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**B.Sc. (Cardiac Care Technology) (Semester – 3<sup>rd</sup>)**

**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.