

# Question Paper

Exam Date & Time: 23-May-2024 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

SIXTH SEMESTER B.Sc. CVT DEGREE EXAMINATION - MAY/JUNE 2024  
SUBJECT: CVT3202 - CARDIAC CATH AND INTERVENTION  
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the procedural techniques in ASD/PFO interventions, and provide a comprehensive list of the associated indications, contraindications, hardware used, and complications associated with the procedure. (20)
- 2) List the Indications, contraindications, and hardware used and explain the procedural techniques, complications, and management in BPV. (20)
- 3) Explain the precautions that need to be taken during pericardiocentesis and discuss its procedure. (10)
- 4) List the different types of bifurcation techniques for coronary interventions and discuss any one in detail. (10)
- 5A) Explain the different types of devices available for LA appendage closure. (5)
- 5B) List the ACC/AHA guidelines for Transcatheter aortic valve replacement. (5)
- 5C) Explain the common views and catheter placement used during electrophysiology study. (5)
- 5D) Explain the complications of BAV and list the hardware used. (5)
- 5E) Explain the techniques of IABP insertion and discuss its uses. (5)
- 5F) Write the normal values and intervals in the EP study. (5)
- 6A) Write the differences between pre-dilatation and postdilatation balloons. (2)
- 6B) Name the conditions requiring PA angiogram. (2)
- 6C) Mention the uses of Impella. (2)
- 6D) List the mechanical complications of coronary angiography. (2)
- 6E) Explain LMCA lesion classification based on its location. (2)

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# Question Paper

Exam Date & Time: 17-May-2024 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

**SIXTH SEMESTER B.Sc. CVT DEGREE EXAMINATION - MAY/JUNE 2024**  
**SUBJECT: CVT3203 - GENERAL CARDIAC EXAMINATION AND BLS-ACLS**  
**(2020 SCHEME)**

**Marks: 100**

**Duration: 180 mins.**

**Answer all the questions.**

- |     |   |      |
|-----|---|------|
| 1)  | Define palpitation and explain the etiology, clinical presentation and its evaluation.                    | (20) |
| 2)  | Explain the indications, patient preparation, procedure, and interpretation of Head up tile table testing | (20) |
| 3)  | Discuss the cardiovascular and non-cardiovascular causes for chest pain                                   | (10) |
| 4)  | Explain the waves of Jugular venous pulse in normal and abnormal conditions                               | (10) |
| 5A) | Summarize the etiopathogenesis of dyspnea   | (5)  |
| 5B) | Draw a neat, labelled diagram of arterial pulse and explain the genesis of arterial pulse                 | (5)  |
| 5C) | Outline the etiopathogenesis of hemoptysis  | (5)  |
| 5D) | Explain clinical classification of pulmonary hypertension   | (5)  |
| 5E) | List the classification for continuous murmur   | (5)  |
| 5F) | Explain the evaluation of hoarseness  | (5)  |
| 6A) | Define Pulsus parvus et tardus and Pulsus bisferiens  | (2)  |
| 6B) | Write the rescue breath rates in adults and pediatrics  | (2)  |
| 6C) | List any two cardiac causes of Paroxysmal nocturnal dyspnea   | (2)  |
| 6D) | Define pan systolic murmur. Give one example  | (2)  |
| 6E) | Define NYHA class III for angina  | (2)  |

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# Question Paper

Exam Date & Time: 27-May-2024 (10:00 AM - 12:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

SIXTH SEMESTER B.Sc. CVT DEGREE EXAMINATION - MAY/JUNE 2024  
SUBJECT: CVT3241 - PROGRAM ELECTIVE - II : CARDIAC ASSIST DEVICES  
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- |     |   |      |
|-----|---|------|
| 1)  | Explain the brief procedure, lead placement and programming of Cardiac resynchronization therapy.         | (10) |
| 2)  | Explain the instrumentation, procedure, and physiology of various forms of ECMO.                          | (10) |
| 3A) | Explain the various causes of diastolic heart failure.  | (5)  |
| 3B) | Explain the atrioventricular desynchrony.   | (5)  |
| 3C) | Explain the bridge to device and bridge to transplant scenario in Ventricular assist device implantation. | (5)  |
| 3D) | Explain the indications and contraindications of ventricular assist devices.                              | (5)  |
| 4A) | List any two selection criteria for CRT.  | (2)  |
| 4B) | Define LV remodeling.   | (2)  |
| 4C) | Define NYHA Class IV for heart failure.   | (2)  |
| 4D) | List any two etiology of heart failure with reduced EF.   | (2)  |
| 4E) | List any two contraindications for IABP insertion.  | (2)  |

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# Question Paper

Exam Date & Time: 27-May-2024 (10:00 AM - 12:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

SIXTH SEMESTER B.Sc. CVT DEGREE EXAMINATION - MAY/JUNE 2024  
SUBJECT: CVT3242 - PROGRAM ELECTIVE - II : IMAGING MODALITIES IN CARDIAC DIAGNOSIS  
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- |     |  |      |
|-----|--|------|
| 1)  | Explain virtual histology and artifacts of IVUS imaging in detail                              | (10) |
| 2)  | Explain the indications and application of OCT in both pre and post-interventional procedures. | (10) |
| 3A) | Explain indications and image features of IVUS   | (5)  |
| 3B) | Explain the indications and procedure of IFR in brief  | (5)  |
| 3C) | Outline a neat, labeled diagram of the IVUS catheter and list the components                   | (5)  |
| 3D) | Explain the role of FFR in assessing the severity of coronary lesions                          | (5)  |
| 4A) | List any two pitfalls in IVUS  | (2)  |
| 4B) | List the pharmacological agents used to induce Hyperemia during FFR                            | (2)  |
| 4C) | Define coronary flow reserve   | (2)  |
| 4D) | Discuss on Seam line artifact in OCT   | (2)  |
| 4E) | Define the principle of OCT  | (2)  |

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