

Question Paper

Exam Date & Time: 07-Dec-2021 (02:30 PM - 04:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. CARDIO VASCULAR TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2021
SUBJECT: BCVT 301 - BASICS IN CARDIAC CATH AND HARDWARES
(2016 SCHEME)

Answer ALL questions.

Marks: 50

Duration: 120 mins.

- 1) Explain the difference between stochastic and deterministic effects of radiations, and write the strategies to limit the radiation doses. (10)
- 2) Write the indications, contraindications, procedure and complications of implantable cardioverter defibrillator. (10)
- 3A) Write a note on beta blockers. (5)
- 3B) Explain Fick's principle for cardiac output measurements. (5)
- 3C) Write a note on radial approach in interventional vascular access. (5)
- 3D) Explain the changes in right atrial pressures waveforms in different conditions. (5)
- 4A) Define step up and step down of oxygen saturation. (2)
- 4B) Write the types of embolic protection devices. (2)
- 4C) Give the Gorlin's formula for aortic valve area assessment. (2)
- 4D) Draw a neat labelled diagram of ventricular septal defect device. (2)
- 4E) Draw the floor plan of cardiac catheterization laboratory. (2)

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Question Paper

Exam Date & Time: 09-Dec-2021 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2021
SUBJECT: BCVT 303 - MYOCARDIAL, PERICARDIAL AORTIC AND ISCHEMIC HEART DISEASES
(2016 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the assessment of diastolic function by Echocardiography also explain diastolic dysfunction in various disease conditions. (20)
- 2) Explain Acute Coronary Syndrome. Describe the pathophysiology, clinical findings and investigations performed in Acute MI. (20)
- 3) Explain the assessment of RV function by echocardiography in detail with labelled diagrams. (10)
- 4) Explain in detail the mechanical complications of Myocardial infarction. (10)
- 5A) Explain LV systolic function assessment by 2D and volumetric method. List the advantages and disadvantages briefly. (5)
- 5B) Write a short note on Arrhythmogenic RV dysplasia. (5)
- 5C) Explain the pathophysiology in constrictive pericarditis. (5)
- 5D) Explain the echo findings in Restrictive cardiomyopathy. (5)
- 5E) Write a short note on LA myxoma. (5)
- 5F) Explain the echo findings in cardiac tamponade. (5)
- 6A) What is Dressler's syndrome? Mention the ECG findings. (2)
- 6B) Classify Aortic dissection. (2)
- 6C) List the echo findings in LV non compaction. (2)
- 6D) Define Stable and unstable angina. (2)
- 6E) What is Myocardial performance Index? List the advantages over conventional Doppler. (2)

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Question Paper

Exam Date & Time: 11-Dec-2021 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2021
SUBJECT: BCVT 305 - CONGENITAL HEART DISEASE II
(2016 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain echocardiographic approach to congenital heart disease in brief. (20)
- 2) Describe Clinical presentation and diagnosis of TOF with pulmonary atresia. (20)
- 3) Describe pathophysiology and clinical presentation of DTGA. (10)
- 4) Describe the clinical presentation and echocardiography in COA among infants. (10)
- 5A) Describe the management of DORV. (5)
- 5B) Describe the classification of aortic arch anomalies. (5)
- 5C) Describe BT shunt in detail. (5)
- 5D) Describe the pathophysiology of truncus arteriosus. (5)
- 5E) Describe the classification of coronary anomalies. (5)
- 5F) Describe clinical presentation of ALCAPA in brief. (5)
- 6A) Write the X-ray findings in decreased pulmonary flow. (2)
- 6B) Write the ECG findings in Tricuspid atresia. (2)
- 6C) Enumerate two conditions with duct dependent systemic circulation. (2)
- 6D) Define overriding. (2)
- 6E) Write the classic echocardiographic feature of RSOV. (2)

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Question Paper

Exam Date & Time: 14-Dec-2021 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2021
SUBJECT: BCVT 307 - VALVULAR HEART DISEASE
(2016 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Describe Etiology, pathophysiology and diagnosis of rheumatic fever in brief (20)
- 2) Describe pathophysiology, Clinical presentation, ECG, Xray findings and prognosis of aortic stenosis (20)
- 3) Describe pathophysiology and diagnosis of infective endocarditis (10)
- 4) Explain pathophysiology and clinical findings in acute severe mitral regurgitation (10)
- 5A) Describe the severity assessment of mitral stenosis by echocardiography (5)
- 5B) Describe clinical findings and echocardiographic assessment of tricuspid stenosis (5)
- 5C) Write the brief classification of prosthetic valve (5)
- 5D) Enumerate the ACC/AHA indications for mitral valve replacement in mitral stenosis (5)
- 5E) Describe the pathophysiology and clinical findings of pulmonary stenosis (5)
- 5F) Describe the pathophysiology of chronic decompensated AR (5)
- 6A) Define molecular mimicry (2)
- 6B) Define PHT (2)
- 6C) Define pulsus bisferens (2)
- 6D) Write the uses of colour m-mode in aortic regurgitation (2)
- 6E) Define Gorlin's formula for MS (2)

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