

# Question Paper

Exam Date & Time: 05-Jan-2023 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER M. Sc. CCIT DEGREE EXAMINATION - JANUARY 2023  
SUBJECT: MCAT 701 - CARDIAC CATH AND INTERVENTION IN CHD  
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Discuss the various congenital heart defects which requires balloon atrial septostomy as a bridge to survival, and explain the procedure of BAS in detail. (20)
- 2) Discuss the indication, contraindication, hardwares, procedure and complications in the intervention of Coartation of aorta. (20)
- 3A) Write the physiological characteristics of right heart pressure waveform in both normal and abnormal conditions. (10)
- 3B) Explain the role of left ventriculography in the diagnosis of various congenital defects. (10)
- 3C) Write a note on Systemic venous anomalies. (10)
- 3D) Explain the procedural techniques in the intervention of ASD device closure. (10)
- 4A) Write a note on electrical strain gauge. (5)
- 4B) Discuss the calculation of systemic blood flow and resistance. (5)
- 4C) Discuss the pitfalls of invasive pressures measurements. (5)
- 4D) Give the classifications of Endocardial cushion defects. (5)

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# Question Paper

Exam Date & Time: 07-Jan-2023 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER M.Sc.CCIT/M.Sc. ECHOCARDIOGRAPHY DEGREE EXAMINATION - JANUARY 2023  
SUBJECT: MCAT 703/MECO 703 - CARDIAC CATH AND INTERVENTION IN HEART FAILURE  
(2018 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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|-----|--|------|
| 1)  | Describe brief pathophysiology of end stage valvular heart diseases                      | (20) |
| 2)  | Explain etiopathogenesis, pathophysiology and clinical evaluation of acute heart failure | (20) |
| 3A) | Write the clinical findings and Xray features in pulmonary edema                         | (10) |
| 3B) | Write a note LV diastolic function assessment by echocardiography                        | (10) |
| 3C) | Write a note on hepatopulmonary syndrome   | (10) |
| 3D) | Discuss the pathological conditions that worsens the MS symptoms                         | (10) |
| 4A) | Explain indications and functioning of intra-aortic balloon pump                         | (5)  |
| 4B) | Enumerate the indications for endomyocardial biopsy                                      | (5)  |
| 4C) | Write a note on pericardial cyst   | (5)  |
| 4D) | Describe hemochromatosis   | (5)  |

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# Question Paper

Exam Date & Time: 09-Jan-2023 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER M.Sc. CCIT) DEGREE EXAMINATION - JANUARY 2023  
SUBJECT: MCAT 705- ELECTROPHYSIOLOGY AND CARDIAC PACEMAKERS  
(2018 SCHEME)

Answer ALL questions.

Marks: 100

Duration: 180 mins.

- 1) Discuss the indications, contraindications, equipments required and technical considerations in the settings of electrophysiological studies (20)
- 2) Explain the importance of pacemaker timing cycles and intervals for both single and dual chamber cardiac pacing (20)
- 3A) Discuss the common pacemaker problems and malfunctions (10)
- 3B) Explain the SVT evaluation and interpretation of EP study findings (10)
- 3C) Discuss the components of implantable cardioverter defibrillator (10)
- 3D) Explain the post procedural program settings in CRT devices (10)
- 4A) Write a note on active and passive lead fixation mechanism (5)
- 4B) Write a note on heart rate variability test in the evaluation of cardiac arrhythmias (5)
- 4C) Explain the uses of cardioactive drugs during electrophysiological studies (5)
- 4D) Define ablation therapy (5)

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