

Question Paper

Exam Date & Time: 02-Sep-2022 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - SEPTEMBER 2022
SUBJECT: CVT2241 - CARDIAC INTERVENTIONAL HARDWARES (PROGRAM ELECTIVE - I)
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

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| 1) | Give the classification of catheters with a neat labelled diagrams. | (10) |
| 2) | Mention the difference between compliant, semi-compliant and non-compliant balloons with examples. | (10) |
| 3A) | Explain the various types of guide wires. | (5) |
| 3B) | Explain the methods of peripheral stenting. | (5) |
| 3C) | Discuss the complications of coronary intervention. | (5) |
| 3D) | List out the characteristics of radiations. | (5) |
| 4A) | Name two drugs used in stent coatings. | (2) |
| 4B) | Draw a tiger catheter and mention the curves. | (2) |
| 4C) | Define Lasso pacing catheters. | (2) |
| 4D) | How many holes does a pig tail catheter have? | (2) |
| 4E) | Name two venous access sites. | (2) |

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Question Paper

Exam Date & Time: 06-Sep-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - SEPTEMBER 2022
SUBJECT: CVT2202 - CONGENITAL HEART DISEASE - I
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Describe prevalence, types, pathophysiology and echocardiographic features of partial anomalous pulmonary venous connection. (20)
- 2) Describe embryology, classification, pathophysiology, clinical features and scoring system in Ebsteins anomaly. (20)
- 3) Explain Classification, pathophysiology and Echocardiographic findings of Ventricular septal defect. (10)
- 4) Explain the prevalence, clinical presentation, ECG, X-ray and management of Co-arcctation of Aorta. (10)
- 5A) Discuss the embryology and types of Atrial septal defect. (5)
- 5B) With a neat labelled diagram explain anatomical classification of AP window. (5)
- 5C) Explain the steps in determination of visceral and cardiac situs. (5)
- 5D) Explain embryology and clinical presentation in Patent ductus arteriosus. (5)
- 5E) Describe Rastelli classification of complete AV canal defect. (5)
- 5F) Explain echocardiographic findings of ALCAPA. (5)
- 6A) Write Qp/Qs formula for assessment shunt by using echocardiography. (2)
- 6B) Write formula for cardiothoracic ratio in chest X-ray. (2)
- 6C) Write two congenital causes for valvular AS. (2)
- 6D) How do you diagnose PA enlargement in chest X-ray? (2)
- 6E) List the components in partial AV canal defect. (2)

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Question Paper

Exam Date & Time: 07-Sep-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - SEPTEMBER 2022
SUBJECT: CVT2201 - CARDIAC PACEMAKERS AND DEFIBRILLATORS
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the factors affecting loss of capture and loss of sensing in pacemaker function and also define corrective measures. (20)
- 2) Discuss the different pacing modes in permanent pacemaker implantation. (20)
- 3) Discuss the ACC/AHA guidelines for Biventricular pacing device insertion and explain the steps of implantation. (10)
- 4) Discuss the programming parameters and procedural details in single chamber pacemakers implantation. (10)
- 5A) Write a note on strength-duration relation. (5)
- 5B) Illustrate EMI related pacemaker problems in the hospital setting. (5)
- 5C) Discuss the chronic complications of cardiac device implants. (5)
- 5D) Define active and passive fixation lead mechanisms. (5)
- 5E) Discuss the basic intervals of cardiac pacing devices. (5)
- 5F) What are the types of AV dyssynchrony. (5)
- 6A) Draw a neat labelled of Pulse generator. (2)
- 6B) Define under sensing. (2)
- 6C) What is EMI? (2)
- 6D) Give two indications for temporary pacemaker insertion. (2)
- 6E) What causes problem of diaphragmatic stimulation during pacemaker implantation? (2)

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