SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

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

March 2023 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 (no choice) **2×10=20 Marks**

1. Explain about Tetralogy of Fallot-(TOF)- pathology, clinical Features, Ecg, X ray, Echocardiography findings .
2. Describe Anatomy, pathology, clinical features, Echo findings in PDA.

Short Essay (Answer any 10) **10×5=50 Marks**

3. Define Situs Solitus, Situs Inversus, Levocardia, Dextrocardia and Transposition.
4. Explain in ASD- clinical features, diagnosis (ecg/ xray/ echocardiography findings)
5. Brief about Pathology, clinical features of Ebsteins Anomaly.
6. Answer about Anatomy, Pathology of COA.
7. Explain classification, pathophysiology, in ASD-Atrial Septal Defect.
8. Explain about management of PDA.
9. Answer about classification (Location/ size/ pulm-syst flow) on VSD- Ventricular Septal Defect.
10. Describe Echocardiographic features of Ebsteins Anomaly
11. Comment about management of ASD.
12. Explain about AVCANAL defect pathology, Echocardiography findings
13. Brief about complications of COA
14. Answer about TAPVC, clinical features.

Short answer (Answer any 10) **10×3=30 Marks**

15. Describe about TAPVC management
16. Comment about Cor TriaTriatum management.
17. Brief about AV canal Defect management.
18. Explain ECG features in ASD
19. Comment about Classification of Congenital Heart diseases with examples
20. Explain about Fetal circulation
21. Answer about Complications of PDA
22. Answer about COA classification- EDWARDS and CELORIA and PATTON
23. Explain management of TOF
24. Brief about CHARGE and RUBELLA syndrome
25. Comment about AV CANAL defect clinical features
26. Explain about AP window Clinical features

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I. Long Essay (no choice) **2×10=20 Marks**

1. Briefly explain ECG, X-ray and echocardiographic findings of mitral stenosis and write a note on Wilkin's score and Cormier grade system.
2. Briefly explain the grading of LV diastolic dysfunction by echocardiography

II. Short Essay (Answer any 10) **10×5=50 Marks**

3. Explain the management of mitral stenosis in detail
4. Clinical presentation, physical findings, ECG and X-ray of aortic regurgitation
5. What is the role of TEE and DSE in aortic stenosis and write a note on Hemodynamic calculations of aortic stenosis
6. Explain echocardiographic assessment of RV systolic function
7. Classification, clinical presentation and physical findings of infective endocarditis
8. Explain doppler findings in LV systolic dysfunction and write a note on speckle tracking echocardiography in assessment of LV systolic function
9. Explain Duke score in infective endocarditis
10. Causes and clinical presentation of mitral regurgitation
11. What are the advantage and disadvantage of bioprosthetic and mechanical prosthetic valve
12. Explain Jones criteria of RHD
13. Explain the severity assessment, Cath findings and management of mitral regurgitation
14. Explain normal and abnormal doppler findings of prosthetic valve

III. Short answer (Answer any 10) **10×3=30 Marks**

15. List causes of acute and chronic aortic regurgitation
16. Pathophysiology of aortic stenosis
17. Clinical presentation of aortic stenosis
18. Two-dimensional echocardiographic assessment of LV systolic function
19. Write a short note on ventricular septal motion in RV pressure and volume overload
20. Management of RHD
21. Etiology of tricuspid regurgitation
22. Patient-prosthesis mismatch
23. Echocardiographic findings in mitral valve prolapse
24. Pathophysiology of chronic mitral regurgitation
25. Clinical presentation of mitral stenosis
26. List the differences between Thrombus vs Pannus in prosthetic valve

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Cardiac Care Technology Applied

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Your answers should be specific to the questions asked.
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Long Essay (no choice) **2×10=20 Marks**

1. Briefly explain anatomical types, associated defects, pathology, ECG, X-ray and echocardiographic findings of Coarctation of aorta
2. Briefly explain the etiology and pathophysiology of restrictive cardiomyopathy

II. Short Essay (Answer any 10) **10×5=50 Marks**

3. Explain ECG, X-ray and Echocardiographic findings of aortic dissection
4. Classification and pathology of pulmonary hypertension
5. Causes of DCM
6. Clinical presentation and physical examination of DCM
7. Pathology of TOF
8. Classification of VSD
9. Explain hypoxic spell in detail
10. Classification of ASD
11. Explain echocardiographic findings of DCM in detail
12. Explain Debakey and Stanford classification of aortic dissection
13. Echocardiographic findings of HCM
14. Echocardiographic findings of VSD

III. Short answer (Answer any 10) **10×3=30 Marks**

15. Define Venturi effect and drag effect in HCM
16. ECG and X -ray findings of DCM
17. Causes of aortic dissection
18. ECG and X-ray findings of TOF
19. Echocardiographic findings in pulmonary hypertension
20. Pathophysiology of constrictive pericarditis
21. What are the differential diagnosis of acute pericarditis
22. Alcohol septal ablation
23. Define ventricular interdependence and annular reverses in CCP
24. ECG and X-ray findings in pericardial effusion
25. Signs and symptoms of pericardial tamponade
26. ECG and X-ray findings of pulmonary hypertension

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Cardiac Care Technology Applied

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Your answers should be specific to the questions asked.
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Long Essay (no choice) **2×10=20 Marks**

1. Comment on aetiology, pathology, clinical features, ECG, Echocardiographic features of Constrictive Pericarditis.
2. Answer in brief about Cardiac Tamponade- Aetiology, clinical features, pathology, Echocardiographic assessment.

Short Essay (Answer any 10) **10×5=50 Marks**

3. Comment on aetiology, pathology of Hypertrophic Cardiomyopathy (HCM).
4. Answer LV Diastolic Dysfunction- different modalities of assessment.
5. Explain Echocardiographic features of Hypertrophic Cardiomyopathy (HCM).
6. Short note on Speckle tracking echocardiography.
7. Describe LV Diastolic Dysfunction and its grading by echocardiography
8. Explain about Echocardiographic assessment of LV Systolic Function assessment (LVSF)
9. Brief about Echocardiographic assessment of RV dysfunction
10. Describe management of Constrictive Pericarditis.
11. Comment about Echocardiographic differences between Restrictive Cardiomyopathy and Constrictive Pericarditis.
12. Answer about Echocardiographic differences of Ischemic DCMP (IDCMP) vs Dilated cardiomyopathy (DCMP)
13. Explain about Anatomy and function of Pericardium.
14. Answer about anatomy of RV(Right Ventricle), aetiology of RV dysfunction.

Short answer (Answer any 10) **10×3=30 Marks**

15. Answer about definition of Cardiomyopathy and classification .
16. Describe Anatomical types of (Hypertrophic Cardiomyopathy) HCMP
17. Explain factors contributing to LVOT obstruction.
18. Brief about EPSS.
19. Describe about Clinical Features of Dilated Cardiomyopathy (DCMP).
20. Explain about ICD implantation.
21. Comment about Tei Index
22. Explain clinical features, ECG features of Hypertrophic Cardiomyopathy.
23. Describe about etiology of Dilated Cardiomyopathy (DCMP).
24. Explain about Lobster Claw abnormality.
25. Explain Echo findings in Amyloidosis, Sarcoidosis
26. Brief about MAPSE

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Cardiac Care Technology Advanced

Q.P Code : J5793

Your answers should be specific to the questions asked.
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Long Essay (no choice) **2×10=20 Marks**

1. Answer in brief about Aortic regurgitation(AR)- Anatomy, Pathophysiology, clinical features, X ray, ECG, Echocardiography findings.
2. Describe aetiology, pathophysiology, clinical features, diagnosis- Rheumatic Heart Disease (RHD)

Short Essay (Answer any 10) **10×5=50 Marks**

3. Explain about echocardiographic findings of (Mitral Stenosis) MS along with grading of severity.
4. Describe about management of Infective Endocarditis(IE)
5. Explain Low Gradient, Low Flow, Low EF AS (Aortic Stenosis)
6. Comment in brief about management of Mitral regurgitation (MR).
7. What is Wilkin's and Cormier scoring for MS-Mitral stenosis?
8. Explain Peripheral Clinical Signs of Aortic regurgitation(AR)
9. Comment about TS/TR echocardiographic evaluation.
10. Describe about management of Rheumatic Fever.(Rh Fever)
11. Explain in brief about Mitral regurgitation (MR)- Anatomy, pathophysiology
12. Answer about management of degenerative prosthetic heart valves
13. Answer in brief about Aortic Stenosis (AS)- Etiology, echo assessment.
14. Explain Dehiscence, Stuck Valve, Pannus, Para valvular leak.

Short answer (Answer any 10) **10×3=30 Marks**

15. Describe about Mitral Valve prolapse and anatomy of Mitral Valve.
16. Describe Chest X ray findings in-Mitral stenosis.
17. Answer in brief about Mitral regurgitation (MR)- clinical features, X ray, ECG findings.
18. Explain about Dukes criteria of Infective Endocarditis.
19. Answer in brief about Mitral regurgitation (MR) Echocardiographic findings
20. Comment about pathology, aetiology of TS/TR.
21. Explain about Complications of Aortic Stenosis.
22. Explain differences between Acute and Chronic MR on Echocardiography.
23. Describe about Functional classification of Mitral Regurgitation (MR)
24. Comment about Jones criteria of Rheumatic Fever.
25. Explain about Complications of Mitral Stenosis
26. Explain about Prosthetic Heart Valves, types, uses.

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Cardiac Care Technology Advanced

Q.P Code: J5793

Your answers should be specific to the questions asked.
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Long Essay (no choice) **2×10=20 Marks**

1. Briefly explain the pathophysiology, signs & symptoms, lab examination, diagnostic testing and management in patients with acute MI
2. Briefly explain indication, contraindication, patient preparation and procedure of TEE

Short Essay (Answer any 10) **10×5=50 Marks**

3. What are the causes and ECG findings in ventricular fibrillation
4. Difference between VT from SVT with aberrancy
5. Trans gastric views of TEE with neat labelled diagram
6. Patient preparation and procedure in PTCA
7. ECG in electrolyte abnormalities of potassium
8. Different angiographic projections to view LCA and RCA
9. Explain ventricular aneurysm
10. Clinical presentation, physical examination and diagnosis of cardiac tumor
11. Pathophysiology, classification and ECG findings in WPW syndrome
12. Clinical presentation, classification and ECG findings in atrial flutter
13. ECG, TTE, TEE findings in patients with atrial fibrillation
14. What are the types, testing and steps to use the defibrillator

Short answer (Answer any 10) **10×3=30 Marks**

15. Complications of TEE
16. Indication and contraindications of PTCA
17. ECG criteria of digitalis drug effect
18. Seldinger access site technique used in coronary angiography
19. Pathophysiology of ventricular free wall rupture
20. Cardiac myxoma
21. Classification and ECG criteria of AVRT
22. Classification of atrial fibrillation
23. Prerequisites for effective chest compression in infants
24. What are the indication and contraindication of Adenosine
25. ECG criteria of MAT
26. What is the mechanism of acute MR in patients with acute MI