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## MANIPAL UNIVERSITY

SECOND YEAR M.Sc. CVT DEGREE EXAMINATION – MAY/JUNE 2012

SUBJECT: PAPER – I: BASIC AND DIAGNOSTIC CARDIOLOGY

Monday, May 28, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

✍ Answer ALL questions.

✍ Draw the diagrams wherever necessary.

1. How do you differentiate restrictive cardiomyopathy from chronic constrictive pericarditis?
2. Explain presentation, pathophysiology, diagnostic modalities, classification in Tricuspid Atresia.

(20×2 = 40 marks)

3. Write short notes:

- 3A. Glycoprotein IIb/IIIa Inhibitor
- 3B. Cardiac cath and angio in Aortic regurgitation
- 3C. Cath in Right to Left shunt
- 3D. Double chambered RV
- 3E. Rheumatic Fever

(8×5 = 40 marks)



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**MANIPAL UNIVERSITY**

**SECOND YEAR M.Sc. CVT DEGREE EXAMINATION – MAY/JUNE 2012**

**SUBJECT: PAPER – II: THERAPEUTIC CARDIOLOGY**

Wednesday, May 30, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

**Answer ALL questions. Draw the diagrams wherever necessary.**

1. Explain the types of ASD's, cath in ASD and describe ASD device closure. (20 marks)
2. Describe Path physiology, angiography and intervention in co-arctation of aorta. (20 marks)
3. **Write Short notes:**
  - 3A. Chronic total occlusion
  - 3B. Cath and angiography in MR and AR
  - 3C. Renal artery stenting
  - 3D. Balloon mitral valvuloplasty (PTMC)
  - 3E. Contrast Echocardiography(8×5 = 40 marks)



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**SECOND YEAR M.Sc. CVT DEGREE EXAMINATION – MAY/JUNE 2012**

**SUBJECT: PAPER – III: CURRENT CARDIOLOGY**

Friday, June 01, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

**Answer ALL questions. Draw the diagrams wherever necessary.**

1. Explain in detail the aetiology aspects of Mitral regurgitation and describe Percutaneous MV repair.

(20 marks)

2. Explain indications, methodology and post procedural programming of CRT.

(20 marks)

**3. Write short notes on:**

3A. Fractional Flow Reserve (FFR)

3B. Coronary no flow/slow flow phenomenon

3C. Front runner catheter

3D. Rotational atherectomy

3E. Perimembranous VSD device closure

(8×5 = 40 marks)



**MANIPAL UNIVERSITY****SECOND YEAR M.Sc. CVT DEGREE EXAMINATION – MAY/JUNE 2012****SUBJECT: EPIDEMIOLOGY AND BIostatISTICS**

Monday, June 04, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

☞ **Answer ALL the questions.**

- 1A. What do you mean by dispersion? Define various measures of dispersion.  
1B. Differentiate between stratified and cluster sampling methods.

(5+5 = 10 marks)

2A. A study was conducted among patients who were mechanically ventilated in the ICU of five hospitals. It was observed that, out of the 460 mechanically ventilated patients, 58 had clinical evidence of ventilator associated pneumonia. Construct a 95% confidence interval for proportion of all mechanically ventilated patients at these hospitals who may be expected to develop ventilator associated pneumonia. (Let  $\alpha = 0.05$ ;  $Z_{\alpha} = 1.96$ )

2B. A study was carried out to find the haemoglobin level in school children and obtained the mean haemoglobin level of 12.4 gm/dl and standard deviation of 1.8 gm/dl. Assuming normal distribution, what proportion of children will have haemoglobin level,

- i) Between 8.8 and 10.6 gm/dl  
ii) Above 14.2 gm/dl

(5+5 = 10 marks)

3A. Briefly discuss case control study under the titles design, analysis, merits and demerits.

3B. A case-control study was carried out to identify the association of physical activity with the coronary heart disease. It was observed that 25 out of the 200 cases were heavy exercisers compared to 60 out of 205 persons without coronary heart disease.

- i) Construct a  $2 \times 2$  table and calculate the measure of strength of association.  
ii) Interpret the result.

(10+5 = 15 marks)

4. Outline the structure of a research protocol.

(10 marks)

5. **Write short notes on:**

- 5A. Validity of diagnostic test  
5B. Meta analysis  
5C. Sample size for estimation of proportion  
5D. Sampling and non-sampling errors  
5E. Correlation  
5F. Logistic regression analysis  
5G. Chi square test

(5×7 = 35 marks)

