

**PAPER CODE: AHS1312**

**KALOJI NARAYANA RAO UNIVERSITY OF HEALTH SCIENCES**

**TELANGANA, WARANGAL – 506 002**

**B.Sc. (ALLIED HEALTH SCIENCES), SECOND YEAR DEGREE EXAMINATIONS: MAY, 2025**

**CARDIAC AND CARDIOVASCULAR TECHNOLOGY**

**PAPER-III**

**ECHO CARDIOGRAPHY, DOPPLER ECHO CARDIOGRAPHY, TEE,  
CONTRAST ECHO**

**Time: 3 Hours**

**Max Marks: 80**

**Note:** Answer all questions

Draw diagrams whenever necessary with Black Ball point pen /HB pencil /any dark  
Color pencil.

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**Write an essay on any TWO of the following questions:**

**2 X 10 = 20**

1. What are Doppler principles? Describe in detail about colour flow imaging.
2. Draw and label the segments of left ventricle in short axis 2D echo(17 segments).
3. Pulmonary Hypertension severity measurement by 2D echo and Doppler.

**Write a short note on any FIVE of the following:**

**5 X 6 = 30**

4. Grading of Mitral regurgitation severity by 2D echo and Doppler.
5. Calculation of Ejection fraction of Left ventricle by 2D echo.
6. Ventricular septal defect.
7. Reverberation artifact with examples.
8. Pulsed Doppler system.
9. Draw and label structures seen in short axis at aortic valve level.

**Write briefly on the following:**

**10 X 3 = 30**

10. Position of patient during Echocardiogram.
11. Name the drug and dose used during stress Echocardiogram.
12. Name Acyanotic congenital heart diseases.
13. Prosthetic valves in cardiology.
14. Blood flow pattern.
15. Name important elements in Echocardiogram machine transducers.
16. Pulse repetition frequency (PRF).
17. Nyquist limit.
18. Diastolic dysfunction grading of left ventricle.
19. IVC collapse and right atrium pressures.

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