Course Details – CETD Course

Program Name: - Certificate in Electrocardiography & Treadmill Test & Holter Monitoring Diagnostics (CETD)

1	Name of the Program	Certificate in Electrocardiography & Treadmill Test & Holter Monitoring Diagnostics
2	Program Code	CETD
3	Program Pattern (Semester/Final)	Final
4	Program Duration	3 Months
5	Program Level	Certificate
6	Program Type	Full Time for regular students (Offline) & Part time for In service candidates (Online)
		Theory – Online Classes **Practical** – Hands on training at centers for 2 hour daily thrice in a week for regular mode students whereas 3 Personal contact program each of 2 days every Month (8 hours/day) for Part time mode students
7	Program Total Credits	Nil
8	Program Total Marks	200
9	Program Passing Marks	100 (50% As per Table B)
10	Mode of Learning (Regular/ Part time Learning)	Regular / Distance for part time mode Students
11	Medium of Instructions	English
12	Medium of Examination	English
13	Eligibility	The students with following educational qualification will be eligible for seeking admission to this course : MBBS, BAMS, BHMS
14	Lecturer/Professor Qualification	The teaching faculties with following educational qualification will be eligible to teach this course : MBBS, MD (Med), DM (Cardio) MBBS, MD (Med), MBBS, MD (Anesthesia) BAMS, MD with Experience of ECG, TMT, Holter teaching
15	Program Objectives	The course aims to provide the hands-on training related to Electrocardiography techniques and diagnosis, Treadmill test techniques and diagnosis, Volter monitoring techniques and diagnostics
16	Program Outcome	Student will be up-skilled for technical operation of ECG, TMT and Volter monitoring. This will provide the trained manpower for the critical care units. Students will get employment in critical care units and emergency departments
17	No. of Days @ Week	3 Days
18	Internship Duration	15 Days
19	Study Center	Online + Refer the list in Main Menu
20	Course Fee	Rs. 10,000/- (Ten Thousand only)

Syllabus & Course Content with Hourly Teaching Plan

Certificate in Electrocardiography & Holter Monitoring Diagnostics		
Sr. No.	**SUBJECT CODE**	**SUBJECT TITLE**
1	CETD - 101	Principles of Electrocardiography & Diagnosis
2	CETD - 102	Treadmill Test, Holter & Disease wise ECG

Sub Code	Subjects	Teaching hours per week (3 Days @ Week)	Tutorial (*T)/ Practical / Activity(*P/*A) per week		Theory		Practical (Practical/ Diss. / Viva/ Oral/ Test/ Sessional etc.)		Subject Total (in case of joint passing)		No. of Credits
					A		B		A + B		
			T	P/A	Max	Passing	Max	Passing	Max	Passing	
CETD 101		2	1	1	50	25	50	25	150	70	2
CETD 102		2	1	1	50	25	50	25	150	70	2
Total		**04**	**02**	**02**	**100**	**50**	**100**	**50**	**200**	**100**	**4**

Question Paper Pattern

EXAMINATION - Theory (Multiple Choice Questions)

PROGRAME NAME - Certificate in Electrocardiography Treadmill Test & Holter Monitoring Diagnostics

SUBJECT TITLE_____(Course Code-_____)

[TIME: 3 Hours] TOTAL: 100 Marks

Note- 1. Attempt Section A and Section B Only

2. Write answers to each question in proportion to the mark allotted

3. Available both **online** as well as **offline** mode

SECTION – A

Que – 13 MCQ (2 Marks each) **[2 x 13 = 13]**

SECTION – B

Que- 12 MCQ (2 Marks each) **[2 x 12 = 12]**

PRACTICAL

Viva Voce **(50 Marks)**

Paper – 1

Principles of Electrocardiography & Diagnosis

(Theory – 100 Marks + Oral Viva – 50 Marks)

Module No.	Sub Topics	Hours	Credit
Module No. 1 (Theory)	**Fundamentals of Heart**		
	Anatomy of the Heart	1 hr	
	Physiology of Heart	1 hr	
	History of Evolution of Electrocardiography	1 hr	
	Electrophysiology	1 hr	
	Hexaxial System	1 hr	
	Electrode Placement & Recording the ECG	1 hr	
	Conduction System of the heart & Development of Wave forms on ECG paper	1 hr	
	ECG Paper Calibrations & Leads of the ECG	1 hr	
	Waves and Deflections, The Segments, Intervals	1 hr	
	Normal 12 Lead ECG Characteristics	1 hr	
	Heart Rate Calculation from ECG & Heart Rate Abnormalities	1 hr	
	Heart Rhythms & Rhythm Abnormalities	1 hr	
	Study of P Wave	1 hr	
	Study of PR Interval PR interval Abnormalities and AV Heart Block	1 hr	
	Study of Q Wave & Abnormalities	1 hr	
	Study of R Wave & Abnormalities	1 hr	
	Study of S Wave & Abnormalities	1 hr	
	Study of T Wave & Abnormalities	1 hr	
	Study of QRS complex & Abnormalities	1 hr	
	Study of Axis and Deviations	1 hr	
	Study of ST segment & Abnormalities	1 hr	
	Study of U Wave & Abnormalities	1 hr	
	Study of QT interval & Calculation of QTc	1 hr	
	Study of Some Atypical Syndromes	1 hr	
	Brugada Syndrome, Chapman's Sign, Cabrera's Sign	1 hr	
A	**Hours And Credit**	**16 hrs**	1.5

Paper – 2

Treadmill Test, Holter & Disease wise ECG

(Theory – 100 Marks + Oral Viva – 50 Marks)

Module No.	Sub Topics	Hours	Credit
Module No. 2 (Theory)	**Introduction to TMT test**		
	Indications & Contraindications	1 hr	
	Procedure & Protocol		
	Indications for Termination of TMT	1 hr	
	Diagnostic Value	1 hr	
	Holter Monitoring (24 Hour ambulatory ECG)	1 hr	
	Disease wise ECG		
	Myocardial Ischemia and Infarction	1 hr	
	Chamber Enlargement (RVH, LVH, RAE, LAE etc)	1 hr	
	Cardiac Arrhythmia (AT, AF, VT, VF, WPW, LGL etc)	1 hr	
	Heart Block (Wenckebach, Mobitz etc)	1 hr	
	Congenital Heart Diseases (Dextrocardia , CHB etc)	1 hr	
	Pericarditis	1 hr	
	Heart Failure	1 hr	
	Chronic Obstructive Pulmonary Disease	1 hr	
	Pulmonary Embolism	1 hr	
	Hypothermia	1 hr	
	Digitalis and Quinidine effects	1 hr	
	Miscellaneous conditions	1 hr	
A	**Total Hours And Credit**	**16 hrs**	1.5

Hours And Credits Summary of The Course

Sr.	Course Details	Hours	Credits
1	Theory	32	2
2	Internship	30	2
	Total	**62**	**4**