

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH



(A DEEMED TO BE UNIVERSITY)

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

April 2024 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 regurgitation and discuss the importance of Doppler Echocardiographic techniques in detail
2. Echocardiographic features of a) ASD b) pulmonary stenosis

Short Essay (any ten)

10 X 5= 50 Marks

3. Severity assessment of aortic regurgitation by echocardiography
4. Left ventricle systolic function assessment by Echocardiography
5. Left atrial and right atrial assessment by echocardiography
6. Draw labelled diagrams of echocardiography in different types of ASD
7. Wilkins score
8. Echocardiographic features of PDA
9. Explain pathophysiology and causes of mitral regurgitation
10. What are the causes and pathophysiology of Aortic regurgitation?
11. Explain two dimensional and m mode findings in the assessment of LV systolic function with neat labelled diagram
12. Explain the clinical manifestation and diagnosis of RHD
13. Diagnosis and severity assessment of Pulmonary stenosis by echocardiography
14. Types of prosthetic valve

Short Answer (any ten)

10 X 3= 30 Marks

15. What are the parameters used to assess RV systolic function
16. MAPSE
17. What is PDA
18. Rheumatic fever
19. E-point Septal Separation
20. Components of Tetralogy of fallot
21. Low flow low gradient aortic stenosis
22. Normal variants in cardiac chambers
23. Biplane Simpson's method
24. Aortic dissection
25. TAPSE
26. Write a note on estimation of PA pressure by echocardiography

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Draw neat labelled diagrams wherever necessary.

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 Esophageal Echocardiography (TEE)

Short Essay (any ten)

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. ECG in anterior wall MI
7. ECG changes seen in tetralogy of fallot
8. ECG changes seen in aortic stenosis and mitral stenosis
9. ECG in inferior wall MI
10. ECG criteria for left anterior hemi block (LAHB) and left posterior hemi block (LPHB)
11. ECG in posterior wall MI
12. Classify hypertension. Comment on recording blood pressure
13. ECG changes seen in mitral regurgitation
14. ECG changes in left atrial abnormality and right atrial abnormality

Short Answers (any ten)

10 X 3= 30 Marks

15. ECG in atrial fibrillation
16. Pathophysiology of PDA
17. Pathophysiology of ASD
18. Classification of hypertension
19. Components of TOF
20. ECG findings in acute pericarditis
21. ECG in ventricular Tachycardia
22. WPW syndrome
23. Define coarctation of aorta
24. Name any three complications of myocardial infarction
25. Various types of cardiomyopathies
26. Pathophysiology of chronic aortic regurgitation

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Time : 3 Hrs.

[Max. Marks : 100]

Cardiac Care Technology Advanced

Q.P Code : J5793

Long Essay

2 X 10= 20 Marks

1. Discuss in detail about Balloon mitral valvuloplasty
2. Discuss about Echocardiography features of PDA. Write in detail about PDA device closure and its complications.

Short Essay (any ten)

10 X 5= 50 Marks

3. Wilkin's score
4. Pulmonary balloon valvuloplasty- procedure and complications
5. Aortic valve Balloon valvuloplasty –materials used and procedure
6. Adult Basic life support algorithm
7. PDA coil closure- materials used and procedure
8. Defibrillator – indications, procedure to use and complications
9. PTMC- indications and procedure
10. Holter monitoring- procedure and usefulness
11. TMT- procedure and usefulness
12. ECG changes seen in TMT
13. ECG in a) Atrial fibrillation b) Asystole c) ventricular tachycardia
14. Write a note on myocardial perfusion scan

Short Answers (any ten)

10 X 3= 30 Marks

15. Ventricular premature complexes
16. ECG in hypokalemia
17. Artificial respiration
18. Heparin
19. Shockable and non shockable rhythms
20. Complications of aortic valve balloon valvuloplasty
21. Cardiac asystole
22. Ventricular fibrillation
23. Complications of PTMC
24. Define complete and incomplete LBBB
25. ECG changes seen in hyperkalemia
26. Three purpose of cardiac monitoring

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

April 2024 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 echocardiographic features of
 - a) Normal mitral valve
 - b) Mitral regurgitation- its classification and degree of severity by echo
2. Describe various methods used for assessment of left ventricle systolic function

Short Essay

6 X 5= 30 Marks

3. Echocardiographic assessment of mitral stenosis
4. Echocardiographic assessment of LV diastolic function
5. Echocardiographic assessment of hypertrophic cardiomyopathy
6. How to you assess TAPSE, RV FAC, LVEF (Biplane Simpson's method) by echocardiography
7. Left atrial and right atrial assessment by echocardiography
8. How do you calculate Aortic valve area by Continuity Equation method in echocardiography

Short Answers

10 X 3= 30 Marks

9. Classification of VSD
10. Carpentier's classification of mitral regurgitation
11. Components of TOF
12. What is PDA
13. Doppler echo features of Restrictive cardiomyopathy
14. How do you assess MAPSE by echo?
15. RVSP calculation by echocardiography
16. Draw diagram of normal M-mode at aortic valve level
17. E-point Septal Separation
18. Wall motion score index

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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. Define and classify Hypertension. Write in detail about the ECG changes seen in left ventricular hypertrophy
2. ECG changes seen in complete Right bundle branch block and complete Left bundle branch block

Short Essay

6 X 5= 30 Marks

3. ECG criteria for RVH
4. Contraindications and complications of Trans esophageal echocardiography
5. ECG changes seen in hyper acute phase of MI
6. ECG changes seen in inferior wall MI
7. ECG changes seen in mitral stenosis and mitral regurgitation
8. ECG in anterior wall MI

Short Answers

10 X 3= 30 Marks

9. ECG in atrial fibrillation
10. ECG in posterior wall MI
11. ECG in aortic stenosis
12. ECG in pulmonary stenosis
13. ECG in ventricular Tachycardia
14. WPW syndrome
15. ECG changes in left atrial abnormality
16. ECG changes in right atrial abnormality
17. Indications of Trans esophageal echocardiography
18. ECG changes seen in true dextrocardia

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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 Balloon mitral valvuloplasty
2. Discuss in detail – indications, contraindications, procedure of Treadmill test

Short Essay

6 X 5= 30 Marks

3. Pulmonary balloon valvuloplasty – procedure and complications
4. Adult Basic life support algorithm
5. Defibrillator – indications, procedure to use and complications
6. ECG in a) Atrial fibrillation b) Asystole c) ventricular tachycardia
7. Aortic balloon valvuloplasty- procedure and complications
8. Holter monitoring- procedure and usefulness

Short Answers

10 X 3= 30 Marks

9. Sinus rhythm
10. ECG in hyperkalemia
11. Ventricular fibrillation
12. Complications of PDA device closure
13. Materials used in PDA device closure
14. Ventricular premature complexes
15. ECG in hypokalemia
16. Artificial respiration
17. Write any three indications for terminating TMT
18. What is Cardioversion