

SKVV : SYLLABUS FOR TRADE IN VOCATION TRAINING CERTIFICATE PROGRAM

DURATION: SIX MONTHS

TRADE : DENTAL LABORATORY EQUIPMENT TECHNICIAN

FIRST SEMESTER

Course code no.	Practical	Theory
VTC DLET-101	<p>Introduction of the course, Role & responsibilities of Dental Technicians. Familiarisation of the Institute.</p> <p>Safety precautions to be observed during handling of chemical, laboratory apparatus equipments and machineries. Knowledge of General Safety, Occupational health and hygiene. Familiarisation with weighing machine. Practice on weighing correct to a milligram.</p> <p>Demonstration of specific gravity of solids and liquids</p> <p>Practice of reading temperature shown by temperature gauge fitted in the different equipments.</p> <p>Some practical experiment on conduction, convection, radiations.</p> <p>Practice on measuring voltage, current, (Both AC & DC)</p> <p>Practice on working with electrical furnaces, familiarisation with the Process of electroplating, electroforming, and anodising.</p> <p>Test for acids & alkalis radicals.</p> <p>Simple exercise on electroplating of metal</p>	<p>Introduction of the course, Role & Responsibilities of Dental Technicians. Familiarisation of the Institute.</p> <p>Safety precautions to be observed during handling of chemical, laboratory apparatus equipments and machineries</p> <p>Study of density, specific gravity, properties of matter, cohesion, viscosity, elasticity, diffusion and osmosis</p> <p>Temperature, temperature measurements, temperature measuring instruments & thermostats.</p> <p>Boyle's Law and Charles Law, unit of heat, thermal capacity, specific heat, latent heat, melting point, expansion of solids, liquids and gases by heat. Gas pressure and hydraulic pressure, study of properties of vapours, conduction, convection and radiation..</p> <p>Study of electro – technology applied to dental work.</p> <p>Basic Electricity, voltage, current, Ohm's Law, Electrical Measurement and measuring instruments i.e. voltmeter, ammeters etc. Electrical safety, Low voltage systems, Isolation Transformer, Necessity of Earthing.</p> <p>Knowledge about motors, different types & uses. Study of electrical features, heaters, temperature cantilever, electro 15-34 plating, electroforming and anodising.</p> <p>Study of work, power and energy, power, friction, momentum, centre of gravity, types of lever, stress, strain, shearing strain, torsion, mechanical properties of metals.</p> <p>Knowledge of atmosphere. Physical and chemical changes of elements, mixtures and compounds. Oxides, burning, rusting. Electrolysis, ionic theory of solution, electro potential, Electroplating General characteristics of common metal used in the dental work and their compounds. Alcohol, ethers, aldehydes and ketones. Fatty acids and their more important derivatives, amines, carbohydrates, fats and proteins. Benzenes and its homologues.</p>
VTC DLET-102	Project work / Industrial visit (optional)	

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SECOND SEMESTER

Course code no.	Practical	Theory
VTC DLET-201	<p>Practice on:-</p> <p>Impression:-Preservation and Boxing-in. Cast:- Preparation, trimming, including orthodontic casts</p> <p>Construction of special trays – spacers. Adjustments, mounting of casts. Setting of teeth and wax fixing.</p> <p>Flasking, dewaxing, packing, curing and deflasking.</p> <p>Finishing and polishing of dentures. Additions, repairs, relining and reversing of dentures. Making of Acrylic teeth.</p> <p>Principles of wire bending. Preparation of wrought clasps, occlusal rests and lingual bars. Setting of teeth and completion of denture on metals skeletons</p> <p>Stainless steel wire preparation of clasps springs and arch wires for orthodontic appliance.</p>	<p>Study of Dental Materials:</p> <p>Study of composition, properties, uses, advantages & disadvantages of the following materials:-</p> <p>Stone plaster, dental cement, plaster & pairs, zinc oxide, investment materials, impression materials, waxes, denture base materials, both for cold curing and heat curing, tooth materials, base plate and other materials used in dentistry.</p> <p>Knowledge about metallurgical terms. Study in metals used in dentistry such as gold, silver, copper, zinc, tin, lead and aluminium.</p> <p>Study of alloys used in dentistry i.e. casting of silver alloys, gold, stainless steel etc.</p> <p>Heat treatment, annealing and Solders, flexes, anti-flexes.</p> <p>Tarnish and corrosion.</p> <p>Electroplating (electric deposition). Study of Principles of wire bending</p>
VTC DLET-202	Project work / Industrial visit (optional)	

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THIRD SEMESTER

VTC DLET-103	<p>Preparation removal orthodontic appliance, activators, retention appliances and oral screen.</p> <p>Construction of fixed orthodontic appliances, bands, tubes and arches</p> <p>Soldering and spot welding – Soldering of clasps, tongs, strengtheners and lingual bars.</p>	<p>ORAL ANATOMY: Study of:-</p> <ul style="list-style-type: none">=> Elementary anatomy of structure of denture/bearing area.=> Human dentition and occlusion.=> Function of teeth and morphology of crowns of teeth=> Tooth carving in wax and plaster.=> Muscles of mastication and facial expression=> Mastication deglutition and phonation.=> Movements of temporomandibular joint.=> Cast preparation, trimming, including orthodontic casts.=> Cast duplication – various methods=> Construction and bridge using porcelain and acrylic pontics.=> Principles of bridge work – types of abutments, abutment & pontics.=> Bite blocks – base plates and wax rims.=> Articulators Occlusal plane, protrusive balance, working bite, balancing bite, curve of space, compensating curve, lateral curve.=> Principles of selection of teeth.=> Immediate denture construction.=> Kennedy's classification of partial dentures.=> Principles of partial denture, design, clasp surveyor, surveying, path of insertion and removal. Establishment of clasp seat, clasp's parts, classification, function and reciprocation.
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FOURTH SEMESTER

VTC DLET-203	<p>Familiarisation with Casting machines:</p> <p>Centrifugal and pressure casting machines, furnaces</p> <p>Construction of fixed orthodontic appliances, bands, tubes and arches.</p> <p>Practice on Soldering and spot welding – soldering of clasps, tongs, strengtheners and lingual bars. Construction and bridge using porcelain and acrylic pontics.</p>	<p>Study of:-</p> <p>Casting machines: Centrifugal and pressure casting machines, furnaces, principles of casting. Casting techniques of partial denture (skeleton) clasps, bars, occlusion rest. Mechanical principles of orthodontic appliances, anchorage, force, tissue changes and retention</p> <p>Use of various types of expansion screws</p> <p>Method of removal orthodontic appliances, activators, retention appliance and oral screen. Study of Construction of fixed orthodontic appliances, bands, tubes and arches. Soldering and spot welding – soldering of clasps, tongs, strengtheners and lingual bars. Inlays and crowns-classification and construction - facing and backings, casting procedures. Principles of bridgework – types of abutments, abutment & pontics. Study of Construction and bridge using porcelain and acrylic pontics. Gypsum product and Die materials.</p>
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