SKVV : SYLLABUS FOR TRADE IN VOCATION TRAINING CERTIFICATE PROGRAM

DURATION: SIX MONTHS TRADE : PHYSIOTHERAPY TECHNICIAN

FIRSEMESTER 1

Course code no.	Trade Practical	Trade Theory	Engineering Drawing	Workshop Cal. & Science
VTC PT- 101	Demonstration & A.V. display	 i) Introduction_to Anatomy/Physiology a) Definition & the subdivisions of anatomy. b) Anatomical & fundamental position. c) Anatomical regions, sections & planes. The descriptive Anatomical terms 	Basic concept of Engineering Drawing , 1st & 3rd angle projection .	Force-definition, diagrammatic representation. Classification of forces. Concurrent, coplanar and co-linear forces. Composition and resolution of forces, angle of pulls of muscle.
VTC PT- 102	 Techniques of Massage of different parts of the Human Body- Kynationology Head & Neck Massage Arms Massage c) Back Massage d) Upper leg, Lower leg & Foot Massage Therapeutic application of Massage (such as Bell's palsy, Paraplegia, Hemiplegia etc.) 	 ii) Osteology a) Basic terminologies b) About the skeleton c) Brief descriptions about Bone & Cartilage (structure, types , functions etc.) d) Identification, side determinations & structural details of bones of skull, Thorax, Vertebral column, Upper & Lower extremities 	-do-	-do-
VTC PT- 103	Demonstration & A.V. display	 iii) Orthrology a) Definition & classifications of joints b) The terms related to the movements of joints c) Description of joints of the upper & lower extremities with their ligamental 	Basic free hand sketches of various geometrical shapes.	Calculations of percentages. Ratio and proportion, Inverse- square law. Geometry of triangles.

VTC PT- 104	Demonstration & A.V.	iv) Neurology		Momentum, its
	display	a) Knowledge of CNS and its		principles and practical
		pathology.		applications.
		b) Knowledge of Central	-do-	
		Nervous System & its		
		pathology.		
		c) Description about Spinal		
		nerves		
		d) Nerve plexus of the body		
		with their distributions		
		(cervical plexus, brachial		
		plexus, limbo-sacral plexus)		
		V) IVIYOIOGY		
		a) classifications & structures		
		b) Description of all major		
		b) Description of all major musclos with their origin		
		insertion nerve supplies		
		hlood supplies & actions		
		c) Muscles acting on joints of		
		upper & lower extremities		
VTC PT-	Demonstration & A.V.	vi) Visceral Anatomy	Types of lines and its	Laws of Friction and its
105	Display Study of different X-	Description of organs related	applications, line practice.	applications
	Ray plates	to Digestive, Respiratory,		11
		Circulatory, Excretory &		
		Reproductive System (in brief)		
		vii) Radiological Anatomy		
		Demonstration of some		
		normal and abnormal x-ray		
VTC PT-		plates.		
106	Identification of bones,	viii) Applied Anatomy	Types of lines and its	Electric current, voltage
	nerve routes and mussel	Common clinical conditions of	applications, line practice.	and resistance. Unm's
	attachment, related surface,	Axial & Appendicular skeleton	Lettering practice.	law and its applications.
	reading X-ray plates, types of	such as, a) Carpartunner		Introduction to AC and
	different avec. Nerve muscle	s) Klumpka palsy d) Do		DC circuits. Moscurement of
	physiology measurement of	C) Kiuliipke paisy u) De		
	B P nulse & idea of reflexes	e) Dupuytren contracture		current and voltage
	and their examination	g) Trigger finger Mallet finger		
		h) Wrist ganglion		
		i) Rotator cuff		
		Impingmentation Syndrome		
		(R.C.I.S)		
		j) Fixed Flexion Deformity		
		(F.F.D) k) Wrist drop		
		I) Road Traffic Accident		
		(R.I.A) m) Deltoid ligament		
		rupture n) Achilles tendon		

		rupture o) Trendelenbrug's sign p) Tarsal tunnel syndrome q) Genus vulga/vera r) Coax vulga/vera s) Hallux valgus t) Foot drop		
VTC PT- 107	Nerve muscle physiology, measurement of B.P.Pulse and idea of reflexes and their examination Case history recording & follow- up in Clinic on patient.	PHYSIOLOGY i) Cell- definition, structure & function - Tissues - structure, function. ii) circulatory system a) Structure & function of heart b) Heart rates & Heart sound c) Blood circulation d) Composition & function of Blood e) Blood pressure & the influencing factors iii) Nervous system a) About the Nervous tissue- Neuron (structure & function), Neuroglia (Definition) b) About the Nerve fibers- motor & sensory c) Divisions of Nervous system- classifications, structures & functions of Brain & Spinal cord (in brief) e) Peripheral Nervous system- Cranial Nerves (names & functions) & Spinal Nerves (introduction) f) Sensory System-pain iv) Skin & Temperature regulation a) Structure of skin b) Function of skin c) Temperature regulation system	Reading of different types of scales and its applications.	Gravity: definition, line of gravity, centre of gravity.0

VTC PT- 108	-do-	 v) Food & Nutrition a) Definition & types of Food (carbohydrate, protein, fat, minerals,. Vitamins, water with example & brief descriptions b) Balance diet c) Relation between Food & Nutrition vi) Digestive Systema) Structure & function b) Details of food materials c) Steps of Digestion , Absorption & metabolism (in brief) c) Neurological factors related to Digestion 	-do-	-do-
VTC PT- 109	-do-	 vii) Respiratory system a) Structure & Function b) Process of Respiration b) Technical datas related to pulmonary activity in relation to stress & rest c) Cardio-Respiratory relation d) Artificial Respiratory relation e) Neurological control viii) Endocrinologya) Definition, character & function of Hormones b) About the Hormone secreting glands c) Hormonal control on physiological activities ix) Excretory system a) About the nephron b) Structure & function of urine d) Micturation 	Free hand sketches of different types of tools used related to the trade.	Equilibrium: supporting base, types and stability of equilibrium
VTC PT- 110	Antenatal and postnatal exercises.	GYNAECOLOGY & OBSTETRICS 1. Introduction to Human Reproductive System 2. Physiology of pregnancy	-do-	Work, power, energy: types of energy.

VTC PT- 111	Identification of different Tools , equipment	PHYSIOTHERAPY i. Introduction: a) definition of Physiotherapy Terms of Physiotherapy i.e. Electrotherapy, Exercise- therapy, Massage-therapy, Ergonomics, Rehabilitation. d) definition of electrotherapy, Safety precautions in Electrotherapy. e) Physical modalities, which are used in Physiotherapy.	Study of the drawing related to various bones of human.	Levers: definition, function, classification and application of levers in physiotherapy and order of levers with example of lever in human body
VTC PT- 112	Application of ice pack, cold pack, ice towels, ice bath, ice cube message.	2. Cryo therapy : a) Physiological effects b) Methods of application (ice pack, cold pack, ice towels, ice bath, ice cube massage, vapocoolant sprays) c) cryokinetics d) Indications & Contraindications	-do-	-do-
VTC PT- 113	Demonstration of hot packs, Kenny packs, hot water bag etc. & its applications.	3.Thermotherapy: a) Superficial Heating Agents A. Hot packs- Physiological effects, types of Hot Packs (hydrocollators, Kenny packs, hot water bag, electrical heating pads) with their Techniques of application, Indications & Contraindications	-do-	-do-
VTC PT- 114	Demonstration and Practice on wax bath preparation & its applications.	B. Wax bath - About the wax, Descriptions of a Wax bath Unit, Composition & method of preparation of wax bath, physiological effects, Techniques of application, Indications & Contraindications	-Free hand sketches of bones, spinal cord and joints	Pulleys: system of pulleys, types and applications.
VTC PT- 115	Demonstration and Practice on infra-red applications.	C. Infra-Red RadiationAbout the Infra-red rays, Sources of Infra-red rays, Technical datas, Physiological effects, Techniques of application, Terminations of IRR, Indications & Contraindications.	-do-	-do-

VTC PT- 116	Demonstration on application on S.W.D.	b) Deep Heating Agents -A) S.W.Dmeanings of Short-wave & Diathermy, Effects of S.W.D. Technical datas, Descriptions of a S.W.D Instrument, Method of application, Positioning of Electrode pads During, Treatment, Dose & Duration of treatment, Indications & Contraindications.	do-	Specific gravity, hydrostatic pressure, Archimedes principle. Properties of water and other liquids.
VTC PT- 117	Demonstration and Practice	B) M.W.D- Introduction. C) U.S.T- About the Ultra sound, Difference among Ultra sound, Infra sound & Audible sound, Effects of U.S.T in Human body, Technical datas, Descriptions of an U.S.T Instrument, Description about different types of Coupling medium, Method of application of U.S.T, Dose & Duration of treatment, Indications & Contraindications.	-do-	-do-
VTC PT- 118	Demonstration. Demonstration on Applications of TENS	Stimulators a) Faradic - About the Faradic type of current, Technical datas,. Description of a Faradic Stimulator & Electrodes, Physiological effects, Method of application (Motor point stimulation method, Nerve conduction, method, Unipolar & Bipolar Faradic Bath method etc.), Application of continuous & Surged Faradic, Dose & Duration of treatment, Indications & Contraindications. b) Galvanic- About the Galvanic type of current, Technical datas, Descriptions of a Galvanic Stimulator, Physiological effects, Method of application (Sensory point or Determinations stimulation	-do-	Buoyancy law of flotation. Factors determining up-thrust, effect of buoyancy on movements. Equilibrium of floating body. Bernoulli's theorem

		method, ath method etc.),		
		application of continuous &		
		Interrupted Galvanic, Dose &		
		duration of treatment,		
		Indications &		
		Contraindications		
		c) T.E.N.S- Meanings of		
		'transcutaneous', difference		
		between transcutaneouis &		
		percutaneous, Technical		
		datas, Description of a		
		T.E.N.S., Physiological effects (
		among with pain gate		
		Theory), Method of		
		application (Trigger point		
		stimulation method,		
		Acupuncture point		
		stimulation method etc.),		
		Placements of T.E.N.S		
		electrodes, Application of		
		continuous, surged & brust		
		mode. Dose & Duration of		
		treatment, Indications &		
		contraindications.		
		d) I.F.T- Introduction,		
		application, Indications &		
VTC PT-		Contraindications.		
119	Demonstration on	Clinical Decision Making in	-do-	-do-
	application on U.S. Letc.	Electrotherapy-Differential		
	Demonstration on basic	application of S.W.D, U.S.I,		
	massage techniques, gait	F.S, G.S, T.E.N.S, I.F.T, I.R.R,		
	training.			
		MASSAGE THERAPY &		
		REHABILITATION.		
		Aim of Massage a)		
		Aim of Massage C)		
		Massage d) Therapoutic uses		
		of Massage o)		
		Contraindications of Massage		
		f) Matorials used in Massage		
		(oil powder ico otc) a) Pulos		
		& direction of Massage h)		
		Types of Massage		
VTC PT-		(i) Project Work(ii) Indust	rial Visit (Optional)	
120		(i) Project Work(ii) Indust	rial Visit (Optional)	

SKVV : SYLLABUS FOR TRADE IN VOCATION TRAINING CERTIFICATE PROGRAM

DURATION: SIX MONTHS TRADE : PHYSIOTHERAPY TECHNICIAN

FIRSEMESTER 2

Course	Trade Practical	Trade Theory	Engineering Drawing	Workshop Cal. &
code				Science
no.				
VTC PT- 201	Application of traction, uses	EXERCISE THERAPY & YOGA.	Free hand drawing of skeleton	Elasticity: definition,
	of walking aids	a. Exercise Physiology:	of human body	stress, strain, Hooke's
		1. Energy Systema)		law. Springs:
		Metabolism b) Energy in		properties of springs,
		Muscular Activity- ATP-PC		spring in series and
		System, Lactic Acid System,		parallel, elastic
		Oxygen System c) Aerobic &	Drawing of human body &	materials in use.
		Anaerobic pathways during	different	
		Rest & Exercise d) Measuring		
		2 Foods Nutrition & Eversion		
		Z.FOODS, NUTITION & EXERCISE		
		Carbobydrato Drotoin & Eat		
		Poquiromont		
		3 Thermoregulation &		
		Exercise organs a)		
		Conduction Convection &		
		Evaporation b) Regulation of		
		Internal Body Temperature c)		
		Physiological		
		thermoregulation d) Heat		
		DisordersHeart Stroke, Heat		
		Exhaustion, Heat Cramp.		
		4.Respiration- a) Muscles for		
		Inspiration & Expiration b)		
		Static & Dynamic Lung		
		Volume c) Gaseous Exchange		
		d) Adaptational changes to		
		physical training e) Maximum		
		aerobic Capacity VO2 Max.)		
		5.Cardiovascular		
		Adaptations-a) Sub maximal		
		Exercises b) at maximal		
		Exercises		
		6. Fatigue - a) Types of b)		

		Symptoms c) Methods of Recovery 7. Exhaustion 8. Endurance- a) Definition b) Endurance Training 9. Kinesiology & Biomechanics: Basic terminologies & practical approach		
VTC PT- 202	Demonstration.	B. Fundamentals of Exercise 1. Definition of Exercise 2. Benefits of Exercise 3. Physiological changes during Exercise. 4. Classifications of Exerciseactive, passive, resistive, isometric, functional, stretching, strengthening, closed-chain, open-chain etc. C. Applied Exercise Therapy 1. Manual Muscle Testing 2. Techniques of Stretching Exercise- Region of shoulder, elbow, wrist, trunk, hip, knee, ankle 3. Exercises for Muscles Strengthening - Region of shoulder, elbow, wrist, trunk, hip, knee , ankle 4. Techniques of PF. 5. Techniques of Breathing Exercises. 6. Exercises for Co- ordination & Balance 7. Exercise with Instruments 8. Exercise for increase ROM 10. Goniometry 11. Exercise as a Treatment of Diseases a) Cervical Spondylosis b) Lumber Spondylosis c) Ankylosing Spondylosis d) Tennis Elbow e) Golfers Elbow f) Joint Stiffness g) Frozen Shoulder h) Bell's palsy I) Paralysis j) out k) R.A I) O.A. m) Foot Drop n) Wrist Drop o) Perkinsonism	Drawing of major muscles , nerve supplies & blood supply & action. Drawing of different joints of human organ. Drawing of Digestive, Respiratory & Excretory system	Definition of radiation and its types. Electromagnetic (EM) radiation. Radiation as a wave motion. Wave length, frequency, amplitude, velocity and their relation. Concept of Quanta. Energy of radiation . Electro magnetic spectrum , common properties of radiation
VTC PT- 203	Demonstration.	ORTHO-NEURO-GENERAL Orthopaedical condition: Etiology, C/F, Investigations	Different drawing of bones, nerve roots & muscle attachment. Sketches of heart	Bio chemistry: Chemistry of water, Mineral, Vitamins,

	& Physiotherapeutic	Sketches of Neurons and	Protein,
	Management of the	nerves.	Carbohydrate, Lipids,
	followings: -i) Kyphosis ii)		Nucleic acids,
	Lordosis iii) Scoliosis iv)		Enzymes, Blood, Extra
	Cervical Spondylosis v)		cellular fluids.
	Lumber Spondylosis vi)		
	Ankylosing Spondylosis vii)		
	Tennis Elbow viii) Folger's		
	Elbow ix) Gout		
	x) Osteo-arthritis xi)		
	Rheumatoid Arthritis xii)		
	Frozen Shoulder xiii) Fracture		
	xiv) Dislocation & subluxation		
	xv) Sprain xvi) Tendonitis.		
	xvii) Rickets xviii)		
	Osteomalacia xix)		
	Osteomyelitis xx) Calcaeneal		
	Spar xxi) Flat foot.		
	Neurological Condition:		
	Etiology, C/F, Investigations		
	& Physiotherapeutic		
	Management of the		
	followings:- i) Cerebral palsy		
	ii) Hemiplegia iii) Paraplegia		
	iv) Quadriplegia v) Myalgia vi)		
	Fibromysities vii) Polio		
	Myelitis viii) Parkinsonism ix)		
	Bell's palsy x) C.V.A xi) Upper		
	& Lower Motor Neurone		
	diseases xii) Peripheral Nerve		
	Injury xiii) Spinal Cord Injury		
	xiv) Sciatica		
	General condition: Etiology,		
	C/F, Investigations &		
	Physiotherapeutic		
	Management of the		
	followings: - i) Obesity ii)		
	Burns iii) Epilepsy etc.		
204	CASE STU	DIES	