Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Cardiac Care Technology Degree Examination – 07-Jan-2021

Time: Three Hours | Max. Marks: 100 Marks

INTRODUCTION TO CARDIAC CARE TECHNOLOGY (RS2)

Q.P. CODE: 1245

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. Explain ECG with the help of conduction system of the heart and add a note on each waves, segments and intervals.
2. Explain the indications, contra-indications and uses of Treadmill Exercise testing. When do you terminate the test? Add a note on different protocols used to do TMT.
3. Discuss the identification of various Echocardiography segments of left ventricle with labeled diagram.

SHORT ESSAYS (Answer any Twelve) 12 x 5 = 60 Marks

4. Explain stress echocardiography.
5. Name the ECG leads and write how to place it.
6. Explain electrical axis of heart and how to determine it with the help of ECG.
7. M mode echo.
8. Structure of transducer with the help of diagram.
9. Trans esophageal echocardiography.
10. ECG changes in RBBB and LBBB.
11. Types of AV block and its changes in ECG.
12. Changes in ECG during chamber enlargement.
13. Explain regurgitation and stenosis during color Doppler.
14. Explain the structure of heart during parasternal long axis view with diagram.
15. T wave and ST segment.
16. Contrast echocardiography.
17. Various views in echocardiographic examination.

SHORT ANSWERS (Answer any Ten) 10 x 2 = 20 Marks

18. Position of the patient during echocardiography.
19. Doppler principle.
20. Heart rate in ECG.
21. Dextrocardia.
22. QRS complex.
23. U wave.
24. Structures seen in apical five chamber view.
25. What is Holter ECG monitoring?
26. QT interval.
27. ECG paper.
28. Types of transducer.
29. Unipolar limb leads.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Cardiac Care Technology Degree Examination – 11-Jan-2021

Time: Three Hours | Max. Marks: 80 Marks

MEDICINE RELEVANT TO CARDIAC CARE TECHNOLOGY (RS2)

Q.P. CODE: 1246

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. Discuss etiopathogenesis, clinical features, investigations and management of heart failure.
2. Mention few rheumatic heart diseases. Discuss clinical features, investigations and management of Mitral stenosis.
3. Mention all cyanotic and acyanotic congenital heart diseases. Discuss about Tetrology of Fallot (TOF).

SHORT ESSAYS (Answer any Eight) — 8 x 5 = 40 Marks

4. Discuss risk factors, pathophysiology and complications of Atherosclerosis.
5. Causes and management of acute renal failure.
6. Acute pulmonary embolism.
7. Classify anemia. Discuss about treatment of iron deficiency anemia.
8. Mention the diseases of aorta. Discuss about aortic aneurysm.
9. Evaluation and management of bleeding disorders.
10. Percutaneous coronary intervention (PCI).
11. Classify acute coronary syndrome. Write a short note on angina pectoris.
12. Complications of systemic hypertension. Discuss about management of hypertensive emergencies.
13. Cardiac arrest and CPR.

SHORT ANSWERS (Answer any Ten) — 10 x 2 = 20 Marks

14. Contrast induced nephropathy.
15. Blood supply of heart.
16. Heparin.
17. I.V fluids.
18. Pneumothorax.
19. Cardiac defibrillation.
20. Name any four antiarrhythmic drugs.
21. Name any four complications of diabetes mellitus.
22. Name any four causes of cyanosis.
23. TMT- indications.
24. Mention the drugs used in acid peptic disease.
25. Name any four types of pulse.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Cardiac Care Technology Degree Examination – 22-Jul-2021

Time: Three Hours | Max. Marks: 100 Marks

INTRODUCTION TO CARDIAC CARE TECHNOLOGY (RS2)

Q.P. CODE: 1245

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. Einthoven triagnle, limb leads and their axes. Electrode placement for standard ECG and for treadmill test.
2. Seventeen – segment model of the left ventricle and various transducer position to view them.
3. The Doppler effect and its application in colour Doppler flow, pulsed wave Doppler and tissue Doppler.

12 x 5 = 60 Marks

SHORT ESSAYS (Answer any Twelve)

4. In spectral Doppler imaging. Describe velocity scale, baseline, sweep speed, sample volume and gain.
5. Apical views in 2D echocardiography.
6. Echocardiographic imaging of the tricuspid valve and blood flow across it.
7. Identifying bundle branch blocks from leads I, V1, V6
8. Calculating heart rate, PR interval and QTc interval.
9. Identifying atrial enlargement of ECG and by echocardiography.
10. Bruce protocol and metabolic equivalents.
11. M-model labeling and parasternal short axis labeling of mitral and aortic valves.
12. Setting control during echocardiography.
13. Contrast echocardiography.
14. American Society of Echocardiography (ASE) vies on Teichholz method vs Biplane disc summation.
15. Importance of connecting an ECG during echocardiographic examination.
16. Laminar and turbulent blood flow.
17. Precordial pattern of ECG in normal people and in those with ventricular hypertrophy.

SHORT ANSWERS (Answer any Ten) 10 x 2 = 20 Marks

18. Abnormalities of the P wave and PR interval.
19. Rhythm abnormalities detected by ECG.
20. Position of patient for echocardiography.
21. Criteria for a positive treadmill test.
22. Suprasternal and subcostal views.
23. When do you terminate TMT?
24. Draw short axis views to indicate aortic valve leaflets (cusps) and left ventricular papillary muscles.
25. Risks and contraindications for treadmill testing.
26. Left sided fascicular blocks.
27. Significance of T wave and U wave in ECG.
28. ECG paper speed and standardization.
29. Types of transducers.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Cardiac Care Technology Degree Examination – 26-Jul-2021

Time: Three Hours | Max. Marks: 80 Marks

MEDICINE RELEVANT TO CARDIAC CARE TECHNOLOGY (RS2)

Q.P. CODE: 1246

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. Discuss etiopathogenesis, clinical features, investigations and management of infective endocarditis.
2. Discuss clinical features, investigations and management of Myocardial Infarction (MI).
3. Define and classify anemia. Discuss about management of iron deficiency anemia.

SHORT ESSAYS (Answer any Eight) 8 x 5 = 40 Marks

4. Pericardial effusion.
5. Ventricular Septal Defect (VSD).
6. Acute pulmonary embolism.
7. Complications of diabetes mellitus.
8. Aortic dissection.
9. Evaluation and management of bleeding disorders.
10. Acute rheumatic fever.
11. Echocardiography findings in mitral stenosis.
12. Define systemic hypertension and pulmonary hypertension. Discuss about antihypertensive drugs.
13. Mention few cyanotic heart diseases. Discuss about Tetralogy of Fallot (TOF).

SHORT ANSWERS (Answer any Ten) 10 x 2 = 20 Marks

14. Peripheral vascular disease.
15. Blood supply of heart.
16. Mention antiplatelet drugs.
17. Recording of ECG.
18. Types of cardiomyopathy.
19. Cardiac defibrillation.
20. Nitrates.
21. Name the drugs used in the treatment of atrial fibrillation.
22. Jugular Venous Pulsations (JVP).
23. Inotropic agents.
24. Clinical features of Cor Pulmonale (right heart failure).
25. Anaphylactic shock.

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