14. List 03 renal function test with normal range for an adult male

Section – B

Applied Microbiology (50 Marks)

Q.P Code : J4756

(Use separate answer booklet for Section-B)

LONG ESSAY

2x10= 20marks

1. Define sterilization. Enumerate the methods of sterilization by moist heat. Discuss the functioning of Autoclave and add a note on sterilization control. (2+2+4+2)
2. Define central Sterile Supply Department. Enumerate four zones and describe the various flow of activities in Central Sterile Supply Department (2+2+6)

SHORT ESSAYS (Answer any three).

3X5=15 marks

3. Describe the mechanism of action, advantages and disadvantages of Ethylene oxide sterilization
4. Importance of infection control in ICU
5. Describe the Spaulding's method of classification of disinfection with examples
6. Classification of patients care units based on the risk involved and the appropriate methods of disinfection
7. Enumerate Halogens used in disinfection. Describe the mechanism of action and uses of Halogens

SHORT ANSWERS (Answer any five).

5X3=15 marks

8. Mention three disinfectants used for surface cleaning
9. Mention the holding temperature and time in hot air oven
10. Mention three methods of gaseous disinfection
11. Mention the acceptable bio load in OT
12. Mention the methods used to sterilize heart lung machine, ventilator, endoscope
13. Mention six important steps to prevent bedsores in ICU
14. Define Disinfectants and Antiseptics

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

October 2023 Examination

B.Sc. Cardiac Care Technology

Time : 2 Hrs.

Paper - III

[Max. Marks : 40]

Applied Pharmacology

Q.P Code : J4770

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

1 X 10 = 10 Marks

1. Classify beta lactam antibiotics. Explain mechanism of action, uses and adverse effects of Penicillin G
(3+2+3+2)

SHORT ESSAY (Answer any Three)

3X 5 = 15 Marks

2. Explain the mechanism of action (MOA), uses, and adverse effects of spironolactone (1.5+2+1.5)
3. Explain the mechanism of action, uses, route and adverse effects of salbutamol (2+1+1+1)
4. Explain the mechanism, uses and adverse effects of azithromycin (1.5+2+1.5)
5. Explain the mechanism of action, uses and adverse effects of third generation cephalosporins
(1.5+2+1.5)

SHORT ANSWERS (Answer any five)

5 X 3 = 15 Marks

6. Write three uses and three adverse effects of amikacin
7. Explain mechanism of action, write two uses of furosemide
8. Mention three tetracycline antibiotics and write three uses
9. List three mucolytics and write their mechanism of action
10. List three antitubercular agents and write any three uses of these drugs
11. Mention three inhalational gases and write their uses

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

October 2023 Examination

B.Sc. Cardiac Perfusion Technology

Time : 2 Hrs.

Paper - III

[Max. Marks : 40]

Applied Pharmacology

Q.P Code : J4820

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

1 X 10 = 10 Marks

1. Classify beta lactam antibiotics. Explain mechanism of action, uses and adverse effects of Penicillin G
(3+2+3+2)

SHORT ESSAY (Answer any Three)

3X 5 = 15 Marks

2. Explain the mechanism of action (MOA), uses, and adverse effects of spironolactone (1.5+2+1.5)
3. Explain the mechanism of action, uses, route and adverse effects of salbutamol (2+1+1+1)
4. Explain the mechanism, uses and adverse effects of azithromycin (1.5+2+1.5)
5. Explain the mechanism of action, uses and adverse effects of third generation cephalosporins
(1.5+2+1.5)

SHORT ANSWERS (Answer any five)

5 X 3 = 15 Marks

6. Write three uses and three adverse effects of amikacin
7. Explain mechanism of action, write two uses of furosemide
8. Mention three tetracycline antibiotics and write three uses
9. List three mucolytics and write their mechanism of action
10. List three antitubercular agents and write any three uses of these drugs
11. Mention three inhalational gases and write their uses

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

B.Sc. Cardiac Care Technology (CCT)

October 2023 Examination

Medicine relevant to Cardiac Care Technology

Q.P Code: J4780

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 changes that occur after birth
2. Define obesity. What are its causes and briefly explain the effects of obesity on cardiovascular system

Short Essay (any six)

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 History and physical examination during pregnancy
6. Indications and contraindications of kidney transplantation
7. Diagnosis and management of ARF
8. Indications and contraindications of peritoneal dialysis
9. Diagnosis and management of CRF
10. Difference between hemodialysis and peritoneal dialysis

Short Answers (any ten)

10 X 3= 30 Marks

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