# Table of Contents

## Part 1. ADVANCED ECHOCARDIOGRAPHIC TECHNIQUES

1. Transesophageal echocardiography  
2. Monitoring Ventricular Function in the Operating Room: Impact on Clinical Outcome  
3. Contrast Ultrasound Imaging: Technical Aspects and Clinical Applications  
4. Three-dimensional Echocardiography  
5. Echocardiographic guidance of structural heart disease interventions  
6. Intracardiac Echocardiography  
7. Intravascular ultrasound: Principles, histologic correlation and clinical applications  
8. Hand held echocardiography  

## Part 2. THE LEFT VENTRICLE

9. Quantitative evaluation of left ventricular structure, wall stress, and systolic function.  
10. Myocardial mechanics: Velocity, strain, strain-rate, cardiac synchrony, and twist  
11. Assessment of diastolic function by echocardiography  
12. Digital image processing and automated image analysis in echocardiography  

## Part 3. ISCHEMIC HEART DISEASE

13. The role of echocardiographic evaluation in patients presenting with acute chest pain to the emergency department.  
15. Exercise echocardiography  
16. Stress echocardiography with nonexercise techniques: Principles, protocols, interpretation, and clinical applications  

## Part 4. VALVULAR HEART DISEASE

18. Mitral valve anatomy, quantification of mitral regurgitation, and timing of surgical intervention for mitral regurgitation  
19. Intraoperative echocardiography in surgical and transcatheter mitral valve repair  
22. Clinical decision-making in patients with infective endocarditis: the role of echocardiography
23. Aortic stenosis. Disease severity, progression, timing of intervention, and role in monitoring transcatheter valve implantation.
25. Echocardiographic recognition and quantitation of prosthetic valve dysfunction.

Part 5. CARDIOMYOPATHIES AND PERICARDIAL DISEASE
26. Doppler echocardiography in heart failure and cardiac resynchronization
27. Echocardiography in the evaluation and management of patients with hypertrophic cardiomyopathy
29. Pericardial Disease
30. Cardiac transplantation: pre and post transplant evaluation.
31. Cardiac assist devices: normal findings, device failure and weaning parameters.

Part 6. THE RIGHT HEART
32. Right ventricular anatomy, function and echocardiographic evaluation
33. Echocardiographic evaluation of the patient with pulmonary hypertension
34. Right sided valve disease

Part 7. THE PREGNANT PATIENT
35. The role of echocardiography in the diagnosis and management of heart disease in pregnancy

Part 8. VASCULAR AND SYSTEMIC DISEASES
36. Aortic dissection and trauma: Value and limitations of echocardiography.
37. Echocardiographic findings in systemic diseases characterized by immune-mediated injury.
38. Echocardiography in the evaluation of cardiac disease resulting from endocrinopathies, renal disease, obesity and nutritional deficiencies.
39. Echocardiography in patients with inherited connective tissue disorders
40. Aging changes seen on echocardiography.
41. Echocardiographic evaluation of the patient with a systemic embolic event
42. The role of echocardiography in atrial fibrillation and flutter

**Part 9. ADULT CONGENITAL HEART DISEASE AND CARDIAC TUMORS**

43. General echocardiographic approach to the adult with suspected congenital heart disease.
44. Echocardiographic evaluation of the adult with unoperated congenital heart disease
45. Echocardiographic evaluation of the adult with post-operative congenital heart disease.
46. Cardiac tumors