

Question Paper

Exam Date & Time: 19-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER BSc CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION-JUNE 2024
SUBJECT: CVT3101- BASICS IN CARDIAC CATH AND HARDWARES
(SCHEME 2020)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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| 1) | Explain the indications, contraindications and techniques of performing Left heart catheterization and add a note on pressure tracings of left heart. | (20) |
| 2) | Explain the process of image formation in cathlab with a help of neat labelled diagrams. | (20) |
| 3) | Analyze the right heart chamber pressure waveform through a labeled diagram and discuss the abnormal waveforms associated with different diseased conditions. | (10) |
| 4) | List ACC/AHA guidelines for performing coronary angiography. | (10) |
| 5A) | Explain stenotic valve orifice area calculation using Gorlin's formula. | (5) |
| 5B) | Categorize coronary guidewires based on their characteristics and intend to use. | (5) |
| 5C) | Outline the role of vasodilators and give examples. | (5) |
| 5D) | List the pitfalls of Fick's and thermodilution method. | (5) |
| 5E) | Explain the cut down approach used in access site. | (5) |
| 5F) | Construct the strategies to limit the radiation exposure in cathlab. | (5) |
| 6A) | Draw a neat labelled diagram of X-ray image intensifier. | (2) |
| 6B) | List the standard views used for coronary angiogram. | (2) |
| 6C) | Define a pressure wave and Damping. | (2) |
| 6D) | Classify antiplatelet drugs. | (2) |
| 6E) | Define TIDS. | (2) |

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Question Paper

Exam Date & Time: 21-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER BSc CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION-JUNE 2024
SUBJECT: CVT3102- MISCELLANEOUS CARDIOVASCULAR DISEASES
(SCHEME 2020)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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| 1) | Explain the pathophysiology, clinical features, echocardiographic assessment and complications of diabetes. | (20) |
| 2) | Explain causes, pathogenesis and cardiovascular manifestations in Kawasaki disease. | (20) |
| 3) | Explain structural and functional changes secondary to giant cell arteritis by ECG and 2D echocardiography. | (10) |
| 4) | Discuss the classification and pathophysiology of hemochromatosis. | (10) |
| 5A) | Explain the underlying pathophysiology of cardiac involvement in scleroderma. | (5) |
| 5B) | Explain echocardiographic assessment of pulmonary hypertension. | (5) |
| 5C) | Outline the cardiovascular manifestations in Marfan's syndrome. | (5) |
| 5D) | Explain assessment of cardiac function in muscular dystrophy. | (5) |
| 5E) | Summarize the echocardiographic manifestations in patients with cardiac sarcoidosis. | (5) |
| 5F) | Explain the cardiovascular complications in sickle cell anemia patients. | (5) |
| 6A) | Define systemic hypertension and hypertensive crisis. | (2) |
| 6B) | Why does carcinoid heart disease affect right heart? Justify. | (2) |
| 6C) | List the complications of cardiac trauma. | (2) |
| 6D) | Explain HIV associated cardiomyopathy. | (2) |
| 6E) | List the complications of overt hypothyroidism. | (2) |

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Question Paper

Exam Date & Time: 20-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER BSc CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION-JUNE 2024
SUBJECT: CVT3103- CONGENITAL HEART DISEASE II
(SCHEME 2020)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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| 1) | Explain the embryology, pathophysiology, clinical presentation, diagnosis and management in TOF with pulmonary atresia. | (20) |
| 2) | Elaborate the pathology, clinical manifestations, ECG findings -ray findings and Echo findings in tricuspid atresia. | (20) |
| 3) | Discuss the clinical presentation, diagnosis and management in RSOV. | (10) |
| 4) | Explain pathophysiology, classification and echocardiographic findings in CCTGA. | (10) |
| 5A) | Summarize on Glenn shunt and Hemi-Fontan procedure. | (5) |
| 5B) | Discuss on TET spells and its management. | (5) |
| 5C) | Explain the classification of coronary anomalies. | (5) |
| 5D) | Illustrate the management in Fallot type and Taussig-Bing type of DORV. | (5) |
| 5E) | Outline the management in HLHS. | (5) |
| 5F) | Define right aortic arch and its variants. | (5) |
| 6A) | Classification of double inlet LV. | (2) |
| 6B) | Outline the X-ray findings in TOF. | (2) |
| 6C) | List any two examples each for duct dependent systemic and pulmonary circulation. | (2) |
| 6D) | Define Shone's complex. | (2) |
| 6E) | Classification of AP window. | (2) |

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MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER BSc CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION-JUNE 2024
SUBJECT: CVT3104- VALVULAR HEART DISEASE
(SCHEME 2020)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Elaborate the various causes , pathophysiology, clinical manifestations and diagnostic criteria for infective endocarditis (20)
- 2) Discuss the etiology, pathophysiology, clinical features and diagnostic methods to assess the severity of chronic aortic regurgitation (20)
- 3) Explain the echocardiographic methods to assess severity of aortic stenosis (10)
- 4) Explain the features of different types of prosthetic valves and write five indications for implantation of valve (10)
- 5A) Explain the etiology and pathophysiology of mitral regurgitation (5)
- 5B) Explain the echocardiographic methods to assess severity of pulmonary regurgitation (5)
- 5C) Discuss the jones criteria for diagnosis of rheumatic fever (5)
- 5D) Explain the echocardiographic methods to assess severity of tricuspid stenosis (5)
- 5E) Discuss wilkins score system in mitral stenosis (5)
- 5F) Explain on pulmonary stenosis (5)
- 6A) Name two causes for mitral stenosis (2)
- 6B) List two complications of BMV (2)
- 6C) Name type 3 carpentier classification in mitral regurgitation (2)
- 6D) Define low flow low gradient aortic stenosis (2)
- 6E) List two causes for tricuspid regurgitation (2)

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