

Skill Development Centre
Bachelor of Vocation (B.Voc.) in JEWELLERY DESIGN AND GEMOLOGY
Academic Year:-2018-2019

Course Structure (Third Year)

Course Code	Course Title	Credit
SEMESTER - V		
	Theory Component	
JDG 1-1	Business Ethics and Management	4
JDG 1-2	Gemology V	4
JDG 1-3	Jewellery Design V	4
	Skill Component	
JDG 1-4	Practical – I (Based on Theory)	6
JDG 1-5	Practical – II (Based on Theory)	12
SEMESTER - II		
	Theory Component	
JDG 2-1	Entrepreneurship Developement	4
JDG 2-2	Gemology VI	4
JDG 2-3	Fundamentals of Jewellery Design VI	4
	Skill Component	
JDG 2-4	Practical – III (Based on Theory)	6
JDG 2-5	Practical – IV (Based on Theory)	12
	Total Credits	60

STRUCTURE FOR SEMESTER			
Title	Credits	Hrs	Marks
Total No. of Theory courses = 3	12 Credits each	180	300
Total No. of Skill based courses = 3	18 Credits	270	450
	30	450	750

STRUCTURE FOR YEAR			
Title	Credits	Hrs	Marks
Total No. of Theory courses = 6	24 (4 Credits each)	360	600
Total No. of Skill based courses = 6	36 (6 Credits each)	540	900
	60	900	1500

YEAR III
SEMESTER V THEORY

JDG-5-1: BUSINESS ETHICS AND MANAGEMENT

Management principles

Concept, Scope Importance, Objectives and Functions

Human resource development

Personal Management and Human resource management

Planning Processes

Critical thinking, creative thinking, strategic thinking

Conventional and strategic planning

Recruitment trends, Selection steps, Type of Interviews, Induction, Job changes, promotions,

Career planning; concepts, objectives and development

Listening and understanding skills

Leadership skills

Problem solving steps

JDG 5-2 : GEMOLOGY V

Introduction to Diamonds

Chemical composition, Physical properties, Durability of Diamonds

Diamonds and their internal structure: Crystal Forms, Growth Features, Crystallography, Cleaving, Surface Markings, Rough Diamonds

4 C's of Diamonds-

- **Color:** Grades, treatments, enhancements Depth of the colour, Shade of the colour, Colour of the inclusion, position of the colour zoning, Fluorescence and phosphorescence.
- **Clarity:** flaws, inclusions, blemishes, grading standards,
- **Cut:** Types, History, Proportions, Variations, planning and marking, sawing, Bruting, Faceting of table, Faceting of crown, Faceting of pavilion. Instruments used in cutting and polishing of diamond processing. Manual method of planning and marking. Computerized or automatic method for planning marking and diamond sawing.
- **Carat:** measurement and calculation, Cost computation.

Optical Properties and Crystallinity

Cubic system; Forms; Twins, Parallel growth; Irregular forms; Growth features, Fracture; Cleavage; Hardness (Moh's Scale); Specific gravity (Heavy liquids and Hydrostatic method); Electrical conductivity, Thermal conductivity; Graphitization.

Single; double and anomalous double refraction, Refractive index; Strain patterns; Dispersion; Absorption spectra; Transparency to Ultra-violet and x-rays; Reflectivity; Luminiscence.

Geological occurrences and their history

Geological occurrence of Diamonds, Diamond deposits, Kimberlites and Lamprolites, pipe deposits. Gem and industrial diamond, kimberlite (mines); Alluvial deposits (river beds), Marine deposits (beaches, sea-bed); Meteoric diamonds; Localities like Australia; Borneo; Brazil; India; Sierra Leon; Russia; South Africa; South West Africa, Zaire, Canada etc.

Working and manufacturing process of diamonds

- Survey methods of diamond deposits, Mining techniques of diamond deposits, History of diamond and diamond mining, Blood diamonds and conflict diamonds.
- Extraction of Diamonds: Crushing, Washing and Screening, Heavy media separator, Grease table, Grease belt, ray separation.
- Sorting of rough diamonds :Sorting by Size; Shapes; Colour; Purity.
- Manufacturing of diamonds: Grains; Sawing; Cleaving; Bruting; Grinding; Polishing; 4,3,2, point stones; Acidizing; Ultrasonic cleaning.

Diamond grading

1. COLOUR GRADING OF POLISHED STONES:

Lighting standards and magnification; Comparison stones. Colour grading systems (G.I.A.; HRD; Indian, C.I.B.J.O.)

2. CLARITY GRADING OF POLISHED STONES:

Magnification; Lighting; International grading scales; (G.I.A.; HRD; Indian; C.I.B.J.O.); Criteria for grading; Internal blemishes; External defects.

3. GRADING FOR CUT :

Spread stones; Lumpy and Fish-eye stones, Proportion scope and proportion analyzing, Carat system; weighing scales; Estimating weight of mounted stones (gauges); Sieves and sieve sizes. Estimating: Table percentage, Pavilion depth, Crown angle, Pavilion angle and Girdle thickness.

Synthetic diamonds and Simulants

1. SYNTHETIC DIAMOND:

Synthesis; Artificial colouration; Identification of treated diamond.

2. DIAMOND SIMULANTS :

Gadolinium Gallium Garnet (GGG); Yttrium Aluminium Garnet (YAG); Strontium Titanate; Synthetic Rutile; Synthetic Cubic Zirconia; Synthetic moissanite; Spinel, Sapphire; Zircon; Topaz; Quartz; Paste, Doublets.

Diamond Markets

Global and Indian Markets for Diamonds

De-Beers consolidated Mines; Diamond Trading Company (D.T.C.); Sights supplied by D.T.C.; Diamond Bourses; Clubs; Operation of the National and International markets.

Sources of Rough diamonds: HDC, MMTC, NMDC, Local-resellers, DTC, Open market.

JDG 5-3: JEWELLERY DESIGN V

Main features of Jewelry of major International markets: USA, Japan, Dubai, French market, Italian market, German market

Main features of Jewellery of European International markets: Italy, Germany, France

Traditional Jewellery: Definition of Traditional jewellery

Main features of Jewellery of major Indian markets : Kundan Meena Jewellery of Rajasthan, Kundan Meena, Definition/ Meaning, Process, Evaluation, Enameling, Kinds of Enamel, Gold Jewellery of Rajkot, Temple Jewellery of Kerala, Terracotta Jewellery of Bengal, Jewellery Style of Maharashtra, Art of Filigree- Orissa, Filigree, Meaning & Process, Silver, Filigree.

Jewelry materials

How to choose Material for Jewellery

Designs derived from Nature- the Moth-Mullen in Design, The Snow Crystal in Design, The Sea-horse in Design, The Butterfly in Design

Designing - Elliptical Brooch, Buckles, Clasps, Bar Pins Pendants, Lavalier and Necklaces, Pendants, Lavalier and Necklaces, the watch fob, hat pin, cuff link, cuff button, the finger ring, scarf pin, Chains, pendant slides, pendant connections

Designing – flower spray

Study of apple blossoms – bud forms, bud sections, sections of seed pods, leaf outlines

Studies from Peacock, shells

SEMESTER V PRACTICAL

JDG 5-4: *BUSINESS ETHICS AND MANAGEMENT*

Practical based on Theory

JDG 5-5: GEMOLOGY V

Practical based on Theory

JDG 5-5: JEWELLERY DESIGN V

Designing Jewelry suitable to different world markets

Designing jewelery around different gem stones

SEMESTER VI THEORY

JDG-6-1-ENTREPRENEURSHIP DEVELOPMENT

Concept of entrepreneurship, entrepreneurial talent, business ideas, fundamentals of entrepreneurship, challenges of entrepreneurship.

Project Management: Feasibility and Viability

Skill development, Business Incubation.

Advertising: types, agencies, media planning, brand awareness, brand names, headlines, slogans, basic elements of advertising

Code of Ethics

JDG 6-2 : GEMMOLOGY VI

Metal:

Precious metals : Gold, Silver & Platinum, Characteristics/Properties and Classification of Metals, Metal Texture, Alloy

Metal and their Behaviour

Characteristics and classification, ores, metal groups-ferrous, non-ferrous, alloys, mining and techniques-surface mining, subsurface mining and types. Basic techniques of jewellery making- measurement, layout, sawing, drilling, filing.

Precious metals and their mining, methods of refinement and recovery, application in jewellery, quality control –lowering or raising metal quality, hallmarking, standard weights and measures.

Gem trade

Selling Gemstones through their properties:

Clarity, Colour, Cut, Carat Weight

Customer Interactions:

Approach, Information Exchange, Demonstration Techniques, Value Enhancement, Sale approaches, Closure, Add-on Sales, Follow up.

Security:

Gem and Jewelry Related Giftware: Watches, Crystal pieces, Enamel pieces, figurines, desk accessories, cufflinks, China, Hollowware etc.

Service:

Knowledge, Repeat Sales, Personal Attention, Awareness, Care and cleaning, home care, Jewelry handling etc.

Hall marking and Gem Certification

Pricing/ Valuation

Market Terms/ Indian Trade

JDG 6-3: JEWELLERY DESIGN SOFTWARE

Software introduction, basic elements of the software

Use of software for jewelry designing

Master piece making, creating 2D and 3D Designs

Modification in designs, designs as per client requirements

SEMESTER VI PRACTICAL**JDG 6-4: ENTREPRENEURSHIP DEVELOPMENT**

Practical based on theory

JDG 6-5: GEMOLOGY AND JEWELLERY DESIGN SOFTWARE

Use of Jewellery Design Software

Project and portfolio design.
