Dispensing Optics BVOCOP-404

**UNIT-1 OPHTHALMIC LENS:**

**Unit-1.1**

Characteristics of lenses: Introduction. Spherical lenses. Plano-cylindrical lenses. Spherocylindrical lenses. Designation of lens power. Power of lenses. Transposition. Write the prescription. Base curve of spherical lens. Base curve of cylindrical single vision lens. Aberration of lens. Prism prescription. Prism effects in a lens. Neutralization.

**Unit-1.2.**

Spectacle lenses: Characteristics of lens materials. Specific gravity (weight). Refractive index. Abbe number. Impact resistance. Scratch resistance. Curve variation factor.

**Unit-1.3**

Current materials: Crownglass. CR-39. High –index glass. High –index plastic. Poly carbonate. Photochromatic materials.

**Unit-1.4.**

Lens types: Single vision lens. Bi-focal lenses. Tri-focal lenses. Vocational & occupational multifocal progressive lenses.

**Unit-1.5.**

Introduction of bi-focal lenses: History of bi-focal lenses. Modern bi-focal designs. Types of bi-focal designs. Glass tri-focal lensesPlastic bi-focals.

**Unit-1.6.**

Opthalmic lens coating: Anti-reflecting coatings. Special notes concerning anti-reflecting coatings. Protective coating, color coating.

**Unit-1.7.**

Absorptive lenses: Classification of lens tints. Chemical that produces color & assist in absorptive characteristics of glass lenses. Effect in prescription on lens color. Availability of tinted lenses.

**Unit-1.8.**

Impact resistant lenses: Types of impact resistant lenses. Plastic lenses. Impact resistant Dress-Eye wear lenses. Tempered glass lenses. Types of impact resistant lenses most

beneficial of specific patients.

**Unit-1.9.**

Lens for special uses: Fresnel lenses. Thinlite lenses. Lenses for the Aphakic patient. Aspheric lenses. **Unit-1.10.**

Lens surfacing & quality. Principles of lens surface generation. Glass assessment. Faults in lens materials & lens surface. Inspection of lens quality.

**UNIT-2. BASICS OF DISPENSING:**

**Unit-2.1.**

Spectacle frame. Current frame materials: Plastics, Metals Frame types: Combination of frames Half-eye frames, Mounts, Nylon-cord frame, Special purpose frames.

**Unit-2.2.**

Frame measurements: The boxing system The datum system, Comparison of the two systems

**Unit-2.3.**

Frame Selection: Fashion, Function, Feel, Conflicting needs, Price, Standard alignment,

**Unit-2.4.**

Lens Selection: Ground rule for selection, Selection criteria

**Unit-2.5.**

Facial Measurement: The PD Visual axes, measuring inter papillary distance, Using PD ruler, Common difficulties in measuring PDs, Measuring monocular PD, Measuring near PD, Progressive.

**Unit-2.6.**

Pediatric Dispensing: The changing image of spectacle, Age differences. Frame Selection, Technical Criteria, Fashion criteria, Some tips on selection, Lens Selection, Technical criteria, Communicating with kids., The kids corner, Facial measurement of the kids, PDs, Centers, Bi-focals

**Unit-2.7.**

Dealing with problems: Dealing with clients , Common client problems, Dealing with professional colleagues, Dealing with the laboratories

**Unit-2.8.**

Special needs dispensing:, Occupational dispensing, Hazards in the work place, Occupational health safety legislation, Common hazards.

**Unit-2.9.**

Eye protection: Industrial eye protection, Sport, Standards covering eye protection, Lens materials & impact resistance, Frame & eye protection.

**TEXT BOOKS**

1.M. Jailie : Principles of Ophthalmic Lenses, Edn. 3, 1994. Clifford W Brooks & Irvin M Borish : System for Ophthalmic Dispensing

2.M.Jalie: Ophthalmic lenses and dispensing.