

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

March 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. Describe the findings in nephrotic syndrome. Describe the etiopathogenesis, clinical features, laboratory findings and morphology of minimal change disease
2. Classify pneumonia. Describe the etiopathogenesis, clinical features, stages and morphology of lobar pneumonia

SHORT ESSAY (Answer any three)

3 X 5 = 15 Marks

3. Describe the etiopathogenesis, clinical features and morphology of pulmonary edema
4. Describe the etiopathogenesis, clinical features and morphology of acute pyelonephritis
5. Describe the etiopathogenesis, clinical features and morphology of Bronchial asthma
6. Describe the etiopathogenesis, clinical features and morphology of chronic kidney disease
7. Describe the etiopathogenesis, clinical features and morphology of pneumoconiosis

SHORT ANSWERS (Answer any five)

5 X 3 = 15 Marks

8. Describe the gross anatomy of kidney
9. List the functions of kidney
10. List 03 complications of pneumonia
11. List the renal function tests with the normal reference ranges
12. List the stages of chronic kidney disease with the glomerular filtration rate
13. List 06 causes of pleural effusion
14. List 03 urinary stones with their etiology

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 the objectives and describe the work practice of Central Sterile Supply Department in detail (2+2+6)

SHORT ESSAYS (Answer any three).

3X5=15 marks

3. Enumerate Aldehydes used in disinfection. Describe the mechanism of action and uses of Aldehydes.
4. Describe the gaseous methods of disinfection
5. Describe the care bundle approach to prevent ventilator associated Pneumonia in ICU
6. Describe different methods of microbiological surveillance and sampling of environmental surfaces and their acceptable bio load in OT
7. Describe different methods of cold sterilization with examples

SHORT ANSWERS (Answer any five).

5X3=15 marks

8. Define decontamination, disinfection and antisepsis
9. Mention the method of disinfection of Heart lung machine, Blood pressure cuff and glucometer
10. Mention the factors affecting the effectiveness of chemical disinfectants
11. Mention three standard precautions followed in ICU
12. Name three intermediate level disinfectants used in hospitals
13. Mention three uses of sodium hypochlorite
14. Mention three types of patient care items in Spaulding's classification with examples.

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 :J4805

LONG ESSAY

2 X 10 = 20 Marks

1. Describe the findings in nephrotic syndrome. Describe the etiopathogenesis, clinical features, laboratory findings and morphology of minimal change disease
2. Classify pneumonia. Describe the etiopathogenesis, clinical features, stages and morphology of lobar pneumonia

SHORT ESSAY (Answer any three)

3 X 5 = 15 Marks

3. Describe the etiopathogenesis, clinical features and morphology of pulmonary edema
4. Describe the etiopathogenesis, clinical features and morphology of acute pyelonephritis
5. Describe the etiopathogenesis, clinical features and morphology of Bronchial asthma
6. Describe the etiopathogenesis, clinical features and morphology of chronic kidney disease
7. Describe the etiopathogenesis, clinical features and morphology of pneumoconiosis

SHORT ANSWERS (Answer any five)

5 X 3 = 15 Marks

8. Describe the gross anatomy of kidney
9. List the functions of kidney
10. List 03 complications of pneumonia
11. List the renal function tests with the normal reference ranges
12. List the stages of chronic kidney disease with the glomerular filtration rate
13. List 06 causes of pleural effusion
14. List 03 urinary stones with their etiology

Section – B

Applied Microbiology (50 Marks)

Q.P Code : J4806

(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 the objectives and describe the work practice of Central Sterile Supply Department in detail (2+2+6)

SHORT ESSAYS (Answer any three).

3X5=15 marks

3. Enumerate Aldehydes used in disinfection. Describe the mechanism of action and uses of Aldehydes.
4. Describe the gaseous methods of disinfection
5. Describe the care bundle approach to prevent ventilator associated Pneumonia in ICU
6. Describe different methods of microbiological surveillance and sampling of environmental surfaces and their acceptable bio load in OT
7. Describe different methods of cold sterilization with examples

SHORT ANSWERS (Answer any five).

5X3=15 marks

8. Define decontamination, disinfection and antisepsis
9. Mention the method of disinfection of Heart lung machine, Blood pressure cuff and glucometer
10. Mention the factors affecting the effectiveness of chemical disinfectants
11. Mention three standard precautions followed in ICU
12. Name three intermediate level disinfectants used in hospitals
13. Mention three uses of sodium hypochlorite
14. Mention three types of patient care items in Spaulding's classification with examples



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

March 2023 Examination

B.Sc. Cardiac care Technology (CCT)

Paper – II

[Max. Marks : 100]

Time : 3 Hrs.

Introduction to Cardiac care Technology

Q.P Code: J4760

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

I. Long Essay (no choice)

2×10=20Marks

1. Briefly explain the hemodynamic assessment by using Doppler echocardiography
2. Explain Tissue Doppler Imaging in detail

II. Short Essay (Answer any 10)

10×5=50Marks

3. Draw neat labelled diagram of normal m-mode at LV cavity level
4. What are the applications of pulse wave and continuous wave TDI
5. Explain normal mitral valve Doppler
6. What are the applications of Left contrast echocardiography
7. Draw neat labelled diagram of PLAX view
8. Write structural and functional indication or transthoracic echocardiography
9. Write applications of apical 4 chamber view
10. Applications of different types of transducer
11. Draw neat labelled diagram of m mode at LV cavity
12. Abnormal findings at MV m mode
13. Pulse wave TDI
14. Write a note on calculation of LVEF by TTE

III. Short Answer (Answer any 10)

10×3=30Marks

15. M-mode at Pulmonary valve level
16. M-mode at IVC level
17. Doppler signal enhancement by contrast echocardiography
18. Define pulse repetition frequency and Nyquist limit
19. Draw neat labelled diagram of normal m-mode at aortic level
20. Define Vena contract and flow convergence
21. Draw neat labelled diagram of suprasternal view
22. Applications of M mode color TDI
23. Diagnosis of persistent left SVC in contrast echocardiography
24. RV function assessment
25. Adult pulmonary circulation
26. Continuous wave TDI

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

March 2023 Examination

B.Sc. Cardiac Care Technology

Paper - III

[Max. Marks : 40]

Time : 2 Hrs.

Subject: 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 local anaesthetics. Explain the mechanism of action and uses of lignocaine. List complications of spinal anaesthesia (3+2+3+2)

SHORT ESSAY (Answer any Three)

3X 5 = 15 Marks

2. Explain the mechanism, uses and contraindications of Morphine (1+2+2)
3. Explain the mechanism of action ,uses and adverse effects of sodium cromoglycate (2+1.5+1.5)
4. Explain the pharmacological actions, uses and adverse effects of antihistaminics (1+2+2)
5. Explain the mechanism of action, uses and adverse effects of Methotrexate

SHORT ANSWERS (Answer any five)

5 X 3 = 15 Marks

6. List three antitussives and write three uses
7. Mention three uses and three adverse effects prednisone
8. Mention three insulin preparations and three sites where it can be injected
9. Mention betalactamase inhibitors with their combinations and list their clinical uses
10. Explain mechanism of action and two uses of diazepam
11. List three uses and three adverse effects of metronidazole



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

March 2023 Examination

B.Sc. Cardiac Perfusion Technology

Paper - III

[Max. Marks : 40]

Time : 2 Hrs.

Subject: 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 local anaesthetics. Explain the mechanism of action and uses of lignocaine. List complications of spinal anaesthesia (3+2+3+2)

SHORT ESSAY (Answer any Three)

3X 5 = 15 Marks

2. Explain the mechanism, uses and contraindications of Morphine (1+2+2)
3. Explain the mechanism of action ,uses and adverse effects of sodium cromoglycate (2+1.5+1.5)
4. Explain the pharmacological actions, uses and adverse effects of antihistaminics (1+2+2)
5. Explain the mechanism of action, uses and adverse effects of Methotrexate

SHORT ANSWERS (Answer any five)

5 X 3 = 15 Marks

6. List three antitussives and write three uses
7. Mention three uses and three adverse effects prednisone
8. Mention three insulin preparations and three sites where it can be injected
9. Mention betalactamase inhibitors with their combinations and list their clinical uses
10. Explain mechanism of action and two uses of diazepam
11. List three uses and three adverse effects of metronidazole



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

March 2023 Examination

B.Sc. Respiratory Care Technology

Paper - III

[Max. Marks : 40]

Time : 2 Hrs.

Subject: Applied Pharmacology

Q.P Code: J4870

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

1 X 10 = 10 Marks

1. Classify local anaesthetics. Explain the mechanism of action and uses of lignocaine. List complications of spinal anaesthesia (3+2+3+2)

SHORT ESSAY (Answer any Three)

3X 5 = 15 Marks

2. Explain the mechanism, uses and contraindications of Morphine (1+2+2)
3. Explain the mechanism of action ,uses and adverse effects of sodium cromoglycate (2+1.5+1.5)
4. Explain the pharmacological actions, uses and adverse effects of antihistaminics (1+2+2)
5. Explain the mechanism of action, uses and adverse effects of Methotrexate

SHORT ANSWERS (Answer any five)

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10. Explain mechanism of action and two uses of diazepam
11. List three uses and three adverse effects of metronidazole