

Question Paper

Exam Date & Time: 24-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER M.Sc. CARDIAC CATHETERIZATION AND INTERVENTIONAL TECHNOLOGY DEGREE
EXAMINATION - JUNE 2024

SUBJECT: CCI6201 - CARDIAC CATH AND INTERVENTION IN MISCELLANEOUS DISEASES
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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|-----|---|------|
| 1) | Elaborate the morphological variants, hemodynamic diagnosis of HOCM and discuss the interventional treatment for the same. | (20) |
| 2) | Outline the various types of pericardial diseases and add a detail note on quantification of fluid in cardiac tamponade. | (20) |
| 3A) | Discuss the indications, contraindications and role of endomyocardial biopsy in the evaluation of various cardiomyopathies. | (10) |
| 3B) | What are Endoleaks and its types, seen in aortic graft interventions? | (10) |
| 3C) | Discuss the various anatomical landmarks on angiography during peripheral vascular intervention. | (10) |
| 3D) | Explain the techniques of intervention in coronary sinus. | (10) |
| 4A) | List the modified Crawford classification for aortic aneurysms. | (5) |
| 4B) | Write a note on IVC filter retrieval system. | (5) |
| 4C) | Discuss the various types of embolic protection devices. | (5) |
| 4D) | Add a note on venous hypertension. | (5) |

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Question Paper

Exam Date & Time: 26-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER M.Sc. CARDIAC CATHETERIZATION AND INTERVENTIONAL TECHNOLOGY DEGREE
EXAMINATION - JUNE 2024

SUBJECT: CCI6202 - RECENT ADVANCES IN CARDIAC CATH AND INTERVENTION
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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|-----|--|------|
| 1) | Explain edge to edge leaflet repair of mitral valve in detail. | (20) |
| 2) | Explain pulmonary valve implantation in detail. | (20) |
| 3A) | Enumerate the procedure involved in the self-expanding aortic valve implantation. | (10) |
| 3B) | Explain the various approaches in stem cell therapy. | (10) |
| 3C) | Explain the various types of snaring devices and their uses in percutaneous procedures. | (10) |
| 3D) | Discuss the various non hyperemic indices used in hemodynamic assessment of a coronary lesion. | (10) |
| 4A) | Illustrate the anatomy of LA appendage. | (5) |
| 4B) | Outline the DEFER trial in detail. | (5) |
| 4C) | Discuss indirect annuloplasty devices used in the treatment of mitral regurgitation. | (5) |
| 4D) | Explain the role of CRT in heart failure treatment. | (5) |

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Question Paper

Exam Date & Time: 24-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER M.Sc. ECHOCARDIOGRAPHY DEGREE EXAMINATION - JUNE 2024
SUBJECT: CVS6201 - MISCELLANEOUS DISEASES
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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| 1) | Discuss the clinical features and echocardiographic findings in various types of restrictive cardiomyopathy. | (20) |
| 2) | Explain the clinical findings, pathophysiology and echocardiography evaluation of Marfan's syndrome. | (20) |
| 3A) | Outline the clinical manifestation and pathophysiology of cardiac tamponade. | (10) |
| 3B) | Explain the doppler evaluation of systolic and diastolic function in dilated cardiomyopathy. | (10) |
| 3C) | Summarize the pathophysiology and echocardiographic findings in hyper eosinophilic syndrome. | (10) |
| 3D) | Explain the pathophysiology and diagnostic findings in systemic hypertension. | (10) |
| 4A) | List clinical manifestation of primary benign cardiac tumors. | (5) |
| 4B) | Explain the echocardiographic findings in penetrating aortic ulcer. | (5) |
| 4C) | Outline the diagnostic findings in chronic kidney disease. | (5) |
| 4D) | List the various etiology of hypertrophic cardiomyopathy. | (5) |

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Question Paper

Exam Date & Time: 26-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER M.Sc. ECHOCARDIOGRAPHY DEGREE EXAMINATION - JUNE 2024
SUBJECT: CVS6202 - RECENT ADVANCES IN CARDIAC IMAGING
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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|-----|---|------|
| 1) | Explain the principles, indications and image interpretation of intravascular ultrasound. | (20) |
| 2) | Discuss the indications and approach in fetal echocardiography. | (20) |
| 3A) | Explain the role of intracardiac echocardiography during structural intervention. | (10) |
| 3B) | Summarize the clinical application of ultrasound in carotid artery disease. | (10) |
| 3C) | Explain the physiology and consequences of congenital heart disease in pregnancy. | (10) |
| 3D) | Explain the clinical applications of echocardiography in cardiomyopathies. | (10) |
| 4A) | Outline the principles of myocardial perfusion echocardiography. | (5) |
| 4B) | Illustrate the assessment of left ventricular diastolic function among reduced EF. | (5) |
| 4C) | Illustrate the role of echocardiography in electrophysiology. | (5) |
| 4D) | Explain the clinical application of contrast microbubbles in assessing intracardiac shunts. | (5) |

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Question Paper

Exam Date & Time: 28-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER M.Sc. ECHOCARDIOGRAPHY/CARDIAC CATH AND INTERVENTIONAL TECHNOLOGY DEGREE
EXAMINATION - JUNE 2024
SUBJECT: CVT6201 - CARDIOVASCULAR SURGERY
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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|-----|---|------|
| 1) | Elaborate the surgical indications, complications and the technique in various stages in transposition of great arteries. | (20) |
| 2) | Describe the surgical indications, contraindications, complications and surgical principle for aortic valve replacement. | (20) |
| 3A) | Explain the indications and surgical techniques in ventricular septal defect. | (10) |
| 3B) | Explain the criteria for donor and recipient selection for cardiac transplantation. | (10) |
| 3C) | List the complications of cardiovascular surgery. | (10) |
| 3D) | Outline various components and functioning of Cardiopulmonary bypass circuit. | (10) |
| 4A) | Explain the surgical strategies used in patent ductus arteriosus. | (5) |
| 4B) | Explain the basic principle of cardiac anesthesia. | (5) |
| 4C) | Outline the management of descending thoracic aorta. | (5) |
| 4D) | Explain the surgical procedures of Coarctation of aorta. | (5) |

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