

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH



(A DEEMED TO BE UNIVERSITY)

B.Sc. Allied Health Sciences Third Year (Semester-V)

March 2025 Examination

B.Sc. Cardiac Care Technology (CCT)

Time: 3 Hrs.

[Max. Marks: 100]

Cardiac Care Technology - Clinical

Q.P Code: J5791

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

Long Essay

2 X 10= 20 Marks

1. Describe in detail about mitral stenosis and discuss the importance of Doppler Echocardiographic techniques in detail
2. Classify congenital heart diseases- Echocardiographic evaluation of atrial septal defects in detail

Short Essay (any ten)

10 X 5= 50 Marks

3. Echo features of Mitral regurgitation
4. Echo features of Coarctation of Aorta
5. Severity assessment of Aortic stenosis by echocardiography
6. Echo features of a) LV aneurysm b) Left atrial Myxoma
7. Prosthetic Valve Malfunction- Echo features
8. Severity assessment of Aortic regurgitation by echocardiography
9. Right ventricular systolic function assessment by echocardiography
10. Wilkin's score in mitral stenosis
11. Causes and clinical presentation of mitral regurgitation
12. Quantification of left atrium by echocardiography
13. Echo Features of Pulmonary Stenosis
14. Explain the doppler findings in diastolic dysfunction

Short Answers (any ten)

10 X 3= 30 Marks

15. TAPSE
16. Echo features of PDA
17. Normal variants in echocardiography
18. Infective endocarditis
19. Mitral valve prolapse
20. Spontaneous echo contrast
21. MAPSE
22. Wall motion score index
23. Name the cyanotic heart diseases
24. LV apical clot
25. How do you calculate RVSP by echocardiography?
26. Biplane simpson's method

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B.Sc. Cardiac Care Technology (CCT)

Time: 3 Hrs.

[Max. Marks: 100]

Cardiac Care Technology - Applied

Q.P Code: J5792

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

Long Essay (NO Choice)

2 X 10= 20 Marks

1. Mention indications and contraindications of Transesophageal Echocardiography (TEE). What are the complications you expect while performing TEE?
2. Write in detail about the ECG changes seen in anterior wall myocardial infarction and inferior wall myocardial infarction

Short Essay (Answer any 10)

10 X 5= 50 Marks

3. Right bundle branch block – ECG criteria
4. ECG changes in various types of ASD
5. ECG in left bundle branch block
6. WPW syndrome
7. ECG changes seen in tetralogy of fallot
8. ECG criteria for RVH
9. ECG in Various types of Cardiomyopathy
10. ECG in posterior wall myocardial infarction
11. ECG criteria for Left ventricular hypertrophy
12. ECG criteria for left anterior hemi block (LAHB) and left posterior hemi block (LPHB)
13. Define aortic stenosis. ECG changes seen in aortic stenosis
14. Classify hypertension. Comment on recording blood pressure

Short Answers (Answer any 10)

10 X 3= 30 Marks

15. ECG in atrial fibrillation
16. ECG in Pericardial Effusion
17. ECG in aortic stenosis
18. ECG in pulmonary stenosis
19. ECG in Acute Pericarditis
20. Wellen's syndrome
21. ECG changes in left atrial abnormality
22. ECG changes in right atrial abnormality
23. Name any three complications of myocardial infarction
24. True and technical dextrocardia
25. Define cyanosis and clubbing
26. Pathophysiology of ASD

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B.Sc. Allied Health Sciences Third Year (Semester-V)

March 2025 Examination

B.Sc. Cardiac Care Technology (CCT)

Time : 3 Hrs.

[Max. Marks: 100]

Cardiac Care Technology-Advanced

Q.P Code: J5793

Long Essay

2 X 10= 20 Marks

1. Define cardiac arrest. Write its causes and explain Basic life support in detail.
2. Discuss in detail – indications, contraindications and complications of tread mill test.

Short Essay (any ten)

10 X 5= 50 Marks

3. Balloon mitral valvuloplasty – procedure
4. Adult Advanced Cardiac life support algorithm
5. Defibrillator – indications, procedure to use and complications
6. Wilkin's score
7. Pulmonary balloon valvuloplasty- procedure and complications
8. ECG in hyperkalemia
9. Criteria for strongly positive TMT
10. Aortic valve balloon valvuloplasty- procedure and complications
11. Indications and procedure of PDA device closure
12. ECG changes seen in TMT
13. ECG in hypokalemia
14. Holter monitoring- procedure and usefulness

Short Answers

10 X 3= 30 Marks

15. Complications of PTMC
16. Classify congenital heart disease
17. Ventricular fibrillation
18. ECG in atrial fibrillation
19. What is Complete and incomplete RBBB
20. Complications of PDA device closure
21. Ventricular premature complexes
22. Three uses of myocardial perfusion scan
23. Artificial respiration
24. Sinus tachycardia and sinus bradycardia
25. Conduction system of the heart
26. ECG in Heart Blocks

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B.Sc. Allied Health Sciences Third Year (Semester-V)

March 2025 Examination

B.Sc. Cardiac Care Technology (CCT)

Time: 2.30 Hrs.

[Max. Marks: 80]

Cardiac Care Technology Clinical

Q.P Code : K5681

Long Essay

2 X 10= 20 Marks

1. Describe in detail about Aortic stenosis and discuss the importance of Doppler Echocardiographic techniques in detail
2. Wall segments in detail and assessment of left ventricular systolic function by Echocardiographic technique

Short Essay

6 X 5= 30 Marks

3. Severity assessment of mitral stenosis by echocardiography
4. Echocardiographic features of Dilated cardiomyopathy
5. Severity assessment of aortic regurgitation by echocardiography
6. Echo in Atrial Septal defect
7. Echocardiographic features of Hypertrophic cardiomyopathy
8. Severity assessment of mitral regurgitation by echocardiography

Short Answers

10 X 3= 30 Marks

9. Echo in Pulmonary Stenosis
10. Echocardiographic features of restrictive cardiomyopathy
11. TAPSE
12. Draw diagram of normal M-mode of Mitral Valve
13. LV Aneurysm
14. E point septal separation
15. Sphericity index
16. Wall motion score index
17. Echo in PDA
18. ASD and VSD types

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March 2025 Examination

B.Sc. Cardiac Care Technology (CCT)

Time: 2.30 Hrs.

[Max. Marks: 80]

Cardiac Care Technology Applied

Q.P Code: K5682

Long Essay

2 X 10= 20 Marks

1. ECG criteria for left ventricular hypertrophy and right ventricular hypertrophy
2. Indications, contraindications and procedure of Trans Oesophageal Echocardiography (TEE)

Short Essay

6 X 5= 30 Marks

3. Complete Right bundle branch block – ECG criteria
4. ECG changes in various types of ASD
5. ECG in complete left bundle branch block
6. ECG in anterior wall MI
7. ECG changes seen in inferior wall MI
8. ECG changes seen in aortic stenosis and mitral stenosis

Short Answers

10 X 3= 30 Marks

9. ECG in atrial fibrillation
10. Classification of hypertension
11. Components of TOF
12. ECG in posterior wall myocardial infarction
13. ECG in ventricular Tachycardia
14. WPW syndrome- ECG changes
15. ECG changes in left atrial abnormality
16. ECG changes in right atrial abnormality
17. Name any three complications of myocardial infarction
18. Various types of cardiomyopathies

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B.Sc. Cardiac Care Technology (CCT)

Time: 2.30 Hrs.

[Max. Marks: 80]

Cardiac Care Technology Advanced

Q.P Code: K5683

Long Essay

2 X 10= 20 Marks

1. Discuss in detail about the indications, procedure and complications of Aortic valve Balloon valvuloplasty
2. Tread mill Test - indications, contraindications, procedure.

Short Essay

6 X 5= 30 Marks

3. Wilkin's score
4. Pulmonary balloon valvuloplasty- procedure and complications
5. Mitral valve Balloon valvuloplasty –materials used and procedure
6. Holter monitoring- indications, procedure
7. When do you terminate a Treadmill test?
8. Defibrillator – indications, procedure to use and complications

Short Answers

10 X 3= 30 Marks

9. Conduction system of the heart
10. Classify congenital heart disease
11. Ventricular fibrillation
12. Cardioversion
13. ECG in atrial fibrillation
14. Complications of PDA device closure
15. Ventricular premature complexes
16. ECG in hypokalemia
17. Second degree heart block
18. Sinus tachycardia and sinus bradycardia