Rajiv Gandhi University of Health Sciences, Karnataka

Second Year B.Sc. Allied Health Sciences Degree Examination - 05-May-2026

Time: Three Hours **Max. Marks: 50 Marks**

APPLIED PATHOLOGY (RS-3)

(Cardiac Care Technology and Perfusion Technology)

Q.P. CODE: 3266

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

(Note: Both QP Codes 3266 and 3267 are to be answered within total duration of 3 hours)

LONG ESSAYS **1 x 10 = 10 Marks**

1. What is atherosclerosis? List the risk factors and write briefly the pathogenesis and clinical significance of atherosclerosis.

SHORT ESSAYS (Question No. 4 choice) **5 x 5 = 25 Marks**

2. Obstructive uropathy – causes and complications.
3. Bronchial asthma.
4. Define anemia and write the morphological classification of anemia with examples.
   OR
   Define and classify aneurysms. Write the complications of aneurysms.
5. Differentiate between Nephrotic and Nephritic syndrome.
6. Classify bleeding disorders. What are the laboratory tests used in the diagnosis of bleeding disorders.

SHORT ANSWER (Question No.9 choice) **5 x 3 = 15 Marks**

7. Differences between transudate and Exudate.
8. Silicosis.
9. Causes of end stage renal disease.
   OR
   Define and list the types of emphysema.
10. Pericardial effusion.
11. List the main features of Tetralogy of Fallot.

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Rajiv Gandhi University of Health Sciences, Karnataka

Second Year B.Sc. Allied Health Sciences Degree Examination - 05-May-2026

Time: Three Hours **Max. Marks: 50 Marks**

APPLIED MICROBIOLOGY (RS-3)
(Cardiac Care Technology and Perfusion Technology)
Q.P. CODE: 3267

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary
(Note: Both QP Codes 3266 and 3267 are to be answered within total duration of 3 hours)

LONG ESSAYS **1 x 10 = 10 Marks**

1. Write in detail about Catheter associated blood stream infections in patients.

SHORT ESSAYS (Question No. 4 choice) **5 x 5 = 25 Marks**

2. Explain briefly about drug resistance in bacteria.
3. Prevention of hospital acquired infections.
4. Vancomycin resistant Enterococci.
   OR
   Infections caused by Clostridium difficile.
5. Transmission of Hepatitis C
6. Methicillin Resistant S.aureus.

SHORT ANSWER (Question No.9 choice) **5 x 3 = 15 Marks**

7. Chemical disinfectants.
8. CSSD.
9. Fumigation
   OR
   Incineration
10. Bacteria causing Pneumonia.
11. Settle plate method.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Allied Health Sciences Degree Examination - 07-May-2026

Time: Three Hours **Max. Marks: 100 Marks**

APPLIED PHARMACOLOGY (RS-3)

(Cardiac Care Technology and Perfusion Technology)

Q.P. CODE: 3269

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Classify NSAIDs. Write the mechanism of action, uses and adverse effects of Aspirin.
2. **Classify Antihypertensive drugs. Write the therapeutic uses and adverse effects of calcium channel blockers**
   OR
   Enumerate broad spectrum antibiotics. Write the therapeutic uses and adverse effects of Tetracyclines.

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Therapeutic uses of Beta blockers.
4. Morphine.
5. Streptokinase.
   OR
   Chemoprophylaxis.
6. Insulin preparations.
7. Drug antagonism.
8. Antiemetics.
9. Treatment of Organophosphorus poisoning.
10. Uses of Glucocorticoids.
    OR
    Cephalosporins.
11. INH.
12. Diazepam.

SHORT ANSWER **10 x 3 = 30 Marks**

13. Sublingual route.
14. Mention three therapeutic uses of organic nitrates.
15. Mention three adverse effects of Aminoglycosides.
16. Name three techniques used in Local anaesthesia.
17. Uses of Adrenaline.
18. Name three Lipid lowering drugs.
19. Name three Immunosuppressant drugs.
20. Name three drugs used in bronchial asthma.
21. Bioavailability.
22. Name three Plasma expanders.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Cardiac Care Technology Degree Examination – 14-May-2026

Time: Three Hours **Max. Marks: 80 Marks**

MEDICINE RELEVANT TO CARDIAC CARE TECHNOLOGY (RS2)
Q.P. CODE: 1246

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary.

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Explain in detail about pathogenesis of RHD. Describe its management.
2. Classify CHD (Congenital Heart Disease). Describe any one Acyanotic CHD.
3. Classify anemias. Describe clinical features, diagnosis and management of Iron deficiency anemia.

SHORT ESSAYS (Answer any Eight) **8 x 5 = 40 Marks**

4. Write a note on TGA (Transposition of Great Arteries).
5. Classify cardiomyopathy.
6. Chronic renal failure - Etiology, pathophysiology and management.
7. COPD – Etiology and management.
8. Dialysis.
9. CNS diseases – classification and management.
10. Describe PFT and its interpretation.
11. Write a note on sympathetic and parasympathetic nervous system.
12. Describe LV failure.
13. How do you diagnose obesity and management of it?

SHORT ANSWERS (Answer any Ten) **10 x 2 = 20 Marks**

14. **Define lifestyle modification for Diabetes Mellitus**
15. Describe two risk factors of IHD.
16. RV failure and its causes.
17. Classify aortic dissection.
18. What are the causes for pulmonary edema?
19. Mention any four cyanotic CHD's.
20. Define type two diabetes mellitus and its management.
21. Indications for renal transplant.
22. Define bleeding disorders.
23. How to increase iron in blood through dietary intake?
24. Describe a few lab findings in bleeding disorders.
25. Mention a few causes for COPD.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Cardiac Care Technology Degree Examination – 12-May-2026

Time: Three Hours **Max. Marks: 100**

INTRODUCTION TO CARDIAC CARE TECHNOLOGY (RS2)
Q.P. CODE: 1245

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Discuss in detail about Exercise stress test – Indications, Contraindications, procedure, complications and reason for termination
2. Discuss about Doppler Echocardiography and its principles
3. Conduction disturbance of heart in ECG, Explain SA block, AV block and Bundle branch blocks

SHORT ESSAYS (Answer any Twelve) **12 x 5 = 60 Marks**

4. Explain Transesophageal Echocardiography
5. Explain Conduction system of heart
6. ECG changes in LVH and RVH
7. Write a note on Holter monitoring
8. Discuss about 2D Echo views and its uses
9. Describe PRF, aliasing velacity and problems of colour imaging
10. Explain contrast echocardiography
11. Write a note on positive and negative findings of TMT
12. Write a note on B-mode and M-mode
13. Describe properties of an ultrasound wave
14. Setting control of echo cardiography examination
15. Write a note on precordial lead connection in ECG. Add a note on Hexaxial reference system
16. Describe Echo features of LV segments in detail
17. Write a note on radiation hazard and protection in cathlab

SHORT ANSWERS (Answer any Ten) **10 x 2 = 20 Marks**

18. Laminar and Non-laminar flow in echo
19. Ultrasound artifact
20. Enithoven's triangle
21. Various types of transducers and its action
22. Difference between pulse and continuous wave doppler
23. Mention any three ways to measure heart rate on ECG
24. Piezo-electric equipment
25. Metabolic equivalents (METs)
26. Bifascicular and trifascicular blocks
27. Electrical axis of heart
28. Segments of LV
29. Difference between bigeminy and couplets on ECG

Rajiv Gandhi University of Health Sciences, Karnataka

Second Year B.Sc. Cardiac Care Technology Degree Examination – 12-May-2026

Time: Three Hours **Max. Marks: 100 Marks**

Introduction to Cardiac Care Technology (RS-3)

Q.P. CODE: 3274

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. **Explain stepwise approach to ECG interpretation in detail**
2. Draw and explain in detail all 2D Echo views and its uses.
   OR
   Explain TMT indications, contra-indications, termination and positive findings in detail.

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. ECG criteria for RVH
4. Write a note on fascicular blocks.
5. Describe AV blocks in detail.
   OR
   Describe TMT protocols in detail.
6. Write a note on basic principles of ultrasound.
7. Modes of Echo.
8. Explain the positions of probe for all 2D Echo views.
9. Write a note on uses of Color Doppler.
10. Briefly describe laminar and turbulent flow with examples.
    OR
    Write a note on myocardial contrast Echo.
11. Explain the identification of all segments of L.V
12. Differentiate LV and RV morphology by 2D Echo.

SHORT ANSWER **10 x 3 = 30 Marks**

13. Mention a few sterilization techniques used in the Cathlab.
14. Describe methods to calculate LV dimensions by Echo with help of a diagrams.
15. Draw and label parasternal short axis views.
16. Mention a few types of pharmacological stress tests.
17. Mention any three types of transducers.
18. Mention a few hazards of radiations used in the Cathlab.
19. Write the electrical axis deviation in ECG
20. Describe genesis of QRS complex with precodial leads.
21. **Draw and explain Einthoven's triangle**
22. Describe P wave abnormalities.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Cardiac Care Technology Degree Examination – 14-May-2026

Time: Three Hours **Max. Marks: 100 Marks**

Medicine Relevant to Cardiac Care Technology (RS-3)

Q.P. CODE: 3275

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. What is congestive heart failure (LV failure)? What are the cause of CHF, sign and symptoms of CHF
2. What is coronary artery disease? What are the risk factors of CAD? Describe the different types of myocardial infarction

   OR

   Classification of congenital heart diseases

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. What is ARF (Acute renal failure) and CRF (Chronic renal failure)? What are the tests of renal failure?
4. Describe type II and type I diabetes mellitus. How does you diagnose type II diabetes mellitus
5. Describe the signs and symptoms of peripheral vascular disease. Describe the role of ankle brachial index

   OR

   Blood pressure – definition, technique in detail
6. Write a short essay on peripartium Cardiomyopathy
7. Write a short note on cyanotic congenital heart disease
8. Mention five echo features of aortic regurgitation
9. Mention five echo features of mitral regurgitation
10. Write a short note on autonomic nervous system (Sympathetic and parasympathetic system)

    OR

    ECG features of ventricular hypertrophy
11. What is anemia? Describe the causes of anemia-signs and symptoms of anemia
12. Write a short essay on rheumatic heart disease (RHD)

SHORT ANSWER **10 x 3 = 30 Marks**

13. Mention Liver Function Test

    or

    Pulmonary function Test
14. ECG findings of mitral stenosis
15. **ECG findings ofright bundle branch block**
16. Complications of hypertension
17. Describe the typical cardiac chest pain
18. Mention six acyanotic congenital heart diseases
19. Three ECHO features of Hypertrophic Obstructive Cardiomyopathy
20. **Three diseases associated with elderly patient**
21. Write an ECG and name the waves of normal ECG
22. Write three cause of Bradycardia