

<b>Bharathiyar University</b> <b>Diploma In Gem &amp; Jewellery Designing (DGJD)</b> <b>CCII (Centre for Collaboration of Industry and Institutions)</b> <b>(For the CCII students admitted from the academic Year 2017-18 onwards)</b>			
<b>SEMESTER I</b>			
SI No.	Subject Code:	Title of the Paper	Marks
			Total
1	<b>GJD01</b>	History of Gem & Jewellery Industry and jewellery Entrepreneurship	100
2	<b>GJD02</b>	Manual Designing (I)- Introductions to Basics, shapes & tools	100
3	<b>GJD03</b>	Jewellery Designing (CAD-I)- Basic, Tools and commands	100
4	<b>GJD04</b>	Manual Designing - Different views in jewellery designing – (portfolio making)	100
<b>SEMESTER II</b>			
5	<b>GJD05</b>	<b>Practical I</b> Manual Designing- Ornaments Designing – <b>(Designing Record book- I)</b>	100
6	<b>GJD06</b>	<b>Practical- II</b> Manual jewellery designing- Advanced and theme based designing. <b>(Designing Record II)</b>	100
7	<b>GJDP1</b>	<b>Practical III</b> Jewellery designing (CAD)-Ornaments Designing- Using Software (CAD-II) – <b>(Designing Record- III)</b>	100
8	<b>GJDP2</b>	<b>Practical IV</b> Advanced & theme based jewellery designing- (CAD-III)- <b>(Designing Record- IV)</b>	100
		<b>TOTAL</b>	800

**Extra Curriculum Activities:**

- ✓ Communication skills.
- ✓ Soft skills development.
- ✓ Visit and participate gem & jewellery expo.
- ✓ Conduct designing competition.
- ✓ Conduct Jewellery Shows - Create Studios and Clubs
- ✓ Jewellery designing Studio and industrial visit.

## **HISTORY OF GEM & JEWELLERY INDUSTRY AND ENTREPRENEURSHIP**

Goal: To enable the students to learn the jewellery business in India

Objective: On successful completion of this course, the students should have understood

- To study the history of jewellery and metal used for its manufacturing.
- To study of classification of jewellery – adornment – workmanship.
- To maintain jewellery ethics and etiquette.
- To Promote Jewellery Entrepreneurship
- To learn about IPR & Hallmarking Process.

**UNIT –I:** Introduction to Jewellery business in India-Indian gem and jewellery industry. History of Indian jewellery and its evolution. Classification of jewellery Design across culture -state - community.- Marketing aspects : Gem & Jewellery industry an overview, analysis of prospects and problems of various sectors such as precious/semi-precious, diamonds, pearls, synthetic, imitation, jewellery studded and plain gold. Export procedures and formalities

**UNIT II:** Jewellery Mode of operations – jewellery designing, Jewellery manufacturing, whole sale, jewellery retailing. Jewellery ethics and etiquette - Everyday Jewellery – office jewellery – formal event- party jewellery – trends in jewellery industry – concept development. Jewellery classification based on adornment, workmanship, based on look of ornament, contemporary, ethnic contemporary, antique, fashion, fusion.

**UNIT III:** Meaning of Entrepreneurship – characteristics, functions and types of entrepreneurship – Entrepreneurial Motivation – Need for Achievement Theory – Risk-taking Behaviour – Innovation and Entrepreneur – Role of entrepreneurship in economic development

**UNIT IV:** Factors affecting entrepreneur growth - economic – non-economic. Entrepreneurship development programmes – need – objectives – course contents - phases - evaluation. Institutional support to entrepreneurs.

**UNIT V:** Respect and maintain IPR, Hallmarking, Gold Merchandising, Coordinate with others, Maintain occupational health and safety.

### **Recommended Books**

1. Entrepreneurial Development: S.S.Khanka
2. Entrepreneurial Development: C.B.Gupta & N.P. Srinivasan
3. Fundamentals of Entrepreneurship And Small Business Management Vasant Desai Essentials of Entrepreneurship and Small Business Management, Norman M. Scarborough, Jeffrey R. Cornwell

4. Take Me Home: The Inspiring Stories of 20 Entrepreneurs from Small Town India with Big-Time Dreams, Rashmi Bansal
5. Jewellery concepts and technology – Oppi Untracht
6. The encyclopedia of Jewellery making - Jinks McGrath

## **MANUAL DESIGNING (I) - INTRODUCTIONS TO BASICS, SHAPES & TOOLS**

**Goal: To learn the Hand sketch designing in competitive ways.**

### **Objectives:**

- Identify different textures and shapes of jewellery designs
- To use hand sketch designing tools in different ways.
- To Study, draw and understand new jewellery
- To practice free hand sketch designing with different shapes and models.
- To know the latest designs and finish the new models

**UNIT I:** Hand sketching designing, Meaning,-Drawing stationary and Measuring Tools, - Introduction free hand sketching Basic shape, -Introduction free hand motifs shape, -Use of different tools in designing kit

**UNIT-II:** Describe the objectives and features of tools- Basic stone shapes & its rendering techniques- ( Square shape, concave shape, convex shape, tube shape, Capsule shape, opened cylinder shape )- Identify different textures and shapes of jewellery designs- Process of Rendering techniques.

**UNIT-III:** Gem stone sketching – Faceting and rendering- Rendering Techniques- Concave-Convex-Rotring pen- Pencil-Importance, Benefits, techniques of Rendering- How to faceting and rendering Round shape, oval shape, marquise cut, pear shape, princess or square, baguette cut, Tapered baguette cut, emerald cut, trillion cut, heart shape- Importance, Benefits, techniques of Faceting.

**UNIT-IV:** Types of stone setting- Prong setting -pave setting, -channel setting,-bezel setting,- flush setting, -pressure setting.- Importance of different types of Stone Setting and how it featured from other types – Elaborate and draw a chart about different types of setting- Competitive advantages of Stone setting in ornaments.

**UNIT- V:** Features of Hand-sketch Designing- Process of Hand Sketch- Designing Patterns in India- Elaborate and any 10 Indian Models designs and its features- Importance of Hand sketch designing in global market-

### **REFERENCE BOOKS**

1. Jewellery Magazines,
2. Jewellery catalogue
3. Dance of Peacock – Usha R Balakrishna

**GOOGLE BOOKS TO READ:**

4. Wrap, Stich, Fold & Rivert: Making Designer Metal Jewelry – By Marry Hettmanperger.
5. Chich Model: Modern Metal Jewelry to make at home: Victoria Tillotson.
6. Metal Jewelry in Bloom: Learn Metworking Techniques by Creating Lilies, Daffodils, Dahlias and more- By Melissa Cable.
7. Making Metal Beads: Techniques, Projects, Inspiration By- Pauline Warg.
8. Croched Wire Jewelry: Innovative Design & Projects by leading Artistis- By- ArlineFisc

**Jewellery Designing (CAD I)-(Basic, Tools and commands)**

**Goal:** To enable the students to learn Basic, tools and commands of Computer Aided Jewellery Designing Software

**Objectives:**

- To study the Basics of CAD software and jewellery designing.
- To study the basic commands
- To understand the basic tools of CAD

**UNIT I:** Jewellery Designing and classification- Introduction to CAD Soft wares- Introduction to Rhino softwares- Basic Commands and tools-Basic shape –stone and stone shapes - Basic stone shapes & its rendering techniques- ( Square shape , concave shape , convex shape, tube shape,Capsule shape , opened cylinder shape )- Identify different textures and shapes of jewellery designs-Colours of Jewellery- Editing Rhino user interface

**UNIT-II:** 2D & 3D Objects- line Commands- circle commands- ellips/ovel- rectangles- introduction to arc commands- polygon- spiral commands- curve commands- Gem stone sketching – Feceting and rendering- Rendering Techniques- Concave-Convex-Rotring pen- Pencil-. How to faceting and rendering Round shape , ovel shape, marquise cut, pear shape, princess or square , baguette cut, Tapered baguette cut , emerald cut, trillion cut ,heart shape.

**UNIT-III:** Basic Commands- Differernt types of commands- join ,explode, trim, split, move, rotate, mirror, scale, offset, fillet, revolve, rail revolve, patch, union, sheer, array, twist, taper,

**UNIT IV:** Types of stone setting- Prong setting ( round cut stone, pear cut stones, marquise cut stones) -pave setting, -channel setting,-bezel setting,-flush setting, -pressure setting.- tension settings-

**UNIT-V:** Different CAD Software for Jewellery Designing – Latest Jewellery Software used in the industry- 3Design, Firestorm, Matrix, ArtCAMJewelsmith, JewelCAD, Rhino, Geomagic Sculpt, Mudbox, Zbrush , etc. - Jewel CAD and Rhino , Differences and comparisons in features- Comparison of Jewellery CAD software list in ( which is softwares are excellent, best, good, fare use..etc.) ; Modification and reworking of existing models, Making a size range, Precision modeling, Precision Modelling, Full 3D Carving onto a 3D Surface, Relief Sculpting (such as

coins, medallions), Applying Texture or Inlay With Shapes Onto a 3D Surface, Creating and Managing Pave Setting, Rendering Images..etc.

### **REFERENCE BOOKS, JOURNALS, WEBSITES.**

1. Jewellery Magazines,
2. Jewellery catalogue
3. Dance of Peacock – Usha R Balakrishan
4. Wb sites:, <http://www.cadjewelleryskills.com>,

### **GOOGLE BOOKS TO READ & DESIGN**

1. Spotlight on wire: Twist, Fold, Hammer, Waeave, Wrap- By Melissa Cable.
2. Copper Jewellery Collections: Versatile Projects to Expand Your Skills.
3. Perfectly Paired: Designed Jewelry with Polymer and Metal Clays- By Patricia Kimile.
4. Beautiful elements: Creative components in personalize your Jewelry- By Heather Powers.
5. Contemporary American Jewelry Design- By EtagleBlauer.
6. Bics Fashion Design 10: Jewellery Design: From Fashion to Fine Jewellery  
**By Elizabeth Galton**
7. **Basics Fashion Design 10: Jewellery Design: *From Fashion to Fine Jewellery*- By**
8. **Jewelry Designs from Nature: *Woodlands, Gardens, Sea*: Art Bead Jewelry Designs  
Inspired by Nature- By Heather Powers Elizabeth Galton**
9. **The Jewelry Maker's Design Book: An Alchemy of Objects**: Techniques and Design  
Notes for One-of-a-kind Jewelry Pieces- By DerynMentock
10. **Making Metal Jewelry: *How to Stamp, Forge, Form and Fold Metal Jewelry Designs*,**  
By Jen Cushman.

## **MANUAL DESIGNING- DIFFERENT VIEWS IN JEWELLERY DESIGNING – (Portfolio making)**

### **Objective of the course:**

- To understand costing process of jewellery design
- To impart in-depth knowledge of manual & computerised cost estimation of jewellery
- To illustrate historical design of jewellery of different periods.
- To design latest fashion jewellery by using coloured precious and semi-precious gemstones.
- To provide comprehensive knowledge about the perspective view of jewellery pieces and presentation.

**Unit I**-Costing and Pricing Strategies, Objectives & Pricing formula :- Costing of a Jewellery Piece- Wastage- Labour Cost- Determination of Profit- Selling Prices- Jewellery Purchasing. - Cost-Based Designing:- Designing a Pendant and earring Set for a Particular Cost-Price- Designing a Ring for a Particular Cost-Price- Designing a Earring for a Particular Cost-Price

**Unit II**-Costing in MS Excel :- MS Excel-Introduction, spreadsheet, workbooks, saving a file, opening an existing worksheet, Rows and columns, cell entries (numbers, labels, formulas),- Various tools & Functions :- Filling series, Functions and its parts, Some useful Functions in excel (SUM, AVERAGE, COUNT, MAX, MIN, IF) .Data sort, Renaming sheet, Printing worksheet.- Costing :-Insert Picture, Rate of Metal & Gem stones, Labour, Wastage, Determination of Profit and selling price.

**Unit III**-Drawing & Designing of Indian Historical Jewellery :- Different periods of India- Mauryan, Sunga, Gupta, Kushan, Chandella, Mughal. - Drawing & Designing of Rest of the world & European Historical Jewellery •-Art Nouveau, - Art Deco,-Edwardian-Victoria- Egyptian- Drawing and Designing of Latest Fashion Trends: - Latest Fashion Trends and Forecast

**UNIT IV**-Orthographic Views: - Technical Drawings of Rings :- Flat band, Concave, Convex, Fancy rings, Technical Drawings of Pendants, Technical Drawings of Earrings :-Stud, ,Bali, Long Earring

**UNIT V**- Designing International Jewellery : - Italy, Germany, France, USA, Japan, Dubai- Designing Indian Jewellery :-KundanMeenaJewellery of Rajasthan, KundanMeena, Enameling, Gold Jewellery of Rajkot, Temple jewellery of Kerala, Terracotta jewellery of Bengal, Art of Filigree- Orissa

Designing Traditional Jewellery :-Bridal Necklace- Gold Necklace

## REFERENCE BOOKS:

1. 7000 Years of Jewelry: An International History and Illustrated Survey from the Collections of the British Museum by **Hugh Tait**
2. Jewels of the Nizams by **Usha B. Krishnan**
3. Over 50 Techniques for Creating Eye-catching Contemporary and Traditional Designs
4. An Introduction to Rings and Modules With K-theory in View (May 15, 2000) by A. J. Berrick and M. E. Keating

## PRACTICAL I

### MANUAL DESIGNING- ORNAMENTS DESIGNING - (DESIGNING RECORD BOOK- I)

**Goal:-** To enable the students to design the new designs in different competitive models.

#### Learning Objectives:-

#### Objectives:

- Identify different textures and shapes of jewellery designs
- To use hand sketch designing tools in different ways.
- To Study , draw and understand new jewellery ornaments
- To practice free hand sketch designing with different shapes and models

## UNIT 1

Ornaments Designing: Finger rings (ladies and men) – Plain gold rings, Studded rings, cocktail rings, solitaire rings...etc- 15 Mode. -Bangles (ladies and men)- Plain gold bangles with top & front view, studded bangles with top & front view- Studded Bangles- Draw and practice different types of rings- Tie pins- Cufflinks- Belt buckle- Tanmanyas.- 15.- Pendants (ladies & men)- plane gold and silver, studded, designer pendent - low and high budget pendent- vectorian pendent(female)- 15

## UNIT II

Earrings( ladies and men)Ear studs- Bali- J studs- Jumkas –(light heavy medium- (-Ear tops ( gold , silver and studded), Bali, Jumkas (traditional and morden),party wear earrings ,short earrings- 15 Models.

### **UNIT III**

Chains(Men and Women ) – Draw 10 Models of Chain-Necklace(ladies) – 20 Models- short and long necklace(gold and studded), designer necklace , pearl necklace , kundan necklace, tanmanya,bridel necklace.

### **UNIT – IV**

Khada (mens& Ladies)- 10 Models- Tie pin- 10 models- Cufflinks- 5 models- Theme based Designing – (mens& Ladies) contemporary, antique, fashion, fashion based design- Compete at least 25 Models of Designing with features and descriptions

### **GOOGLE BOOKS TO READ & DESIGN**

1. Spotlight on wire: Twist, Fold, Hammer, Weave, Wrap- By Melissa Cable.
2. Copper Jewellery Collections: Versatile Projects to Expand Your Skills.
3. Perfectly Paired: Designed Jewelry with Polymer and Metal Clays- By Patricia Kimile.
4. Beautiful elements: Creative components in personalize your Jewelry- By Heather Powers.
5. Contemporary American Jewelry Design- By EttagleBlauer.

### **REFERENCE BOOKS**

1. Jewellery Magazine
2. Jewellery catalogue
3. Dance of Peacock – Usha R Balakrishan

## **PRACTICAL- II**

### **MANUAL JEWELLERY DESIGNING- ADVANCED AND THEME BASED DESIGNING. (Designing Record- II)**

**Goal:-** To nurture designing aesthetics for students and enable the students to design the new designs in different competitive models.

### **Learning Objectives:-**

### **Objectives:**

1. Identify different textures and shapes of jewellery designs
2. To use hand sketch designing tools in different ways.
3. To Study , draw and understand new jewellery ornament
4. To practice free hand sketch designing with different shapes and models



### **UNIT –I**

Chains(Men and Women) – Draw 10 Models of Chain-Necklace(ladies) – 20 Models- short and long necklace(gold and studded), designer necklace , pearl necklace , kundan necklace, tanmanya, bridel necklace.-

### **UNIT -II**

Khada (mens& Ladies)- 10 Models, Tie pin- 10 models, Cufflinks- 5 models

### **UNIT –III**

Theme based Designing – (Men & Ladies) contemporary, antique, fashion, fushion based design- Complete at least 25 Models of Designing with features and descriptions

### **UNIT- IV**

Designing Jewellery on a particular theme : -Development of Motif to Design Jewellery according to different Themes- Brooches- Pendant sets:- Fancy pendants- Tanmaniya, .- Earrings- Studs- Long earring Chandelier- . Rings:- Flat band- Concave -Convex- Fancy rings

### **UNIT- V**

Bracelets & Bangles:- Tennis bracelet- Stiff bracelets- Bangles - Anklets:- Flexible- stiff- • Necklaces:-Choker ,Tapering & Party wear

### **GOOGLE BOOKS TO READ & DESIGN**

1. Spotlight on wire: Twist, Fold, Hammer, Waeave, Wrap- By Melissa Cable.
2. Copper Jewellery Collections: Versatile Projects to Expand Your Skills.
3. Perfectly Paired: Designed Jewelry with Polymer and Metal Clays- By Patricia Kimile.
4. Beautiful elements: Creative components in personalize your Jewelry- By Heather Powers.
5. Contemporary American Jewelry Design- By EtagleBlauer.
6. Jewellery Design by Elizabeth Olver
7. The Creative Jeweller by Sharon Mcswiney
8. 1000 Jewelry Inspirations by Sandra Salamony
9. The Art of Jewellery Design: : by Elizabeth Oliver
10. Jewellery Technology by Diego Pinton

**PRACTICAL- III**  
**JEWELLERY DESIGNING (CAD) ORNAMENTS DESIGNING-**  
**USING SOFTWARE (CADII) -(Designing Record III)**

**Goals:** Learn 3D Jewellery Ornaments Designing using CAD Softwares

**Objectives:**

To understand CAD Designing

To design different Ornaments in different models.

To Understand the Practical Knowledge as well as theory about the designs

**UNIT I**

Ornaments Designing Using Software- : Finger rings (Men and women) – Plain gold rings, Studded rings, cocktail rings, solitaire rings...etc- 15 Model- Ornaments Designing Using Software: -Bangles (Men and women)- Plain gold bangles with top & front view, studded bangles with top & front view- Studded Bangles- Draw and practice different types of rings- Tie pins- Cufflinks- Belt buckle- Tanmanyas.- 15

**UNIT II**

Ornaments Designing Using Software: -Pendants (Men and women)- plane gold and silver, studded, designer pendent - low and high budget pendent- victorian pendent(female)- ( 10 designs)-Ornaments Designing Using Software: -Earrings (Men and women)Ear studs- Bali- J studs- Jumkas –(light heavy medium- (-Ear tops ( gold , silver and studded), Bali, Jumkas (traditional and morden),party wear earrings ,short earrings- 15 Models.

**UNIT III**

Chains Designs Using Software (Gents & Ladies) – Draw 10 Models of Chain-Necklace(ladies) – 20 Models- short and long necklace(gold and studded), designer necklace , pearl necklace , kundan necklace, tanmanya, bridel necklace.-

**UNIT – V**

Designs Using Software :-Khada (Gents & Ladies)- 10 ModelsTie pin- 10 models

Cufflinks- 5 models-Designs Using Software :Theme based Designing – (Gents & Ladies) contemporary, antique, fashion, fushion based design- Compete at least 25 Models of Designing with features and descriptions

## REFERENCE BOOKS, JOURNALS, WEBSITES.

1. Jewellery Magazines,
2. Jewellery catalogue
3. Dance of Peacock – Usha R Balakrishan
4. Wb sites:, <http://www.cadjewelleryskills.com>,
5. Study Materials- Rhino
6. Rhino Tutorials- Videos and Materials Videos.
7. Basic Tutorials – Jewel CAD

## GOOGLE BOOKS TO READ & DESIGN

1. Spotlight on wire: Twist, Fold, Hammer, Waeave, Wrap- By Melissa Cable.
2. Copper Jewellery Collections: Versatile Projects to Expand Your Skills.
3. Perfectly Paired: Designed Jewelry with Polymer and Metal Clays- By Patricia Kimile.
4. Beautiful elements: Creative components in personalize your Jewelry- By Heather Powers.
5. Contemporary American Jewelry Design- By EtagleBlauer.

## PRACTICAL –IV-

### ADVANCED & THEME BASED JEWELRY DESIGNING-(CADIII)-

#### (Designing Record- IV)

**Goals:** Learn 3D Jewellery Ornaments Designing using CAD Softwaresie. Jewelcad/ Rhino/ Matrix.

#### **Objectives:**

To understand CAD Designing

To design different Ornaments in different models.

To Understand the Practical Knowledge as well as theory about the designs

#### **UNIT –I**

Chains Designs Using Software (Gents & Ladies) – Draw 10 Models of Chain-Necklace(ladies)  
– 20 Models- short and long necklace(gold and studded), designer necklace , pearl necklace ,  
kundan necklace, tanmanya, bridel necklace.-

## **UNIT -II**

Designs Using Software :-Khada (Gents& Ladies)- 10 Models

Tie pin- 10 models

Cufflinks- 5 models

## **UNIT – III**

Designs Using Software :Theme based Designing – (Gents & Ladies) contemporary, antique, fashion, fashion based design- Compete at least 25 Models of Designing with features and descriptions

## **UNIT- IV**

Designing Jewellery on a particular theme :• Development of Motif to Design Jewellery according to different Themes- Brooches-• Pendant sets:- Fancy pendants- Tanmaniya, • Earrings- Studs- Long earring Chandelier- • Rings:- Flat band- Concave

-Convex- Fancy rings

## **UNIT- V**

• Bracelets & Bangles:- Tennis bracelet- Stiff bracelets- Bangles • Anklets:- Flexible- stiff- • Necklaces:-Choker ,Tapering & Party wear

## **REFERENCES:**

Jewellery Technology by Diego Pinton

Tutorials & Study materials: Rhino

Tutorials & Study materials: Matrix

Tutorials & Study materials: JewelCAD

## **Books Recommended:**

1. Jewellery Design by Elizabeth Olver
2. The Creative Jeweller by Sharon Mcswiney
3. 1000 Jewelry Inspirations by Sandra Salamony
4. The Art of Jewellery Design: : by Elizabeth Oliver

## **Diploma in Gem & Jewellery Designing.**

### **Instructions and Guidelines for Practical Examinations, Portfolio Making**

#### **Manual Designing & CAD Designing:**

- Portfolio Making is compulsory for Designing Papers as per the prescribed format only.
- Design Kit and tools is compulsory for all papers (both theory and practical).
- Prefer any CAD software for Jewellery designing CAD papers ie.. Rhino, Jewel CAD etc.
- Draw each designs in definite models mentioned in the syllabus.
- Head of the Department and Internal Assessor or Lab Instructor should verify all Internal Examinations Records.
- All Records/Designing Portfolios/CAD Portfolios should follow the prescribed format only.
- Head of the Department and Internal Assessor or Lab Instructor should verify all Internal Examinations Records.
- Features Study or features can be mention in next page or make another feature portfolio.