

CARDIAC AND CARDIOVASCULAR TECHNOLOGY

PAPER-III

ECHO CARDIOGRAPHY, DOPPLER ECHO CARDIOGRAPHY, TEE, CONTRAST ECHO

Time: 3 Hours

Max Marks: 80

Note: Draw diagrams whenever necessary.

Write an essay on any TWO of the following questions:

2 X 10 = 20

1. What is Echocardiography? Write briefly the principle behind echocardiography. Mention the various types of echocardiography and one use for each of them. Draw an apical 4 chamber view (2D echo) of a normal heart and label the parts. (2+2+4+2)
2. What is TEE? Describe its technique with illustrations of structures visualised at different levels.
3. What is mitral stenosis and what is the commonest cause? Write briefly the hemodynamic consequences of mitral stenosis. Describe the 2D echo and doppler features of mitral stenosis. (2+2+3+3)

Write a short note on any FIVE of the following:

5 X 6 = 30

4. Echocardiographic signs of cardiac tamponade.
5. Colour flow doppler imaging technique, utility and limitation.
6. Different methods of calculation of ejection fraction by echo and their limitations.
7. Echo features of large ostium secundum ASD. Draw necessary diagrams depicting the important findings.
8. Describe a standard M-mode picture of normal left ventricle and label the parts.
9. Define pulmonary hypertension. Discuss any one method of echocardiography.

Write briefly on the following:

10 X 3 = 30

10. QP/QS calculation.
11. Duke's criteria.
12. Ventricular septal defect.
13. Constrictive pericarditis-echo findings.
14. Diuretics.
15. Coarctation of aorta.
16. Define cardiac catheterisation.
17. Multidetector CT angiogram.
18. Normal LV pressure tracing.
19. Radiation protection.
