

Question Paper

Exam Date & Time: 22-Apr-2022 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - APRIL 2022
SUBJECT: BCVT 301 - BASICS IN CARDIAC CATH AND HARDWARES
(2016 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

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| 1) | Explain quantum theory and write the various radiation doses and exposure rates | (10) |
| 2) | Discuss the different types of balloons based on their mechanism of function and inflation properties | (10) |
| 3A) | Write the diagnostic indications for cardiac catheterization procedure | (5) |
| 3B) | Write a note on TIMI Myocardial Blush Grade | (5) |
| 3C) | Write a note on umbilical approach in interventional cardiology | (5) |
| 3D) | Write the ACC/AHA guidelines for dual chamber pacemaker implant | (5) |
| 4A) | Define coronary flow reserve | (2) |
| 4B) | Define Type A coronary lesions | (2) |
| 4C) | Give the formula for Q_p , Q_s and its ratio | (2) |
| 4D) | Draw a neat labelled diagram of LAA device | (2) |
| 4E) | Define geometrical blur | (2) |

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Question Paper

Exam Date & Time: 25-Apr-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - APRIL 2022
SUBJECT: BCVT 305 - CONGENITAL HEART DISEASE II
(2016 SCHEME)

Marks: 100

Duration: 180 mins.

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|-----|---|------|
| 1A) | Explain brief classification of congenital heart diseases based on pulmonary flow | (20) |
| 1B) | Explain Classification and clinical findings of double outlet right ventricle | (20) |
| 2A) | Explain pathophysiology and diagnosis of pulmonary AV fistula | (10) |
| 2B) | Describe echocardiographic evaluation of TOF in brief | (10) |
| 3A) | Explain the echocardiographic evaluation of DTGA | (5) |
| 3B) | Describe the coronary anomalies associated with CHD | (5) |
| 3C) | Describe Glenn shunt in detail | (5) |
| 3D) | Describe the anatomic classification of truncus arteriosus | (5) |
| 3E) | Describe echocardiographic evaluation of RSOV | (5) |
| 3F) | Describe embryology and pathophysiology of ALCAPA | (5) |
| 4A) | Write the Xray findings in increased pulmonary flow | (2) |
| 4B) | Write the ECG findings in CcTGA | (2) |
| 4C) | Define admixture physiology | (2) |
| 4D) | Write the great artery relation in congenitally corrected TGA | (2) |
| 4E) | Write the consequences of premature closure of foramen ovale in fetus | (2) |

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Question Paper

Exam Date & Time: 26-Apr-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - APRIL 2022
SUBJECT: BCVT 307 - VALVULAR HEART DISEASE
(2016 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain evaluation and Jones criteria in the diagnosis of rheumatic fever in detail. (20)
- 2) Describe indication, detailed procedure and complications associated with BMV. (20)
- 3) Describe the classification of left ventricular out flow tract obstruction. (10)
- 4) Explain the pathophysiology and clinical presentation of acute severe aortic regurgitation. (10)
- 5A) Enumerate the echocardiographic differences between acute and chronic mitral regurgitation. (5)
- 5B) Describe the pathophysiology and evaluation of patients with tricuspid stenosis. (5)
- 5C) Describe the features of mechanical prosthetic valves. (5)
- 5D) Enumerate the ACC/AHA indications for aortic valve replacement in aortic stenosis. (5)
- 5E) Describe the echocardiographic evaluation of pulmonary stenosis and its classification. (5)
- 5F) Explain Wilkins score in detail. (5)
- 6A) Define autoimmune disorder. (2)
- 6B) Define pressure recovery phenomena. (2)
- 6C) Define aliasing. (2)
- 6D) Define Hakki formula for AS. (2)
- 6E) Classify mechanical valve. (2)

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