Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Cardiac Care Technology Degree Examination – 28-Jul-2021

Time: Three Hours | Max. Marks: 100 Marks

Clinical Cardiac Care Technology – I
Paper – I (RS2)
Q.P. CODE: 2920
Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) 2 x 10 = 20 Marks

1. Define Hypertrophic cardiomyopathy. Discuss M-mode and 2D ECHO findings in HCM.
2. Draw a neat and labelled diagram of a normal ECG. Discuss mechanisms involved in various waveforms of a normal ECG.
3. Define Left Heart Catheterization (LHC). Discuss the indications, contraindications, procedure and complications of LHC.

SHORT ESSAYS (Answer any Ten) 10 x 5 = 50 Marks

4. ECHO in Sinus Venosus ASD
5. ECHO in Aortic valve Stenosis
6. ECHO in LA clot
7. Radiation hazards
8. ECHO in situs inversus, dextrocardia
9. Coronary guidewires
10. PTCA balloons
11. LV angiography
12. RV angiography
13. Assessment of LV Diastolic Function
14. ECHO in LV aneurysm
15. ECHO in infective endocarditis
16. Swan-Ganz catheter
17. ECHO in acute MI

SHORT ANSWERS (Answer any Ten) 10 x 3 = 30 Marks

18. ECG in ASD
19. ECG in PDA
20. ECG in PS (Pulmonary valve Stenosis)
21. ECG in AWMI
22. ECG in PWMI
23. ECHO in LV apical clot
24. ECG in pulmonary hypertension
25. RVSP
26. Contraindications of CAG
27. ECG in Bi atrial enlargement
28. PAEDP in pulmonary hypertension
29. M-mode picture of normal Aortic valve and Bicuspid aortic valve

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (Allied Health sciences) Examination – 30-Jul-2021

Time: Three Hours | Max. Marks: 100 Marks

Cardiac Care Technology
Applied Technology Paper – II (RS2)
Q.P. CODE: 2921

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) 2 x 10 = 20 Marks

1. Describe a) indication, contraindication and various protocol used in treadmill exercise test b) ECG changes during exercise, recovery phases and their criteria for interpretation of positive test for inducible ischemia
2. Describe universal definition of myocardial infarction. Define ECG criteria for STEMI and non-STEMI. Briefly comment on true posterior wall MI.
3. Define hypertension, causes and its classification. Discuss methods for recording blood pressure.

SHORT ESSAYS (Answer any Ten) 10 x 5 = 50 Marks

4. Fetal echocardiography
5. ECG criteria for left ventricular hypertrophy
6. Sudden cardiac death
7. Coronary angiogram indication and contraindication
8. Echocardiographic and hemodynamic features of constrictive Pericarditis
9. Radiographic contrast agents
10. ECG changes in severe aortic regurgitation
11. ECG changes in bundle branch blocks
12. Write a note on RVMI.
13. ECG changes in hypertrophic cardiomyopathy
14. Discuss different angiographic view to define coronary anatomy.
15. Pericarditis – ECG manifestations
16. Hardwares used in angioplasty
17. ECG findings in VT and VF and defibrillation in VT and VF

SHORT ANSWERS (Answer any Ten) 10 x 3 = 30 Marks

18. Components of TOF
19. Hypokalemia ECG manifestation
20. Pulmonary stenosis ECG changes
21. ECG in atrial fibrillation
22. Normal P wave morphology, normal duration and its clinical significance
23. ECG in acute Pericarditis how to differentiate from acute ST elevation MI
24. Describe ECG changes in Myxedema.
25. Physiological and pathological Q wave
26. WPW syndrome
27. Write few indication and contraindication of stress echocardiography.
28. Hemodynamic data in Tricuspid atresia
29. Types of AV block

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Cardiac Care Technology Degree Examination – 02-Aug-2021

Time: Three Hours | Max. Marks: 100 Marks

ADVANCED CARDIAC CARE TECHNOLOGY – III (RS2)

Q.P. CODE: 2922

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) 2 x 10 = 20 Marks

1. Tachy arrhythmias: classification, identification on electrocardiogram (ECG) treatment.
2. Atrial septal defect: rims, indications for device closure, contraindications, materials, procedure.
3. Pressure tracings: normal values and conditions with abnormal values in each cardiac chamber.

SHORT ESSAYS (Answer any Ten) 10 x 5 = 50 Marks

4. Chest compressions and assisted ventilation during cardiac arrest.
5. Lewis lead: uses and placement of electrodes.
6. Pharmacological stress during myocardial perfusion scan.
7. Compare atrial fibrillation and sinus tachycardia.
8. Hypokalemia vs hyperkalemia on the electrocardiogram (ECG).
9. Normal permanent pacemaker parameters: threshold, output, rate, impedance, pulse width.
10. Forms of abnormal QRS in the ECG and their causes.
11. Contraindications and complications of mitral valvotomy.
12. Complete heart block, causes, symptoms, ECG findings (with diagram) and emergency treatment.
13. Implantable cardioverter defibrillator: indications, steps of procedure, settings.
14. Standard imaging planes and radioactive tracers used in nuclear cardiology.
15. Precautions during pregnancy regarding diagnostic and therapeutic cardiac procedures.

SHORT ANSWERS (Answer any Ten) 10 x 3 = 30 Marks

16. Negative treadmill test.
17. Radiation Hazards.
18. Note on 3D ECHO
19. Devices used in closure of patient ductus, atrial septal defect, atrial appendage.
20. Position of catheters during electrophysiological (EP) study.
21. Short PR interval, prolonged PR interval, long QT interval.
22. Oximetry of right heart.
23. Modalities of imaging in nuclear cardiology.
24. Pulseless electrical activity (PEA) during cardiac arrest.
25. Various routes of access in interventional cardiology.
26. Complications during treadmill test (TMT).
27. Ventricular fibrillation.