



Dr. D.Y. PATIL COLLEGE OF PHYSIOTHERAPY

Dr. D.Y.PATIL VIDYAPEETH, PUNE

(DEEMED TO BE UNIVERSITY)

(Re-Accredited by NAAC with a Four Point Scale at 'A' grade)

LESSON PLAN

Subject : **Electrotherapy I**
Class : BPT I Semester I year (2017-18)
Class Incharge : Dr. Vijaykumar (PT)
Subject Teacher/s : Dr. Vijaykumar (PT)
Total hours prescribed: - 176 hours (Didactic-80, Practical/Laboratory-96)

Theory- 80hrs

Sr. No.	Topic	No. of Lectures	Serial No. of lecture	Mode of teaching
1	SECTION I- BIOELECTRONICS	30	1-30	
I.	Structure and properties of matter, structure of atom, molecules, elements and compounds	01	01	Black Board, PPT
II.	Electron theory, static and current electricity, AC currents & Faradic Currents, DC currents & types	01	02	Black Board, PPT
III.	Fundamental of electrical currents	01	03	Black Board, PPT
IV.	Static Electricity, Physics of Direct currents, Ohm's law	01	04	Black Board, PPT
V.	Capacitor, Conductors, Rheostat, Potentiometer, Ammeter, Oscilloscope	01	05	Black Board, PPT
VI.	Types of electrodes, Galvanic Skin resistance, Electrode Gels, Types, Significance	01	06	Black Board, PPT
VII.	Magnetism, E.M.F. Conduction, Lenz's Law	01	07	Black Board, PPT
VIII	Transformers, Types, Transistors, Pulse Generators	01	08	Black Board, PPT
IX.	Thermionic Valves, Semiconductor, Types, Electronic Circuits, Oscillators	01	09	Black Board, PPT
X.	Electromagnetic spectrum	01	10	Black Board, PPT
XI.	Laws of transmission, Refraction, Absorption, Attenuation.	11	11-21	Black Board, PPT
XII.	Therapeutic continuous/ Interrupted Direct currents & their various waveforms, AC currents	09	22-30	Black Board, PPT
2.	SECTION II- ELECTRICAL SUPPLY	05	31-35	

i.	Production of electricity, Main Supply, Dangers	02	31, 32	Black Board, PPT
ii.	Precautions	01	33	Black Board, PPT
iii.	First aid & management of electric shock	02	34,35	Black Board, PPT
3.	SECTION III – THERMO & ACTINOTHERAPY	23	36-40	
i.	Biophysics of superficial heat-physiological effects, therapeutic uses, merits & demerits, Indications & contraindications, skills of application	06	36-41	Black Board, PPT
ii.	Biophysics of superficial cold-physiological effects, therapeutic uses, merits & demerits, Indications & contraindications, skills of application	04	42-45	Black Board, PPT
iii.	Paraffin wax bath	02	46,47	Black Board, PPT
iv.	Whirlpool bath	01	48	Black Board, PPT
v.	Contrast bath	01	49	Black Board, PPT
vi.	Hydrocollator/ moist heat packs	02	50,51	Black Board, PPT
vii.	Cryotherapy	03	52-54	Black Board, PPT
viii.	Infrared therapy	02	55,56	Black Board, PPT
ix.	Operational skills of equipment & patient preparation	01	57	Black Board, PPT
x.	Home remedies of heat and cold	01	58	Black Board, PPT
4.	SECTION IV- HIGH FREQUENCY CURRENTS & WAVES	15	59-66	
	Short Wave Diathermy (SWD) -	08	59-66	
	Production, physical principles	03	59,60,61	Black Board, PPT
	panel diagram	01	62	Black Board, PPT
	physiological effects,	01	63	Black Board, PPT
	therapeutic uses	01	64	Black Board, PPT
	merits & demerits	01	65	Black Board, PPT
	Indications & contraindications	01	66	Black Board, PPT

	Ultrasound	07	67-73	
	Production, physical principles	02	67,68	Black Board, PPT
	Panel diagram	01	69	Black Board, PPT
	Physiological effects	01	70	Black Board, PPT
	Therapeutic uses	01	71	Black Board, PPT
	Merits & demerits	01	72	Black Board, PPT
	Indications & contraindications	01	73	Black Board, PPT
	Traction-	07	74-80	
	Principles of traction	02	74,75	Black Board, PPT
	Classification, types	01	76	Black Board, PPT
	Indications, contraindications	01	77	Black Board, PPT
	Techniques of application	03	78-80	Black Board, PPT

Total Didactic Hours	- 80 hours (Scheduled)
Scheduled Practical	- <u>96 hours (Scheduled)</u>
Total scheduled hours	- 176 hours
Doubt Clearing sessions & tutorials	- <u>20 hours (and as and when required)</u>
Total scheduled hours for the subject	- <u>196 hours</u>
