



## **DIPLOMA IN ULTRASOUND TECHNICIAN**

Course Name: Diploma in Ultrasound Technician

Duration: 1 Year

Eligibility: 10+2 with science stream

### **DETAILED SYLLABUS**

<b>Semester I</b>	<b>Semester II</b>
Foundations of Ultrasound Practice	Adult & Paediatric Echocardiography
Complete knowledge in Abdominal & OBS Gynae Ultrasound	Color Doppler
Ultrasound in General Abdomen	Fetal Echocardiography
3D/4D Ultrasound	Small Parts Ultrasound

**SEMESTER I**

**PAPER 1: FOUNDATIONS OF ULTRASOUND PRACTICE**

**CONTENT:**

**Unit 1:** Physical principles of ultrasound and instrumentation

**Unit 2:** Principles of image/data collection and optimization

**Unit 3:** Professional, ethical and legal Issues

**PAPER 2: COMPLETE KNOWLEDGE IN ABDOMINAL & OBS GYNAE  
ULTRASOUND**

**CONTENT:**

- Unit 1:** Basic Physics & Instrumentation, Adjustment of The Machine and Handling of Probes, scanning protocol, how to Reach a Specific Diagnosis and Not a List of D/D
- Unit 2:** Abdominal Ultrasound- Sonographic Anatomy & Pathologies of Liver, Gall Bladder, Bile Ducts, Spleen, Pancreas, Kidneys, Aorta, Retroperitoneal Structures, Abdominal Cavity, Chest, Abdominal Wall Masses & Hernias.
- Unit 3:** Obstetric- First Trimester Scan-Normal & Abnormal, Fetal Dating, Normal and Abnormal Fetal Anatomy Including Fetal Congenital Anomalies, IUGR, Placenta & Its Abnormalities, Ectopic Gestation, Multiple Gestations, Masses Associated with Pregnancy.
- Unit 4:** Gynae- Normal Pelvic Anatomy, Uterine Abnormalities, Endometrial Pathologies, Ovarian & Adenexal Masses-D/D, Infertility-Follicular Study, Endometrial Assessment, Pelvic Inflammatory Disease.

### **PAPER 3: ULTRASOUND IN GENERAL ABDOMEN**

#### **CONTENT:**

**Unit 1:** Basic Physics & Instrumentation, Adjustment of The Machine and Handling of Probes, scanning protocol, how to Reach a Specific Diagnosis and Not a List of D/D

**Unit 2:** Sonographic Anatomy & Pathologies of Liver, Gall Bladder, Bile Ducts, Spleen, Pancreas, Kidneys, Aorta, Retroperitoneal Structures, Abdominal Cavity, Chest, Abdominal Wall Masses & Hernias

## **PAPER 4: 3D/4D ULTRASOUND**

### **CONTENT:**

**Unit 1:** Basic physics & instrumentation, simplified optimization techniques for attaining best 3D/4D images, Artifacts & Pitfalls, Application of 3D/4D in Obstetrics, Gynae and abdominal Sonography

## **SEMESTER II**

### **PAPER 1: ADULT & PAEDIATRIC ECHOCARDIOGRAPHY**

#### **CONTENT:**

**Unit 1:** Basic Physics & Instrumentation, Adjustment of the Machine and Handling of Probe, Scanning protocol, Normal Cardiac Anatomy, Views & Windows for Scanning, Valvular Diseases, Coronary Artery Disease, Cardiomyopathies, Congenital Cardiac Anomalies, Cardiac Masses & Tumours, Infective Endocarditis, Pericarditis, Prosthetic Valves, Stress Echo, Tissue Doppler

### **PAPER 2: COLOR DOPPLER**

#### **CONTENT:**

**Unit 1:** Basic Physics & Instrumentation, Adjustment of the machine to get optimum picture in spectral doppler, color flow, power Doppler.

**Unit 2:** Abdominal Doppler, Peripheralvascular Doppler, Carotid Doppler, Thyroid, Scrotal, Penile Doppler, Doppler in Obs & Gynae.

### **PAPER 3: FETAL ECHOCARDIOGRAPHY**

#### **CONTENT:**

**Unit 1:** Basic Physics & Instrumentation, scanning protocols, Adjustment of the machine to get optimum picture, Various views & windows, normal and abnormal fetal cardiac anatomy, detailed study of all congenital cardiac anomalies, fetal arrhythmias

### **PAPER 4: SMALL PARTS ULTRASOUND**

#### **CONTENT:**

**Unit 1:** Sonographic anatomy and pathologies of Breast, Thyroid, Parathyroid, Salivary glands, scrotum & penile.