

**MANIPAL UNIVERSITY****SECOND YEAR M.Sc. CARDIAC CATHETERIZATION AND  
INTERVENTIONAL TECHNOLOGY DEGREE EXAMINATION – JUNE 2017****SUBJECT: PAPER V: CONGENITAL HEART DISEASE  
(2015 SCHEME)**

Thursday, June 01, 2017

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

✍ **Answer ALL the questions.**

✍ **Draw the diagram wherever necessary.**

1. Explain the various methods in cardiac output measurement by cardiac catheterization briefly.  
(20 marks)

2. Explain the indications, procedural techniques and complications of PDA stenting in neonates.  
(20 marks)

3. **Write short note on:**

3A. Atrial septostomy in neonates

3B. Coronary anomalies in CHD

3C. Angiography in Ebsteins anomaly

3D. PA anatomy in TOF

3E. Phlebotomy

(8 marks × 5 = 40 marks)



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## MANIPAL UNIVERSITY

SECOND YEAR M.Sc. ECHOCARDIOGRAPHY DEGREE EXAMINATION – JUNE 2017

SUBJECT: PAPER V: CONGENITAL HEART DISEASE  
(2015 SCHEME)

Thursday, June 01, 2017

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

- ✍ Answer ALL the questions.
- ✍ Draw the diagram wherever necessary.

1. Explain classification and diagnosis of Endocardial cushion defect. (20 marks)

2. Explain pathophysiology and diagnosis of Pulmonary atresia with intact IVS. (20 marks)

3. Write short note on:

- 3A. Aortic arch interruption
- 3B. Anatomic types of DOLV
- 3C. Choussat criteria
- 3D. Coronary AV fistula
- 3E. Sinus venosus ASD

(8 marks × 5 = 40 marks)



Reg. No.

# MANIPAL UNIVERSITY

SECOND YEAR M.Sc. ECHOCARDIOGRAPHY DEGREE EXAMINATION – JUNE 2017

SUBJECT: PAPER VI: MISCELLANEOUS DISEASES  
(2015 SCHEME)

Saturday, June 03, 2017

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

✍ Answer ALL the questions.

✍ Draw the diagram wherever necessary.

1. Define clinical presentation and diagnosis of HOCM.

(20 marks)

2. Explain diagnostic criteria and Echocardiography in Infective endocarditis.

(20 marks)

3. Write short note on:

3A. Metabolic cardiomyopathy

3B. Arrhythmogenic RV dysplasia

3C. Chronic constrictive pericarditis

3D. Apoptosis

3E. Hypereosinophilic syndrome

(8 marks × 5 = 40 marks)



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INTERVENTIONAL TECHNOLOGY DEGREE EXAMINATION – JUNE 2017****SUBJECT: PAPER VI: MISCELLANEOUS DISEASES**

Saturday, June 03, 2017

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

- ✍ **Answer ALL the questions.**
- ✍ **Draw the diagram wherever necessary.**

1. Explain indications, complications and procedural details of Renal artery stenting. (20 marks)
2. Explain indications, complications and procedural details of vertebral artery stenting. (20 marks)
3. **Write short note on:**
  - 3A. Cath in Restrictive cardiomyopathy
  - 3B. CTO wires
  - 3C. GPIIb/IIIa inhibitors
  - 3D. Types of Abdominal aortic aneurysm
  - 3E. IVC filter

(8 marks × 5 = 40 marks)



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## MANIPAL UNIVERSITY

SECOND YEAR M.Sc. ECHOCARDIOGRAPHY DEGREE EXAMINATION – JUNE 2017

SUBJECT: PAPER VII: RECENT ADVANCES  
(2015 SCHEME)

Tuesday, June 06, 2017

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

- ✍ Answer ALL the questions.
- ✍ Draw the diagram wherever necessary.

1. Explain the role of 3D echo and 3D TEE in diagnosis and, management of significant mitral valve disease.

(20 marks)

2. What is myocardial deformation? Enumerate the different deformation imaging techniques with the definition and write briefly about automated function imaging (AFI).

(20 marks)

3. Write short note on:

- 3A. Left ventricular Torsion
- 3B. Myocardial performance index
- 3C. Atrial strain imaging
- 3D. Myocardial contrast
- 3E. Right ventricular diastolic function

(8 marks × 5 = 40 marks)



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## MANIPAL UNIVERSITY

### SECOND YEAR M.Sc. CARDIAC CATHETERIZATION AND INTERVENTIONAL TECHNOLOGY DEGREE EXAMINATION – JUNE 2017

#### SUBJECT: PAPER VII: RECENT ADVANCES IN INTERVENTION

Tuesday, June 06, 2017

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

✍ **Answer ALL the questions.**

✍ **Draw the diagram wherever necessary.**

1. Explain indications, pre-procedural evaluation, procedural details and complications of LA appendage closure.

(20 marks)

2. Explain Trans aortic valve implantation (TAVI) in detail.

(20 marks)

3. **Write short note on:**

3A. Coronary radiation therapy

3B. Nephrotoxicity

3C. Burrs and guide wires in rotational atherectomy

3D. Fractional flow reserve (FFR)

3E. Specialty wires for total occlusion

(8 marks × 5 = 40 marks)

