Roll No……..….. **Total No. of Printed Pages: [1]**
Total No. of Questions: [09]

B.Sc. (Cardiac Care Technology) (Semester – 3rd)
BASIC ECHOCARDIOGRAPHY
Subject Code: BCCTS1-303
Paper ID: 21132416

Time: 03 Hours **Maximum Marks: 60**

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A **(2 marks each)**

Q1 Attempt the following:

a) Differentiate between systolic and diastolic murmur.
b) Differentiate between ischemia and infarction.
c) Explain stroke volume and cardiac output.
d) Enlist various types of transducers used in echocardiography.
e) Explain basic principle of echocardiography.
f) Enlist indications and contraindications for echocardiography.
g) Explain ejection fraction and fractional shortening.
h) Explain continuity equation.
i) Explain myocardial hibernation.
j) Enlist the indications for transesophageal echocardiography.

Section – B **(5 marks each)**

Q2 Explain the basic principle of echocardiography.
Q3 Basic principle of color flow doppler imaging.
Q4 Explain about different echo modalities.
Q5 Explain briefly about dobutamine stress echo.
Q6 Describe various echo features in mitral stenosis, aortic stenosis, mitral regurgitation and aortic regurgitation.

Section – C **(10 marks each)**

Q7 Explain normal views and windows of transthoracic echo with neat and labelled diagram.
Q8 Explain about various echo features in myocardial infarction. and clinical uses of echo in catheterization lab.
Q9 Define transesophageal echocardiography. enlist various indications and contraindications and complications that may occur during transesophageal echocardiography.