



## **SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH**

**(A DEEMED TO BE UNIVERSITY)**

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

**September 2025 Examination**

**B.Sc. Cardiac Care Technology**

**Cardiac Care Technology - Clinical**

**[Max. Marks: 100]**

**Time: 3 Hours**

**Q.P Code: J6791**

*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 the Echocardiographic Features of Cardiac Tamponade.
2. Write in detail about views, Procedure of Coronary angiogram.

### **SHORT ESSAY (Answer any Ten)**

**10X 5 = 50 Marks**

3. Constrictive versus Restrictive Cardiomyopathy.
4. Anaphylactoid reactions to Contrast media.
5. Echocardiographic Features of Constrictive Pericarditis.
6. Left Heart Catheterization -Procedure, Indications.
7. Echo in Pericardial Effusion.
8. Write a short note on Swan Ganz Catheter.
9. Peripheral Angiography -Procedure, Indication.
10. Right Heart Catheterization -Procedure, Indications.
11. Write a short note on Catheters.
12. Seldinger's Technique.
13. Difference between Pericardial and Pleural Effusion.
14. Characteristics Of Ideal Catheters.

### **SHORT ANSWERS (Answer any Ten)**

**10 X 3 = 30 Marks**

15. Guiding Catheters
16. Shunt Fraction (QP/Qs)Formula
17. Contrast Power Injector-Uses
18. Complications of Right Heart Catheterizations
19. Materials used for Coronary Angiogram.
20. Judkins catheter.
21. Contraindications of Peripheral Angiogram.
22. Normal oxygen saturation of SVC, IVC, RA and RV
23. Complications of Left Heart Catheterizations
24. Materials used for Peripheral angiography
25. Complications of Coronary Angiography
26. Etiology of Pericardial Diseases.

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**September 2025 Examination**

**B.Sc. Cardiac Care Technology**

**Cardiac Care Technology – Applied**

**Q.P Code: J6792**

**Time: 3 Hrs.**

**[Max. Marks: 100]**

*Your answers should be specific to the questions asked.*

*Draw neat labelled diagrams wherever necessary.*

### **LONG ESSAY**

**2 X 10 = 20 Marks**

1. Dobutamine stress echo-Procedure and Complications.
2. Coronary angioplasty -Indications, Complications and Procedure.

### **SHORT ESSAY (Answer any Ten)**

**10X 5 = 50 Marks**

3. Write about Peripheral Doppler.
4. Clinical Applications of contrast echo.
5. Peripheral Angioplasty -Indications, Procedure.
6. ST Segment Depression -Types.
7. Fetal echo-Indications
8. Protocols in TMT
9. Various Views of Fetal echo
10. Myocardial Contrast echo
11. Contraindications for TMT
12. Exercise Stress echo -Indications and Procedure.
13. Indications to terminate Dobutamine stress echo.
14. Draw Parasternal short axis views.

### **SHORT ANSWERS (Answer any Ten)**

**10 X 3 = 30 Marks**

15. Complications of Peripheral Angioplasty.
16. Materials used in Coronary Angioplasty.
17. Wall motion score index.
18. What is Hypokinesia and Akinesia?
19. Properties of Ideal Contrast agent.
20. Target Heart Rate in TMT.
21. Segments seen in Apical 3 chamber view.
22. Suprasternal View.
23. TIMI flow grading.
24. Draw Apical 2, 4 chamber views.
25. Ankle Brachial Index.
26. OTW Balloon Catheter.



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**September 2025 Examination**

**B.Sc. Cardiac Care Technology**

**Cardiac Care Technology -Advanced**

**[Max. Marks: 100]**

**Q.P Code: J6793**

**Time: 3 Hrs.**

*Your answers should be specific to the questions asked.*

*Draw neat labelled diagrams wherever necessary.*

### **LONG ESSAY**

**2 X 10 = 20 Marks**

1. Discuss in detail about the indications, and procedure of VSD Device closure .
2. Pressure recordings in various cardiac chambers in detail.

### **SHORT ESSAY (Answer any Ten)**

**10X 5 = 50 Marks**

3. ASD Types and Rims in detail
4. Temporary Pacing methods.
5. Write about Electrophysiological Study.
6. Indications and Procedure of permanent pacemaker Implantation.
7. Procedure of ASD Device Closure.
8. Uses of Implantable Cardioverter Defibrillator.
9. Conduction system of heart.
10. Indications and Contraindications of Temporary Pacing.
11. ASD Device Closure -Indications, Contraindications.
12. Classification of Arrhythmia? Write about Complete Heart block
13. Explain about Oximetry in detail.
14. VSD Device Closure -Materials used and Complications.

### **SHORT ANSWERS (Answer any Ten)**

**10 X 3 = 30 Marks**

15. Atrial Flutter.
16. Cardioversion.
17. Ventricular Tachycardia.
18. Amplatz septal occluder .
19. Complications of ASD Device closure.
20. Types of VSD.
21. Mapping and Ablation.
22. Shunt Fraction (Qp/Qs).
23. Cardiac asystole .
24. Modality of Imaging in Nuclear Cardiology.
25. Indications for Electrophysiological study.
26. Precautions to be followed during procedures in pregnancy.

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

**September 2025 Examination**

**B.Sc. Cardiac Care Technology (CCT)**



**Time: 2hrs 30 mins**

**[Max. Marks: 80]**

**Cardiac Care Technology - Clinical**

**Q.P Code: K6691**

**Long Essay**

**2 X 10= 20 Marks**

1. Describe in detail about the Echocardiographic features of Constrictive Pericarditis
2. Indications, contraindications, Procedure and Complications of Right Heart Catheterization

**Short Essay**

**6 X 5= 30 Marks**

3. Difference between Constrictive and Restrictive cardiomyopathy seen in echocardiography
4. Indications, contraindications and complications of left heart catheterization
5. Write in detail about the coronary angiographic views
6. Indication, contraindications and procedure of Peripheral angiography
7. Swan-Ganz Catheter
8. Echocardiographic features of cardiac tamponade

**Short Answers**

**10 X 3= 30 Marks**

9. Complications of coronary angiography
10. Judkins catheter
11. Guide wires
12. Fick's principle for the measurement of cardiac output
13. Seldinger's Technique
14. Name any three low-osmolar non-ionic contrast agents
15. Complications of peripheral angiography
16. Universal coronary catheters
17. Use of contrast power injector
18. Pressure tracings of RA, RV and PA

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

**September 2025 Examination**

**B.Sc. Cardiac Care Technology (CCT)**

**Time: 2hrs 30 mins**

**[Max. Marks: 80]**

**Cardiac Care Technology - Applied**

**Q.P Code: K6692**

**Long Essay**

**2 X 10= 20 Marks**

1. Dobutamine stress echo- indications and procedure
2. Indications, procedure and complications of coronary angioplasty

**Short Essay**

**6 X 5= 30 Marks**

3. Contraindications of TMT
4. Indications to terminate TMT?
5. Explain about Fetal echocardiography
6. Materials used for coronary angioplasty
7. Explain about contrast echocardiography
8. Peripheral angioplasty- materials used and procedure

**Short Answers**

**10 X 3= 30 Marks**

9. Wall motion score index
10. Segments seen in apical 4 chamber view
11. Define hypokinesia and akinesia
12. Responses at rest and stress during a stress echo and their interpretation
13. Guiding catheters
14. Angioplasty Stents
15. OTW balloon catheter
16. Bruce protocol in TMT
17. Name any three ultrasound contrast agents
18. Parasternal Short axis views.

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

September 2025 Examination

**B.Sc. Cardiac Care Technology (CCT)**

Time: 2.30 Hrs.

[Max. Marks: 80]

**Cardiac Care Technology-Advanced**

Q.P Code: K6693

**Long Essay**

**2 X 10= 20 Marks**

1. Discuss types of ASD- briefly discuss ASD device closure procedure and its postoperative complications
2. Discuss in detail – procedure and complications of permanent pacemaker implantation

**Short Essay**

**6 X 5= 30 Marks**

3. VSD device closure – indications and materials used for the procedure
4. Procedure and complications of VSD device closure
5. Temporary pacing
6. Electrophysiological study- indications
7. Normal pressure tracings and values with neat diagram
8. Oximetry in detail

**Short Answers**

**10 X 3= 30 Marks**

9. Ventricular tachycardia
10. Modalities of imaging in nuclear cardiology
11. Amplatz septal occluder
12. Cyanosis
13. Conduction system of the heart
14. Multipurpose catheter
15. Atrial fibrillation
16. Swan- Ganz catheter
17. Name the cyanotic congenital heart diseases
18. Seldinger's technique