Faculty of Medical Science
P.K.University
Shivpuri (MP)

Syllabus and Evaluation Scheme

Certificate in E.C.G Technician (One Year)
(Effective from Session: 2020-21)

(Taken from M.P. Paramedical Council)

Department of Paramedical
(Faculty of Medical Science)
P.K. University, Shivpuri (MP)

SYLLABUS OF E.C.G. TECHNICAL TRAINING COURSES FOR ONE YEAR

1. Applied Anatomy, Physiology and Biochem of cardio – vascular system .10
2. Cardio – vascular pathology, clinical pharmacology and cardio- vascular disorders in General. 10
3. Electro cardiography – Electro physiology, Einthevernis law .10
   (a) Introduction to ECG Reading normal and abnormal EGC.
4. Cardio pulmonary resuscitation 02
5. Electricity – principle of AC/DC, Type of Batteries, power supply system, Ohm's Law CRT, Tube Multi meter. 05
6. Electro med, equipment stands and safety 05 (a) ECG maintenance of minimum repairs.
7. Applied aspects of ultra sound /Doppler principles and practice. 05
8. Defibrillator- indication and indications and Precautions. 05
9. Arrhythmia's conduction/abnormalities, pacemaker. 05
10. Stress ECG principles, methods of recording and observations. 05
11. Halter recording- principles, methods of recording and observations. 03
12. Introduction to cardiac catheterization.

LIST OF PRACTICAL'S
1. ECG Recording pediatrics/Adults patients.
2. Operations, Calibration and servicing of ECG
3. Recording of Halter/Stress ECG
4. Ambulatory B.P. Monitoring.

COURSE TRAINING INCLUDES:
3 Months in O.P. Dept.
3 Months in LCCU
6 Months in Non-Invasive Lab. TOTAL PERIOD OF TRAINING – ONE YEAR
(a) Magnetic poles/fields/flux/ and in flux density.
(b) Magnetic field due to a straight and circular coil wire.
(c) The AC transformer.

COMPUTER SCIENCES:

(A) FUNDAMENTALS:

1. Evolution of computers, contributions of eminent scientists to the field of computers, present day scenario of computer field.
2. Concepts of computer hardware, input/output devices, Central processing unit, main memory, secondary memory etc.
3. Definition of instruction, programmes, software.
4. Software spectrum, system software, business orient applications, R & D type research S/W, real time software etc.
5. Languages – Machine languages, assembly languages, higher level languages 4 GI languages, Natural Languages.
6. Significance of grammar in computer languages

(B) LOGIC DIAGRAM:

1. Flow-chart symbols and their significance.
2. Variables-simple variables array variables.

(C) BASIC LANGUAGES:

1. Input/output commands, assignment, If then, If then R. statement, for text statement, GOTO, on GOTO , STOP interactions, swapping, ascending and descending order also arrays DIM command. Data types: Integer, Real double precision. Files: Data fields, records, data files, program file, sequential files, random files etc.
2. I) Basic aspects with special emphasis on applied
   II) Biomechanics
   III) Electronics- Basic principles with special reference to applied aspects as related to medicine.
3. Basic aspects of computers and computer language. The lecture Courses should cover all aspects of computers so as to enable the candidate to do simple programming.

SPECIFIC TO THE SPECIALTY:

1. Instrumentation and their circuits as related to the
   The candidate should be given training to enable him to identify the defect if any instrument goes out of order and to rectify the simple defects.
2. The candidate should be trained in all the technique in the concerned specialty. He should be able to do the procedure independently and know the abnormal pattern of the tests.

3. The candidate should be taught basic aspects of anatomy, physiology of the concerned specialty. Account of disease states related to various test procedures to be taught.

LIST OF PRACTICAL'S:-

1. ECG Recording pediatrics/Adults patient.
2. Operations, calibrations and servicing of ECG .
3. Recording of Holter/stress ECG.
4. ECG monitoring of patients in ICCU.
5. Ambulatory B.P. Monitoring.
6. Operations of 2-D Echo/Mode Doppler and CFM system its maintenance.
7. Operation of TEE and its maintenance.
8. Operations and control of recording system in Cath . Lab.
9. Operation of Blood Oxymeter , Ventilator and ABG Machine
10. Operation of Tagarno and its maintenance
11. ICCU Monitoring
12. Control of film processing and developing
13. Other practical in assisting in temporary-pace- Maker/ Permanent Pace maker etc.