



RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

FACULTY OF SCIENCE AND TECHNOLOGY

DIRECTION NO. 16 OF 2019

(Issued under section 12(8) of the Maharashtra Public University Act 2016)

Bachelor of Jewellery Design (Semester Pattern), Direction 2019.

Whereas the Maharashtra public Universities act, 2016 is made applicable to the university w.e.f. 1st march 2017 (hereinafter referred to as the act):

AND

Whereas, section 12(8) of the Act empowerment the vice chancellor to issue Direction for regulating the matter for which statute/Ordinance/Regulations is not made or to amend the existing statute /ordinance/regulations.

AND

Whereas, provision of section 12(8) provided that the Direction issued by the vice chancellor shall automatically lapsed after 180 days.

AND

Whereas direction no.73 of 2016 was issued by the vice chancellor on 07/10/2016.Which could not have been converted into the Statute/Ordinance/Regulations within six months.

AND

Whereas, Direction no. 73 of 2016 issued by the vice chancellor on 07/10/2016 is required to be renewed for regulating the matter involved in the said Direction.

Now, therefore, I, Dr.Siddharthavinayak P. Kane, ViceChancellor, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur in exercise of powers conferred upon me under provision of section 12(8) of the Maharashtra Public Universities Act, 2016, do hereby issue following Directions to renew Direction No. 73 of 2016.

1. This Direction shall be called "Direction governing the Examination leading to the Degree of Bachelor of Jewellery Design (Semester Pattern) in the Faculty of Science and Technology, **Direction No.16 of 2019**, RTM Nagpur University, Nagpur.
2. The Direction shall come into force from the date of its issuance by Hon'ble Vice- Chancellor and shall remain in force till the relevant ordinance comes into being, in accordance with the provisions of the act.

The duration of the Bachelor of Jewellery Designing course shall be of three academic years consisting of six semesters with university examinations at the

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end of each semester namely:

- a. The Bachelor of Jewellery Design Semester-I Examination;
- b. The Bachelor of Jewellery Design Semester-II Examination;
- c. The Bachelor of Jewellery Design. Semester-III Examination;
- d. The Bachelor of Jewellery Design Semester-IV Examination;
- e. The Bachelor of Jewellery Design Semester-V Examination;
- f. The Bachelor of Jewellery Design Semester-VI Examination.

3. The theory examination of Semester-I, II, III, IV, V and VI shall be conducted by the University and shall be held separately at the end of each semester at such places and dates as may be decided by the University.

ELIGIBILITY TO THE COURSE

4 Subject to the compliance with the provision of this ordinance and other ordinances enforced from time to time, the candidates for admission to the examination shall have passed:-

In case of part one, have passed the 12th standard Examination of MS Board of Secondary or Higher secondary education in Arts, Science, Commerce, Home Science or Vocational or any other examination recognized as equivalent from anywhere in India.

5a) Bachelor of Jewellery Design Semester-I Examination

Students who have fulfilled the eligibility criteria as mentioned in section 4 have been admitted to this course in semester I

b) In case of the Bachelor of Jewellery Design Semester II, III, IV, V and VI Examinations:-

The student should have attended minimum of 90 days in the respective semester and passed the previous semester examination as per the rules of ATKT as mentioned in Para 7 of this direction.

6 The ATKT rules for admission for the Bachelor of Jewellery Design Course (Theory and Practical as separate passing head and on calculation fraction, if any, shall be ignored) shall be as given in the following Table- 3.

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Table 3

Admission to Semester	Student should have appeared in the examination	The student should have attended the Session/ term satisfactory	Candidates should have passed at least one half of the passing heads of the following examinations (Theory and Practical as separate passing head and on calculation fraction, if any, shall be ignored)
1	2	3	4
Semester I	-	Semester I and admitted As per para 5 of this Direction	-----
Semester II	Sem-I	Semester II	-----
Semester III	Sem-I and Sem-II	Semester III	One half of the total head prescribed for Sem I and Sem II examination
Semester IV	Sem-III	Semester IV	-----
Semester V	Sem-III and Sem-IV	Semester V	a) Passed Sem I & II examination and b) One half of the total head prescribed for Sem III & IV examination
Semester VI	Sem-V	Semester VI	-----

7. Without Prejudice to the other provisions of Ordinance No._6_ relating to the examination in general, The provision of Para 5,6,7,8,10 and 32 of the said ordinance shall apply to every collegiate candidate.

8. The Tuition & Other fees for the above examination shall be prescribed by the University time to time.

9. Every candidates for semester I, II, III, IV,V and VI of Bachelor of Jewellery Design

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examination shall be examined by the RTM Nagpur University in the subject as laid down in the appendices to this ordinance.

The Scope of the subject as indicated in the respective syllabus in force from time to time.

10. The medium of instruction and examination shall be in English.

11. The applicant for admission to above examination shall satisfy the Principal/Director about his/her progress in studies and regularity of attendance during the academic session.

12. The Principal/Director of the college shall maintain the complete record of Sessional marks before commencement of the written examination.

13. The classification of the examinees successful only at the final examination shall be determined on the basis of the aggregate marks obtained by the examinee at Sem I, II, III, IV, V and VI Semester examination taken together.

14. Successful examinees at the Sem-VI Examination who obtained not less than 60% marks (aggregate of Sem-I, II, III, IV, V & VI Examinations) taken together, shall be placed in First Division, those obtaining less than 60% but not less than 45% in Second Division, and all other successful examinees in the Third Division.

15. Division at the Bachelor of Jewellery Design Examination shall be declared on the basis of the marks obtained in the Subjects at the Sem-I, II, III, IV, V & VI Examinations taken together.

16. There shall be no classification of successful examinees at the Sem-I to Sem-V Examinations.

17. An examinee successful in the minimum period prescribed for the examination obtaining not less than 75% of the maximum marks prescribed in the subject shall be declared to have passed the examination with Distinction in that subject.

- (1) Distinction at the Bachelor of Jewellery Design Examination shall be awarded on the basis of the marks obtained at the Semester - I, II, III, IV, V and Semester VI Examination taken together.
- (2) Distinction shall not be awarded to an examinee availing of the provision of the exemptions and compartments at any of the examination.

18. Provisions of the Ordinance no. 3 of 2007 relating to the condonation of the

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deficiency of marks for passing the examination, exemption shall apply to the examinations under this ordinance .

19. An unsuccessful examinee at any of the above examination shall carry college assessment Marks (Sessional Marks) of the theory/Practical examination/to the successive attempt at the examination. The examinee however can forgo His/her college assessment marks in the subject or subjects in which he/she shall be examined for total marks comprising of theory and sessional together at his /her successive attempts.

20. The successful examines at VIthsemester of the above examination shall be awarded degree of Bachelor of Jewellery Designing the convocation of for the year concerned.

21. Absorption / Matching Scheme:

- a) While switching over to semester pattern, the failure students of annual pattern will be given total five (three plus two) chances to clear each examination. After availing five chances for clearing the examination as per annual pattern, no examination would be held for annual candidates.
- b) The candidates who have cleared first year annual pattern examination in the subject shall get admission to third semester directly. However, candidates who are allowed to keep term will not be eligible for admission to third semester unless they clear all the papers and practicals of first year annual pattern examination.
- c) The candidates who have cleared second year annual pattern examination in the subject shall get admission to fifth semester directly. However, candidates who are allowed to keep term will not be eligible for admission to fifth semester unless they clear all the papers and practical of second year annual pattern examination.
- d) The unsuccessful students of old course (Yearly Pattern) shall be permitted to appear for higher class as per the new course (Semester Pattern) examination of the Bachelor of JewelleryDesign programme (Semester Pattern) provided that they submit a certificate from the Head of Department / Principal of the College stating that they have satisfactorily undergone a course of study in all the

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subjects of the new course. .

e)For other Statutory University candidates with similar yearly pattern program, clause 'b' and 'c' shall be applicable subject to equivalence of R. T. M. Nagpur University for that particular course.

22. With the issuance of the Direction no **16 of 2019**, the Direction No. 73 of 2016 of shall stand repealed.

I, further, direct that the aforesaid Direction shall come into force from the date of issuance and shall remain in force till the relevant Ordinance comes into being, in accordance with the provisions of the Maharashtra Public Universities Act, 2016.

NAGPUR

Dated 22.04.2019

Sd/-

(Dr. SdharthavinayakaP.Kane)

Vice Chancellor

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INTRODUCTION TO JEWELLERY DESIGNING

India is now recognized as a global leader in this industry and it is essential that we have young talented minds to take this industry to the next level of world Jewellery market. The objective of the course is to provide advance knowledge and professionalism in the field of Jewellery. A professional course in Institutes of Jeweler Designing aims to envision and evolve Jeweler Manufacturing and Design education in the country. The course teaches a student basic as well as advanced Jeweler design, Jeweler manufacture, refining, casting, setting, model making, rubber mould making, CAD/CAM, gemology and diamond grading. The training programs are thorough and comprehensive and empower students to become anything from a studio Jeweler to a production manager to an entrepreneur. The growing Jeweler industry, which has transformed itself from a traditional small-scale operation to a segment, which has tremendous future potential, provides potential for candidates to 'shape their dreams' and 'polish their skills'.

Institutes/colleges provides the students the professionalism and skills for success in the Jeweler industry as product development managers, purchase managers, sales and marketing managers, merchandisers, Jeweler designers, retail Jeweler and lifestyle managers.

Career Options:

Positions in the Jeweler industry as:

1. Self-employed designer-jeweler
2. Buyer
3. Designer
4. Technical Supervisor
5. Process Specialist
6. Merchandiser
7. Factory Manager
8. Marketing Manager
9. General Manager
10. Freelance Designing

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Bachelor of Jewellery Design – Semester I

Paper/ Code	Theory/ Practical	Teaching Scheme (Hrs/Week)			Examination Scheme				
		Theory	Practical	Total	Duration (Hrs)	Max. Marks		Total Marks	Min. Passing Marks Theory
						Theory			
						University Exam	Internal assessment		
Paper I (1T-1)	Gemology – I	4	4	8	2	40	10	50	20
Paper II (1T-2)	Jewellery Component – I	4	4	8	2	40	10	50	20
Paper III (1T-3)	Advanced Jewellery Design – I	4	4	8	2	40	10	50	20
Paper IV (1T-4)	History of Jewellery Design - I	4	-	4	2	40	10	50	20
Paper V (1T-5)	Fundamental of English	4	-	4	2	40	10	50	20
	Total	20	12	32	-	200	50	250	100

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Bachelor of Jewellery Design – Semester II

Paper/ Code	Theory/ Practical	Teaching Scheme (Hrs/Week)			Examination Scheme						
		Theory	Practical	Total	Duration (Hrs)	Max. Marks					
						Theo ry	IA.	Total Marks in Theory	Practical	IA	Total Marks in Practic al
Paper I (2T-1)	Gemology – II	4	4	8	2	40	10	50	40	10	50
Paper II (2T-2)	Jewellery Component – II	4	4	8	2	40	10	50	40	10	50
Paper III (2T- 3)	Advanced Jewellery Design – II	4	4	8	2	40	10	50	40	10	50
Paper IV (2T- 4)	History of Jewellery Design - II	4	-	4	2	40	10	50	--	--	--
Paper V (2T-5)	Communication Skills	4	-	4	2	40	10	50	--	--	--
	Total	20	12	32	-	200	50	250	120	30	150

- Separate passing for theory and practical.
- Combined passing 40% - theory + Internal Assessment taken together.
- Combined passing 40% - Practical + Internal Assessment take together.
- Practical examination of semester I and II taken together at the end of semester II.

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Bachelor of Jewellery Design – Semester III

Paper/C ode	Theory/ Practical	Teaching Scheme (Hrs/Week)			Examination Scheme				
		Theory	Practical	Total	Duration (Hrs)	Max. Marks		Total Marks	Min. Passing Marks Theory
						Theory			
				University Exam		IA			
Paper I (3T-1)	Diamond Identification & Grading- I	4	4	8	2	40	10	50	20
Paper II (3T-2)	Gold Smithing – I	4	4	8	2	40	10	50	20
Paper III (3T- 3)	CAD (Coral Draw) – I	4	4	8	2	40	10	50	20
Paper IV (3T- 4)	Introduction to Metal Techniques - I	4	-	4	2	40	10	50	20
Paper V (3T-5)	Contemporary Jewellery Manufacturing - I	4	-	4	2	40	10	50	20
	Total	20	12	32	-	200	50	250	100

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Bachelor of Jewellery Design – Semester IV

Paper/C ode	Theory/ Practical	Teaching Scheme (Hrs/Week)			Examination Scheme						
		Theory	Practical	Total	Duration (Hrs)	Maximum Marks					
						Theory	I A	Total Marks	Practical	Internal	Total Mark s
Paper I (4T-1)	Diamond Identification & Grading- II	4	4	8	2	40	10	50	40	10	50
Paper II (4T-2)	Gold Smithing – II	4	4	8	2	40	10	50	40	10	50
Paper III (4T- 3)	CAD (Photo Shop) – II	4	4	8	2	40	10	50	40	10	50
Paper IV (4T- 4)	Introduction to Metal Techniques - II	4	-	4	2	40	10	50	-	-	-
Paper V (4T-5)	Contemporary Jewellery Manufacturing - II	4	-	4	2	40	10	50	-	-	-
	Total	20	12	32	-	200	50	250	120	30	150

- Separate passing for theory and practical.
- Combined passing 40% - theory + Internal Assessment taken together.
- Combined passing 40% - Practical + Internal Assessment take together.
- Practical examination of semester III and IV taken together at the end of semester IV

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Bachelor of Jewellery Design – Semester V

Paper/C ode	Theory/ Practical	Teaching Scheme (Hrs/Week)			Examination Scheme				
		Theory	Practical	Total	Duration (Hrs)	Max. Marks		Total Marks	Min. Passing Marks Theory
						University Exam	IA		
Paper I (5T-1)	Jewel – CAD	4	4	8	2	40	10	50	20
Paper II (5T-2)	Jewellery Workshop Techniques – I	4	4	8	2	40	10	50	20
Paper III (5T- 3)	Principles of Marketing – I	4	-	4	2	40	10	50	20
Paper IV (5T- 4)	Jewellery Production & Quality Assurance - I	4	-	4	2	40	10	50	20
	Jewellery Project	-	4	4		40	10	50	20
	Total	16	12	28	-	200	50	250	100

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Bachelor of Jewellery Design – Semester VI

Paper/C ode	Theory/ Practical	Teaching Scheme (Hrs/Week)			Examination Scheme						
		Theory	Practical	Total	Duration (Hrs)	Max. Marks					
						Theor y	IA	Total Marks in Theory	Practical	Inter nal	Total Marks in Practical
Paper I (6T-1)	Rhino – CAD	4	4	8	2	40	10	50	40	10	50
Paper II (6T-2)	Jewellery Workshop Techniques – II	4	4	8	2	40	10	50	40	10	50
Paper III (6T- 3)	Principles of Marketing – II	4	-	4	2	40	10	50	--	--	--
Paper IV (6T- 4)	Jewellery Production & Quality Assurance - II	4	-	4	2	40	10	50			
	Port folio	-	4	4	-	-			Portfolio 80	Viva -voce 20	100
	Total	16	1 2	28	-	160	40	200	160	40	200

- Separate passing for theory and practical.
- Combined passing 40% - theory + Internal Assessment taken together.
- Combined passing 40% - Practical + Internal Assessment take together.
- Practical examination of semester Vand semester VI taken together at the end of semester VI.

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Bachelor of Jewellery Design
Semester - I
GEMMOLOGY - I
PAPER – I (1T-1)

Total Marks -50
Theory Marks: 40
Internal Marks: 10

Objectives:

- To understand the origin, and physical structure and properties of natural gem material.
- To understand the working and construction of various lab equipments and their use.
- To be able to identify natural and artificial gem materials.
- To be able to grade the natural gem material.

Unit I : Nature of gemstones

- Formation of minerals and rocks.
- Types of Natural Gems ; Organic Gems and Inorganic Gems
- Special qualities of natural Gem material (beauty, rarity, durability)
- Crystalline and amorphous material
- Basic families of minerals
- Types of minerals used as gemstones: beryl, chrysoberyl, corundum etc.

Unit II : Crystallography

- Crystals
- Crystal Symmetry
- Crystal systems
- Crystal Forms
- Crystal Habits
- Crystal growth patterns
- Crystal twinning
- Cryptocrystalline state of crystals
- Massive and metamorphic states of crystals
- Isomorphism and polymorphism
- Cleavage : Definition, description, importance in gemology and lapidary work

Unit III : physical properties

- Hardness :
- Definition

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- Mohs scale,
- Selection of reference minerals
- Application in gemology
- Specific gravity
- Definition
- Determination
- Construction and use of hydrostatic balance
- Two pan and single pan balance
- Heavy liquids : Bromoform, methylene iodide, and clerici solution
- Floation and pycnometer method.

Unit IV: Other properties

- Magnetic properties of gemstones
- Electrical properties of gemstones
- Thermal conductivity and thermal conductivity meter
- Units of measurement
- Metric carat, pearl grain,
- Micrometer
- Nanometer
- Angstrom

1P1-Practical

- Study of crystal forms, habits, and growth features of various gemstones
- Learn to handle 10x lens, microscope, and other lab equipments.
- Drawings of various types of gemstone cuts and colors.

References:

1. Gemstones – CallyOldershaw
2. Gemology – Peter G. Read
3. Gestores of the world – Revised edition walterschumann
4. Gem identification made easy – Matlins and Bonanno

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**Bachelor of Jewellery Design
Semester - I
JEWELLERY COMPONENTS - I
Paper II (1T-2)**

Total marks -50

Theory Marks: 40

Internal Marks: 10

Objectives

By the end of this session, students should:

- Demonstrate knowledge of the technical specifications of primary Jewellery components;
- Demonstrate knowledge of the aesthetic qualities of primary Jewellery components;
- Demonstrate an understanding of the functional qualities of primary Jewellery components;
- Demonstrate innovative application of the technical, functional and aesthetic qualities of primary components to individually designed Jewellery;
- Demonstrate knowledge of the care, maintenance and safety aspects of the tools, equipment and machinery involved in the design and manufacture of Jewellery;
- Exhibit a knowledge and understanding of contemporary Jewellery.

Unit I: Jewellery findings

- Bails, bead caps, chain by the foot, clasps and Toggles,
- Crimp beads, crimp covers, eye pins, head
- Pins, links and connectors, split rings.
- New earring components, Earwires, Lever-backs,
- Postearring, Earring back, Bezels etc.
- Pendants –Bracelets, Necklace, Brooches, Components.

Unit II : Gemstone beads

- Glass beads, Resin beads, Kashmiri beads, Cabochons,
 - Swarovski beads, shell beads and pendants, wire, use to thread, thongs,
 - Other tools, Natural stone beads, wire size, Hardness of wire, material of wire.

Unit III: Gemstone beads

- Amazonite, Amber, Amethyst, multi-colour Agate, Agate, crystal,
- Coral, Jasper, Jade, Black stone, beryl, Quartz-Rose-Gemstone properties.

Unit IV: Handmade Jewellery

- How to make handmade jewellery, manufacturing process of handmade Jewellery.
- Melting & sheet casting
- Melting process – heat introduction.

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- Removing film – sawing and cutting
- Soldering and assembly – filing and forming
- Stone setting- polishing & plating

1P-2-Practical

- Prepare jewellery of crystal beads.
- Bracelets and earrings
- Work with various jewellery findings, and tools
- Staff will be available for individual consultation during 3 x 3 hour sessions per week during teaching session

Reference: 1) <https://en.wikipedia.org/wiki/Finding>
2) www.bigbeadlittlebead.com/guides_
3) www.bojanglebeads.co.uk
4) <https://www.riogrande.com/category>

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**Bachelor of Jewellery Design
Semester I
ADVANCED JEWELLERY DESIGN -I
Paper III (1T-3)**

**Total marks -50
Theory Marks: 40
Internal Marks:10**

Objectives:

- To understand the basic elements and principles of jewellery designing.
- To be able to create jewellery designs using imagery fundamentals.
- To train the students for various hand skills required for hand sketching the jewellery designs.
- To understand the customer demands, choices, socio – economic and cultural background and design development accordingly.
- To understand the specialties of motifs from different cultures.

Unit I: Basic jewellery designing

- Principles of design for jewellery making
- Balance – a balancing act – Emphasis-
- Point of emphasis; Movement-magic of
- movement; Proportion – Power of proportion;
- Contrast consideration; Unity; Harmony.
- Balance – Symmetrical, Asymmetrical, Radial balance, off- balance.

Unit II: - Hand control exercises

- Basic hand-eye control pen control,
- finger exercise, curving lines, how to draw lines, types of lines,
- Design and colour, Shape, Size, Texture, Value, direction.
- 2-D and 3-D object drawing- still life and perspective view-
- Perspective view of jewellery pieces and presentation.

Unit III :-Shading in Geometrical shapes

- Analytical and Methodical
- Approach in Motif development- motif development to make
- Jewellerytypes of motif- floral motifs-dance motif development.

Unit IV :- Theory of different types of design

- Rendering in all kinds
- of metals- techniques- different finishes- studying different
- cuts- and shapes of stones- faceted and cabochon cuts- various

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- Locks and hinges, Tips on caring for precious jewelry.

1P-3-Practical

- Hand control exercises
- Creating 2-D drawing
- Creating 3-D drawing
- Study of Motif development

References:

1. www.londonjewelleryschool.co.uk ›
2. www.iiqj.org/
3. [www.iqiworldwide.com/cad **design** cour](http://www.iqiworldwide.com/cad_design_cour)
4. www.imaginations-jewelry.com
5. [www.think**designjewelry**.com/](http://www.thinkdesignjewelry.com/)

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**Bachelor of Jewellery Design
Semester I
HISTORY OF JEWELLERY DESIGN – I
Paper – IV (1T-4)**

Total Marks -50

Theory Marks: 40

Internal Marks: 10

Objectives:

- To understand the role of history in modern jewellery designs.
- To understand the different cultures around the globe and their impact on design development
- To understand the role of jewellery in human life other than body adornment.

Unit I: Origin of jewellery design

- Jewellery from the dawn of man
- Early jewellery function and design
- Materials and methods used by early man
- Origin of metals
- Impact on society
-

Unit II : History of Indian Jewellery Design

- Indus valley civilization jewellery
- Vedic period jewellery
- Mouryan period
- Sangha period
- Gupta period
- Mughal period
- Rajput period
- Impact of British rule on jewellery

Unit III : Indian traditional jewellery

- Bridal jewellery : Mangtika, necklace, earrings, noserings, bangles, armlets, rings waist band, anklets and toe rings
- Kundanjewellery
- Lac jewellery
- Meenakari
- Navratnajewellery
- Bead jewellery
- Filigree jewellery
- Jadaujewellery
- Pachchikamjewellery
- Temple jewellery
- Tribal jewellery

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Unit IV : History of gemstones

- Origin of gemstones
- History and significance of 9 precious stones in India (Navratna)
- Some famous historical gemstones
- Hope diamond, Kohinoor, The Black princes Ruby, Star of India, Pearl of Lao Tzu, Andamooka opal, Medusa Emerald

References : Books

- 1) History of jewellery – Black
- 2) The master jewelers – Kenneth Snowman

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**Bachelor of Jewellery Design
Semester I
FUNDAMENTAL OF ENGLISH
Paper V (1T-5)**

Total Marks -50

Theory Marks: 40

Internal Marks: 10

Objectives:

- 1) To improve English grammar skills of students for effective use of English as a language.

TIP: This subject should be taught in English only.

UNIT I :

- **PHONETICS BASICS** - Pronunciation – Sounds : Vowels, Consonants, Syllables,
- Word stress – Transcription of words-
- **Grammar**
 - a Noun , kinds of nouns
 - b Pronounce , kinds of Pronounce
 - c Articles ,Prepositions, conjunctions
 - d Verbs , Tenses ,Types of Tenses

UNIT II

- Narration, voice
- Degrees of comparison
- Question tag
- Simple, compound, complex sentences.
- Transformation of sentences : Assertive, Interrogative, Exclamatory, No
- Sooner than, either or, neither nor, unless until. \

UNIT III :

- Letter Writing :Part of letters , 4C's of letter ,Lay out of letters
- Business Letters
- Enquiry & Replies
- Order Letter

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- Complaints, Claims Letter
- Seles Letters
- Job Application with bio-data / resume.
- Goodwill letters
- Bank & Insurance Letters

Unit IV: Report Writing

- Types of reports – Routine, Special (Technical)
- Why a report is required – who asks for a report.
- Stages of report writing: Assembling the material, planning the report, drafting the report, editing the report.
- Elements of a report. : Introduction main data or facts, conclusion recommendation to the superior
- Circular, Notices, Memo

Internal assessment:10 marks

Practicing effective oral and written communication

- Paper reading session (presented by the students)
- Practice of face to face conversation
- Listening & summarizing (listening carefully to passage & summarizing the important points)
- Letters writing as per Unit III

References :

- 1) Bansal and Harrion : Spoken English for India
- 2) Augustine, A.E. Joseph, K.V. Macmillan Grammer, A Handbook, macmillan India Ltd., Delhi 1986
- 3) Green, David : Contemporary English Grammer, Structure and Composition Macmillan India Ltd, Madras, 1971
- 4) Narayan Swami, K.R. : Success with grammer and composition : Oruent Longman, Hyderabad, 1995
- 5) Freeman, Serah : Written Communication in English orient Longman
- 6) Home Crofton : Essay, Precise, Composition and Comprehension macmillan
- 7) Intyhira, S.R. Saraswathi, S : Enrich your English CIEEL OUP

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Bachelor of Jewellery Design

Semester II GEMMOLOGY - II PAPER – I (2T-1)

Total marks -100

Theory Marks: 40

Internal Marks: 10

Practical Marks-50

Objectives:

- To understand the origin, and physical structure and properties of natural gem material.
- To understand the working and construction of various lab equipments and their use.
- To be able to identify natural and artificial gem materials.
- To be able to grade the natural gem material.

Unit I : Internal features of gemstones

- Types of natural inclusion
- Types of manmade inclusions and signs of enhancement treatments on gemstones
- Types of blemishes, surface irregularities of gemstones
- Color zoning

Unit II : Optical Properties

- Nature of light : The electromagnetic spectrum
- Reflection : Laws of reflection, importance in gemology
- Refraction : Laws of refraction, refractive index,
- Total internal reflection
- Polarized light : nature and production of polarized light,
- Luster, sheen, chatoyancy and asterism in gemstones.
- Isotropism and Anisotropism in gemstones,
- Anomalous double refraction
- Optic axes of gemstones

Unit III: Equipment's based on optical properties of gemstones and their use

- Refractometer
- Design and construction of refractometer
- Measurement of R.I.
- Birefringence by refractometer
- Polariscope
- Design and construction of polariscope
- Application of polariscope in gemology
- Dichroscope; construction and use
- Spectroscope ; construction and use

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- Microscope ; construction and use
- Ultra violet light and x-rays and their application in gemology; luminescence
- Use of chelsea filter
- 10x lens

Unit IV : Nature of colour

- Absorption of light, differential absorption of light
- Allochromatism, idiochromatism in gemstones
- Pleochorism
- Absorbtion spectra
- Interference and differaction,
- Play of colors ; dispersion, metamerism

Practicals2P1- 40 Practical marks+10 Internal marks

1. Identification of real gemstones and artificial one
2. Study of various treatments done on gemstones and their testing using lab equipments
3. Grading of gemstones.

References :

1. Gemstones – CallyOldershaw
2. Gemmology – Peter G. Read
3. Gestores of the world – Revised edition walterschumann
4. Gem indentification made easy – Matlins and Bonanno

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**Bachelor of Jewellery Design
Semester II
JEWELLERY COMPONENTS -II
Paper II (2T-2)**

**Total marks -100
Theory Marks: 40
Internal Marks: 10
Practical Marks-50**

Objectives

By the end of this session, students should:

- Demonstrate knowledge of the technical specifications of primary Jewellery components;
- Demonstrate knowledge of the aesthetic qualities of primary Jewellery components;
- Demonstrate an understanding of the functional qualities of primary Jewellery components;
- Demonstrate innovative application of the technical, functional and aesthetic qualities of primary components to individually designed Jewellery;
- Demonstrate knowledge of the care, maintenance and safety aspects of the tools, equipment and machinery involved in the design and manufacture of Jewellery;
- Exhibit a knowledge and understanding of contemporary Jewellery.

Unit I :-Jewellery using animal products

- Horns, bones, skin, hair, fish-bones, fish-scales etc.
- How are animal bones used for jewellery art- Extraction of animal bones, making jewellery out of animal teeth, claws, horse hair jewellery, shell beads, puka shells- Natural-abalone paua shell cowrie shell.

Unit II :- Sterling silver Alloy

- Real 925 sterling silver. Fake Silver- sterling silver jewellery
- difference between jewellery and ornaments-
- clasps, sterling silver stations, head and eye pins, bead caps.

Unit III :- Cabochon- Meaning of cabochon

- definition- Gemstone
- cabochons- glass or other material-shaped and polished- cabochon
- settings to create own cabochon jewellery- create vintage style
- game jewellery from the selection of synthetic and natural material
- cameos, cabochon cutting- oldest form of cutting.

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Unit IV :

- Different types of Natural wood beads :- bayong, Ebony, Gray wood,
- Jackfruit tree wood (Nangka) palm wood, Rosewood,
- (b) Pearl- Etymology- Fresh water and salt water pearls and
- Farming natural pearls- Imitation pearls. Origin of Natural pearl

2P2-Practical marks- 40 Practical marks+10 internal marks

– How to make string of pearl

- Studio demonstrations practical workshop
- Group and individual critiques of work

➤ Support material will be made available :-

- Library Access
- CD-Rom
- Slides
- journals
- periodicals
- guest lectures

Creating multi-stranded necklace of beads with dangling earrings (2Pieces)

Reference : 1) <https://en.wikipedia.org/wiki/Finding>
2) www.bigbeadlittlebead.com/guides_
3) www.bojanglebeads.co.uk
4) <https://www.riogrande.com/category>

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**Bachelor of Jewellery Design
Semester II
ADVANCED JEWELLERY DESIGN -II
Paper III (2T-3)**

Total marks -100

Theory Marks: 40

Internal Marks:10

Practical Marks-50

Objectives:

- To understand the basic elements and principles of jewellery designing.
- To be able to create jewellery designs using imagery fundamentals.
- To train the students for various hand skills required for hand sketching the jewellery designs.
- To understand the customer demands, choices, socio – economic and cultural background and design development accordingly.
- To understand the specialties of motifs from different cultures.

Unit I : Design Research

- Analysis and Adaptation, Design process,
- Various jewellery manufacturing methods creation of the wax model placing the wax on the costing tree, costing, setting and polishing; Rhodium plating.

Unit II: Mass Production Techniques

- Electro-plating, electro polishing, mass finishing of gold jewellery,
- Customjewellery manufacturing Advantages and disadvantages
- Of mass production; the economics of mass production.

Unit III : Studying and designing client jewellery Responsibilities

- Of self-employed jewellery designer. Mounting, model making,
- Stamping and press-work chasing, soldering, and fabrication, polishing.
- Professional development of designer

Unit IV: designing for Indian and international market

- Designing For kundanjewellery- Earring, wedding ornaments,
- Kundan polka jewellery, gold kundanjewelleryArtificialKundanjewellery-

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- History and philosophy of Design & fashion-
- Design History- Study of objection of design- Architecture, fashion,
- Crafts, interiors, textiles, graphic design, industrial design
- And product design.

Practical –

- Principles of design
 - Elements of design
 - Preparing colour models & schemes
 - Project
 - Preparing kundanjewellery
 - Designs catalogue
- Rendering of gemstone & Jewellery designs.

Practical2P3-40 Practical marks+10 internal marks

- Rendering exercises of gemstones
- Rendering of metals, gold, silver platinum copper effects.
- Rendering of texture effects on metal surfaces
- Designing on different themes.

• **References :**

- www.londonjewelleryschool.co.uk ›
- www.iigj.org/
- [www.igiworldwide.com/cad **design** cour](http://www.igiworldwide.com/cad_design_cour)
- www.imaginations-jewelry.com
- [www.think**designjewelry**.com/](http://www.thinkdesignjewelry.com/)

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**Bachelor of Jewellery Design
Semester II
History of Jewellery Design –II
Paper IV (2T-4)**

**Total marks -50
Theory Marks: 40
Internal Marks:10**

Objectives:

- To understand the role of history in modern jewellery designs.
- To understand the different cultures around the globe and their impact on design development
- To understand the role of jewellery in human life other than body adornment.

Unit I : Asia & middle east jewellery history

- History of Chinese jewellery
- History of SingapurJewellery
- History of early Egypt 3000 BC
- Gold in Egypt

Unit II : Europe

- Mesopotamia
- 13th Century Medieval sumptuary laws
- Middle ages – Greece, Itli, Roman Coinage
- Importance of 17th century Earrings and Dress Ornaments
- Fake pearls 17th century
- Stress Paste gems

Unit III : Europe

- Romanticism :- Parures, Cameos,
- Empire Jewellery
- Victorian jewellery ; Mourning Jewellery
- Art Nouveau
- Queen Alexandra's Pearls, Mikimoto Pearls

Unit IV : Modern Jewellery

- Pearls
- Cocktail jewellery
- Hollywood influence
- 1980 s Television Influence
- Jewellery for the 31st Century

References:

1. History of jewellery – Black
2. The Master Jewellers – Kenneth Snowman

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Bachelor of jewellery design
Semester II
COMMUNICATION SKILLS
Paper – V (2T-5)

Total Marks -50

Theory Marks: 40

Internal Marks:10

OBJECTIVE-

Language is the most commonly used and effective medium of self-expression in all spheres of human life – personal, social and professional. A student must have a fair knowledge of English language and be able to pursue the present course of study and handle the future jobs in industry. The objective of this course is to assist the degree holders to acquire proficiency, both in spoken (oral) and written language. At the end of the course, the student will be able to develop comprehension, improve vocabulary, develop grammatical ability, enhance writing skills, correspond with others and enhance skills in spoken English

UNIT I :

- Improving communicative competence through knowledge of communication.

- **Types of communication**

- Objective and methods of communication
- Channels of Communication
- Barriers of communication
- Importance of pronunciation
- Phonetics, Phonetic Transcription
- Types of oral & written communication
- Conversion of table or tree into paragraph

Unit II : Verbal & Non Verbal

- **Verbal**
- A Oral Communication
- B Written Communication

- **Non Verbal**
- Body language
- Dress code
- Colours
- Light
- Sound
- Charts
- Graphics

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Unit III : Introduction of various general qualities amongst future designers.

- **Introduction**
- Learning : Concept and principles of learning
- Memory techniques: Dual store model of memory organization of knowledge.
- Areas of self-development
- Motivation : Introduction & Definition
- Time management : process of time planning

Unit IV

- Presentation skills : To acquire convincing presentation skills
- Leadership Skills
- Group Discussions
- Team work building
- Interview Technique

References :

- 1) Bansal and Harrion : Spoken English for India
- 2) Augustine, A.E. Joseph, K.V. Macmillan Grammer, A Handbook, macmillan India Ltd., Delhi 1986
- 3) Green, David : Contemporary English Grammer, Structure and Composition Macmillan India Ltd, Madras, 1971
- 4) Narayan Swami, K.R. : Success with grammer and composition : Oruent Longman, Hyderabad, 1995
- 5) Freeman, Serah : Written Communication in English orient Longman
- 6) Home Crofton : Essay, Precise, Composition and Comprehension macmillan
- 7) Intyhira, S.R. Saraswathi, S : Enrich your English CIEEL OUP

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Bachelor of Jewellery Design
Semester III
DIAMOND IDENTIFICATION AND GRADING - I
PAPER – I (3T-1)

Total Marks -50
Theory Marks: 40
Internal Marks: 10

Objectives:

- To understand the origin, history, physical and chemical properties of diamond.
- Role of diamond in jewellery industry.
- To gain knowledge about Mines, excavation and lapidary work of diamonds.
- At the end of the session students must be able to identify natural and artificial diamonds, diamond simulants.
- Students must get expertise on handling various testing equipments in lab.
- Students must be able to grade diamonds based on 4C's of diamond.

Unit I : Diamond origin

- History of Diamonds
- The Nature of Diamonds - formation of diamonds under earth's crust
- The Properties of Diamond
- Colours in Diamond
- Diamond Origin and Occurrences
- Mining and Recovery
- Diamond Manufacture

Unit II : 4 C's of Diamonds and grading

- Cut Grading of diamonds : Ideal proportions for diamond brilliant cut (GIA)
- Table angle and depth
- Crown angle and height
- Girdle thickness and angle
- Pavilion angle and depth
- Clarity Grading
- Types of inclusions in diamond
- Types of Blemisses
- Percentages of inclusions and blemisses
- Clarity chart (GIA)
- Color Grading
- Using color master
- Color scale of diamond (GIA)
- Carat Weight and size
- Unit weight of Cents(Ct) carat weight
- Use of Millimeter Gauge

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Unit III : Diamond cuts

- Types of diamond cuts
- Ideal proportion of RBC
- History of diamond cuts
- Grading of mounted diamonds

Unit IV : other factors influencing grading

- Simulants of diamond
- Synthesis of artificial diamonds
- Treatments and enhancements of diamonds and their effects
- Identification of treated diamonds

3P-1-Practical

Examine various diamond samples with 10x lens and under microscope. Practice of grading them according to grading charts.

References:

1. Beginner S. Guide to Gemmology by P.G. Read.
2. Practical Gemmology by R. Webstar
3. Gem testing by S.W. Anderson
4. Gemstones of the world by W. Schumann

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Bachelor of Jewellery Design

Semester III GOLD SMITHING-I PAPER II (3T-2)

Total Marks -50

Theory Marks: 40

Internal Marks: 10

Objectives: Skills combined to make fascinating Jewellery, Chinese knots design making, fine Jewellery design (drawing) Bench work (metal work) Jewell Design & Making, Enameling Design & making, Bead Jewellery design & Making.

Unit I : Gold smithing

- Gold smithingVs. silver smithing-
- Metalsmithing- Meaning-
- Contemporary gold smithing –
- Unique properties of gold – Main techniques used by Gold smithing.
- Traditional fine art skills

Unit II : Beading

- Beading Process- Bead work tools- pliers, cutters,
- memory wire cutter, etc., definition of bead Types of
- beads- Bugle, chatons, crystal, Delica, Donuts, Faceted,
- Flatbacks, Gem beads (semi-precious) Hex cut, lampwork,
- pearl, Rondelles, Rocaille beads, seed bead, shamballa
- style other bead types – crow liquid- pony, tree cuts-;
- History of beads

Unit III : Threading

- Knots- overhand knot slipknot, forward knot,
- Backward knot, Threading techniques- Cham shell calotte technique,
- cone technique, crimping technique with crimping pliers;
- fold over crimp; split rings- How to use a split ring tool -;
- How to use wire cutters, simple loop technique wire wrapped loop technique.

Unit IV: - Wire Jewellery Techniques

- Making jewellery with jewellery wire and beads using wig-jig tools
- setting gemstones, wire wrapping making necklaces and bracelets
- by stringing beads, use of stretch magic elastic thread- use of twist 'n'
- curt tool, making necklaces using spool knitter, making bracelets or

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- Necklaces by braiding wire.
- Bead stringing
- Various Knots
- Stretch magic projects (Wire jewellery)
- Making a simple & complex wire bead
- Use of memory wire.

Can choose design brooch, ring, earrings, hairpin, pendant, silver beads etc.

How to use various silver clay products, how to use brush. Natural form Jewellery (leaf)

PCM3- what is PMC3/ Silver Art clay – precious metal clay – ingredients – water an organic binder, pure metal particles of silver or gold, fire, Role, model, pierce, stamp engrave, cut, tear, assembled, texture & fire – Reuse of metal, leftovers, filings etc. – soldering.

3p-2-Practical

Practice on Basic Goldsmithing and Jewellery making skills –

- a. Filling
- b. Cutting
- c. Drilling
- d. Soldering
- e. Alloying
- f. Forging
- g. Wire drawing
- h. Sheet Rolling
- i. Red Rolling
- j. Extruding
- k. Forging
- l. Blanking
- m. Stamping
- n. Striking
- o. Spinning
- p. Chain making
- q. Bending
- r. Raising
- s. Embossing machining
- t. Practice on Joining by using

1. Blow pipe techniques

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3. Soldering

3. Preparation of solder

Books Recommended

1. The jewelers Directory of shape and form (Jewellery) Elizabeth olver
2. Hot & Cold connections for jewelers – Tim McCreight
3. The Jeweller's directory of Decorative finishes- JinksMcCrath
4. The design & creation of Jewellery (Jewellery Crafts)- Robert Von Nenmanu
5. Jewellery concepts &Technology_OppiUntracts
6. Theory & practice of Gold smithing – charleslewton Brain
7. Jewellery Technology Processes of Production. Methods, tools, instruments- Pinton D
8. Jewellery manufacturing Encyclopedia – Book -1

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Bachelor of Jewellery Design
Semester III
CAD (CORAL DRAW)-I
PAPER III (3T-3)

Total marks -50
Theory Marks: 40
Internal Marks: 10

Objectives:

- Create design awareness of different styles of jewellery
- Develop skills to communicate design intention
- Create digital jewellery models.
- Introduction of powerful features of corel draw and their use for converting designer's original idea and inspiration into a successful jewellery design.
- To make students aware about the creative aspect of making bangles, rings, jewellery sets and professional artwork.

Unit I Introduction

- How to Start the CorelDraw program
- Introduction to the CorelDraw program, Menu bar & Drawing Toolbox
- How to make heart and heartleaf
- How to make different shapes of gemstones
- Round, oval, bugget, triangle, heart, pear, marquees etc

Unit II Rendering jewellery

- Use of colour, fill and outline tools
- How to fill metallic effects : Gold, silver, platinum, copper
- How to fill gemstones
- How to give textured effects: Sand finish, matte finish, silk finish etc.
- How to give pearl effect
- How to give kundan effect

Unit III stone settings

- Prong settings
- Prong Pave
- Pave settings
- Channel settings
- Flush settings
- Invisible settings
- Pressure settings
- Bezel

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- Bezel settings

Unit IV creating jewellery with measurements

- Creating diamonds and stones with measurements
- Creating rings and bangles of different sizes
- Creating pendants
- Creating necklaces : Chokers, small, long, single stranded, multiple stranded

3P-3-Practical

- Create different designs of pendants, rings bangles and necklaces using coral draw toolbox
- Give special effects to the jewellery design
- Saving files in jpg format.

References :

<http://online-jewellery-designing-training.blogspot.in/>

rhino3dcadjewelrydesignclasses.doattend.com

dsiadc.org/nij/jewellerydesigning

www.gia.edu/gem-education/program-jewelry-design-cad-cam

www.iigj.org/

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**Bachelor of Jewellery Design
Semester III
INTRODUCTION TO METAL TECHNIQUE -I
PAPER IV(3T-4)**

Total Marks -50

Theory Marks: 40

Internal Marks: 10

Objectives - upon successful completion of this subject, students should:

- be able to aesthetically and technically apply the basics of Jewellery design and production
- be able to understand the Jewellery design process and the basic principles of studio practice
- be able to exhibit a knowledge and understanding of the various materials available and relative to this aspect of the discipline
- be able to demonstrate an understanding of the nature of Jewellery
- Be able to understand and correctly employ the language of the discipline.
- Be able exhibit a basic knowledge and understanding of contemporary Jewellery.
- Be able to demonstrate knowledge of appropriate OH&S practices in the studio.

Unit I : Interpretation and exploration

- 2D mark/images and their development through 3D items to wearable Jewellery Interpretation and preparation of initial design exploration of particular technique/process for aesthetic function, imagery and/ or form.

Unit II : Primary production

- process including measuring of stock material;
- rolling and drawing down metal technique, tracing, sawing, filing,
- drilling, forming, cold-joining, soldering, finishing procedures and
- Basic surface treatments.

Unit III :

- Health and safety issues specific to jewellery making including the handling, use and disposal of chemical Teaching, support and learning strategies.

Unit IV : Different joining process

- Screwfiling, soldering, brazing, welding, composition of soldering alloy, flux etc.
- Art of value- addition, methods of polishing- manual & by machine, electro-chemical means, Abrasive & non-abrasive media.

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References

1. Metal techniques for craftsmen : A Basic manual for Craftsmen on the Methods of forming and Decorating metals , By Untracht, Pooe (Doubleday)
2. Jewellery making : An illustrated guide to technique, By Di Pasquale, Dominic (Prentice – hall)
3. Jewellery : contemporary design and technique, By Evans, Chuck (Davis Publication)
4. The art of jewellery : By Hughes, Graham (Viking Press)

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**Bachelor of Jewellery Design
Semester III
CONTEMPORARY JEWELLERY MANUFACTURING -I
PAPER V (3T-5)**

Total marks -50

Theory Marks: 40

Internal Marks: 10

Objectives:

- Enable the investigation of contemporary Jewellery production methods:
- Provide industry introductions and site visit to offer insight into production techniques in practice.
- Introduce presentations by professional designers and manufacturers on current issues within contemporary manufacturing.
- Encourage the students to make informed decisions to appropriate selections of manufacturing technologies.

Unit I : Definition of contemporary jewellery

- Art jewellery-
- Modernist jewellery,
- Contemporary jewellery- 1960- to today
- Jewellery as art, new concept, new materials, new techniques,
- Jewellery for men, pop art, post- modernism

Unit II: - Preciousness in contemporary jewellery

- The art and design of contemporaryjewellery.
- Manufacturing techniques, buying stones and silver, designing a
- jewellery, molding, Quality checking
- Diamond jewellery manufacturing
- Process- wax tree making, Disc finishing

Unit III: - Traditional jewellery making techniques

- Die stamp
- Manufacturing, metal costume jewellery, Blank tool,
- Proven press working and forces dies, finished die-stamped, Brass
- Floral piece.

Unit IV: -Mold production, Types of molding Blow molding

- Compression and sintering, compression molding, expandable bead molding,
- Moldings laminating, mold preparation, functions of media,
- Media types, abrasive grains, carrier or bonding agents

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- Grains – Silicon carbide
- Aluminum oxide
- Moderate aggressive
- Silica etc.

Referances :

- The New Jewellery Contemporary materials and techniques – Lark books
- Fundamental of metal smithing – A&C Black
- Jewellery concepts and technology – NAG Press

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Bachelor of Jewellery Design
Semester IV
Diamond Identification and Grading - II
PAPER –I(4T-1)

Total marks -100
Theory Marks: 40
Internal Marks:10

Practical Marks-50

Objectives:

- To understand the origin, history, physical and chemical properties of diamond.
- Role of diamond in jewellery industry.
- To gain knowledge about Mines, excavation and lapidary work of diamonds.
- At the end of the session students must be able to identify natural and artificial diamonds, diamond simulants.
- Students must get expertise on handling various testing equipments in lab.
- Students must be able to grade diamonds based on 4C's of diamond.

Unit I : Synthesis of gemstones

- Flame fusion method
- Flux melt
- Hydrothermal process
- Crystal pulling
- Skull – melting

Unit II : Gemstone Enhancements

- Heating
- Oiling
- Irradiation
- Dyeing
- Impregnation and stabilization
- Bleaching
- Coating
- Diffusion
- Filling
- Laser treatment

Unit III : Imitation Gemstones

- Detection of treatments on gemstones
- Detection of Pf paste (glass) and plastics, imitation pearls
- Composite stones - Principle types of doublets and triplets (old, new, rare types)
- Principle types of gemstone cuts – Brilliant, step, mixed, rose, cabochon, scissors (cross)
- Outlines of methods used by diamond-cutter and lapidaries

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Unit IV : Description of gem material

- Study of gem varieties based on their occurrence and localities
- Detection of various gems and their simulants
- Detection of organic products: Pearl native and cultured (nucleated and non-nucleated), their formation, structure and identification.

Practical 4P1- 40 Practical+10 Internal marks

Test various gemstones for their origins and grade them according to grading charts

Books Recommended

1. Beginners Guide to Gemmology by P.G. Read
2. Practical Gemmology by R. Webster
3. Gem Testing by S.W. Anderson
4. Gemstones of the world by W. Schumann

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**Bachelor of Jewellery Design
Semester IV
GOLD SMITHING -II
PAPER -II (4T-2)**

**Total Marks -100
Theory Marks: 40
Internal Marks:10**

Practical Marks -50

Objectives: Skills combined to make fascinating Jewellery, Chinese knots design making, fine Jewellery design (drawing) Bench work (metal work) Jewell Design & Making, Enameling Design & making, Bead Jewellery design & Making.

Unit I: Enameling – Design& Making

- Characteristics of vitreous enamels, Application of enamel,
- How to enamel on flat, curved and domed metal surfaces for enameling,
- enameling technique of fusing coloured glass to metal decoration on jewellery, amalgamation silicon,- procedure for making a silicone
- molds- material; use of- feldspar, soda, borax, flint, sand,
- How to obtain colour by adding metallic oxides
- Ideas for using enameling in jewellery making.

Unit II :- Finishing – Polishing, to burnish by hand

- mechanical polishing, soldering, colouring-
- Firing:- Kilns and firing techniques- to model,
- Sculpt texture, pierce, stamp, engrave, cut or tearsoin or assemble.

Unit III :-

(a) Bench jewellery : Special order jewellery;

- Anatomy of a jewellery shop;
- A bench jeweller- Qualities of bench jeweller
- :-Judgement and decision making critical thinking quality control analysis
- Integrity- being honest and ethical: initiative etc.

(b) Meenakari, meaning of minakarijewellery;

- History of minakars, process of minakarijewellery,
- Sessional :-(15 marks) Design brooch, Ring, Earring, hairpin, pendant etc.
- Making of various silver clay products.

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Unit IV: Silver clay Design & Making using fine silver clay to make Jewellery Techniques- to model, sculpt, texture, pierce, stamp, engrave, cut or tear, join or assemble, separate pieces.

Practical 4P2- 40 Practical+10 internal marks

- Basic gold smithing and jewellery making skills:-
- filling, cutting, drilling, soldering, alloying, joining
- wire drawing, sheet rolling, Red Rolling, extruding Blanking,
- Chain making, Raising etc.
- Blow pipe techniques

- i) Refining of Gold & alloying conversion from 34 Kt to 33 Kt and other varieties.
- ii) Refining gold & alloys/scrap using Aqua Regia Process.

Practice on Recovery of Gold to 999 Fineness with minimum losses –

- a. Recovery of precious metal from dust.
- b. Chemical Refining Process

Practice on Finishing, Polishing & Repairing –

- a. Finishing, cutting, Pre-polishing, Poetizing
- b. Hand Polishing and Burnishing
- c. Motor polishing and Buffing
- d. Tumbling and magnetic Polishing techniques
- e. Ultrasonic cleaning and Steam cleaning
- f. Use of different Brushes, Felt laps, Cotton buffs, Grinding wheels etc.

Practice of manufacturing shinning.

Practice on Engraving

Practice on Colour mina working, filigree different mina styles eg. Manipuri, Jaipuri. Practice of annealing potation.

Books Recommended

9. The jewelers Directory of shape and forum (Jewellery) Elizabeth olver
10. Hot & Cold connections for jewelers – Tim McCreight
11. The Jeweller's directory of Decorative finishes- JinksMcCrath
12. The design & creation of Jewellery (Jewellery Crafts)- Robert Von Nenmanu
13. Jewellery concepts & Technology_OppiUntracts
14. Theory & practice of Gold smithing – charleslewton Brain
15. Jewellery Technology Processes of Production. Methods, tools, instruments- Pinton D
16. Jewellery manufacturing Encyclopedia – Book -1 &3.

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**Bachelor of Jewellery Design
Semester IV
CAD (PHOTO SHOP)-II
PAPER III (4T-3)**

**Total marks -100
Theory Marks: 40
Internal Marks:10
Practical Marks-50**

Objectives:

- Create design awareness of different styles of jewellery
- Develop skills to communicate design intention
- Create digital jewellery models.
- Introduction of powerful features of Photoshop and their use for converting designer's original idea and inspiration into a successful jewellery design.
- To make students aware about the creative aspect of making bangles, rings, jewellery sets and professional artwork.

Unit I

- How to Start the Photoshop program.
- Introduction to the Photoshop program, Menu bar & Drawing Toolbox
- Selection Tools
- Live Demo - Selecting Images

Unit II

- Drawing & painting tools
- Image editing & manipulation
- Working with text, rasterizing text and images
- Working with layers
- Live Demo - Loading a Selection and coloring the Selected Area
- Live Demo - Making a Layer (Layer Mask)

Unit III

- Explanation of various tools like Dodge & blur tool, Rubber Stamp & pattern stamp tool,
- Working with images, channels & masks
- Saving and loading selections
- Using paths - Design a complete set of fashion jewellery
- Special effects on images - use Filters to make your designs alluring - Give a flare, give a glow and put the spotlight on your design!

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Unit IV

- Saving files with different extensions i.e. GIF, JPEG, PDF and other web supported formats.
- Importing files from CorelDraw or any other applications.
- Scanning images.

Practical 4P3-40 Practical+10 Internal marks

- Practical related to theory portion
- Give filter effects to jewellery designs to give them professional look
- Work within different layers to create complicated jewellery designs

References:

<http://online-jewellery-designing-training.blogspot.in/>

rhino3dcadjewelrydesignclasses.doattend.com

dsiidc.org/nij/jewellerydesigning

www.gia.edu/gem-education/program-jewelry-design-cad-cam

www.iigj.org/

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**Bachelor of Jewellery Design
Semester IV
INTRODUCTION TO METAL TECHNIQUE -II
PAPER IV (4T-4)**

Total marks -50

Theory Marks: 40

Internal Marks:10

Objectives - upon successful completion of this subject, students should:

- Be able to aesthetically and technically apply the basics of Jewellery design and production
- Be able to understand the Jewellery design process and the basic principles of studio practice
- Be able to exhibit a knowledge and understanding of the various materials available and relative to this aspect of the discipline
- be able to demonstrate an understanding of the nature of Jewellery
- Be able to understand and correctly employ the language of the discipline.
- Be able exhibit a basic knowledge and understanding of contemporary Jewellery.
- Be able to demonstrate knowledge of appropriate OH&S practices in the studio.

Unit I : Equipment

- rotary – barrel or tumbler, vibratory barrel, centrifugal
- Planetary barrel, centrifugal disc, magnetic barrel.
- Finishing process. Smoothing against orange effect traces of flasher burry
- Solder smears. Finishing media & equipment cutting, burnishing.

Unit II :

- Different compounds, wheels and abrasive devices used in hand finishing operations, vibratory, rotary and centrifugal processes used in mass finishing of jewellery, their suitability for various production requirements, types of media and compounds used to achieve right finish. Annealing for relieving stress/strain due to bending, overworking etc.

Unit III: Base metal

- Ag, Cu, process of coating with shining materials
- Jewellery designing techniques country wide variation, difference in man & women Jewellery.
- Different variety of Jewellery – Rings, bangles, earring, chain, locket, necklace etc.

Unit IV: Filigree Work

- Different Mina work – Manipuri, Jaipuri styles
- Stamping – process comparison with investment casting process.

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- Typical items produced by stamping. Blanking & coining.
- Role of tool makers in stampings.

References:

- Metal Techniques for Craftsmen: A Basic Manual for Craftsmen on the Methods of Forming and Decorating Metals, By Untracht, Oppi (Doubleday).
- Jewelry Making: An Illustrated Guide to Technique, By DiPasquale, Dominic (Prentice-Hall)
- Jewelry: Contemporary Design and Technique, By Evans, Chuck(Davis Publications)
- The Art of Jewelry, By Hughes, Graham (Viking Press).
- Creative Jewelry Making: Techniques for Craftsmen
By Hemard, Larry (Doubleday) ,
- Contemporary Jewelry - A Craftsman's Handbook, By Morton, Philip (Holt, Rinehart & Winston).
- Jewelry Basic Techniques and Design, By Sprintzen, Alice (Chilton Book Co.)
- Body Jewelry: International Perspectives, By Willcox, Donald J. (Regnery

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**Bachelor of Jewellery Design
Semester IV
CONTEMPORARY JEWELLERY MANUFACTURING -II
PAPER V (4T-5)**

**Total marks -50
Theory Marks: 40
Internal Marks: 10**

Objectives:

- Enable the investigation of contemporary Jewellery production methods:
- Provide industry introductions and site visit to offer insight into production techniques in practice.
- Introduce presentations by professional designers and manufacturers on current issues within contemporary manufacturing.
- Encourage the students to make informed decisions to appropriate selections of manufacturing technologies.

Unit I : Introduction to CAD/CAM processes

- Taking assistance of
- Computers in design- manual geometric models, Move,
- Animate, Visualize.
- Steps in CAM activity – Model- interfacing- CAPP-
- NC programs- inspection- Assembly- Packaging-
- CAD – design, Analysis, visualization, CAD/CAM history

UnitII : Master making Techniques

- Making the masters
- of modern jewellery – getting inspired by jewellery
- Making master,

Unit III : Lathe work

- Working principle of lathe machine glass
- Working lathe Essential machining skills types of
- Lathe machine Lathe operations, common operations
- Performed on lathe machine

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Unit IV: Conceptual development and contemporary applied Arts issues

- metal coloring
- Different type of metal patinas
- Photocopying on metal surfaces
- enamelling

Referances :

1. The New Jewellery contemporary materials & Techniques – Lark books
3. Fundamental of Metal Smithing – A & C Black
3. Jewellery concepts & Technology – NAG Press

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Bachelor of Jewellery Design
Semester V
Jewel CAD
PAPER – I (5T-1)

Total marks -50
Theory Marks: 40
Internal Marks:10

Objectives:

- Create design awareness of different styles of jewellery
- Develop skills to communicate design intention
- Create digital jewellery models.
- Introduction of powerful features of Jewel CAD and their use for converting designer's original idea and inspiration into a successful jewellery design.
- Translate digital model to 3D master model through jewel CAD.
- To make students aware about the creative aspect of making bangles, rings, jewellery sets and professional artwork.
- Study how jewel CAD is attached to many digital manufacturing machines eg. Casting, engraving , laser etc. and their handling

Unit I

- Introduction to Jewel cad 5.1 (Update 4)
- File and View Toolbar
- Working With Database
- Inserting object from the database
- Learn to select object
- Transform Toolbar
- Copy Toolbar
- Introduction to Copy Toolbar
- Grid settings and measurements
- Cut-Paste Tool
- Vertical mirror copy
- Horizontal mirror copy
- Revolve 180 Copy
- Cycle Copy
- Extend copy
- Revolve copy

Unit II :

- **Deform Toolbar**
- Bend tool, Bend two size

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- Taper, Taper two size
- Scaled paper, Scaled Taper (Two Sides)
- Duplicate – Object Color
- Skew – Skew Two Sides, Twist - Skew
- **Curve Toolbar**
- Simple Two Curves
- Vertical/Horizontal mirror curve
- Revolve 180 Curve
- Cycle curve
- Extend curve
- Revolve Curve
- Circle

Unit III

- **Deform Toolbar**
- Extend, Vertical Revolve Surface, Horizontal Loft surface, Pipe Surface
- Boolean Intersect, Boolean Subtract, Boolean Union, Boolean Dis Boolean
- Cv Select, Cv Edit.
- **Rail Options**
- Rail Scale, Rail Scale Semi, Rail Shape, Rail Shape1, Rail Vertical,
- Rail Loopworld, Rail Horizontal, Rail Loopcenter, Rail Ring
- 3Rail, 3Rail1, 3Rail3
- Loop, b) Prong, c) Skoop, d) Socket, e) Supty

Unit IV:

- **Deform Toolbar**
- Prong setting
- Pave setting
- channel setting
- Bezel setting
- Invisible setting
- Flush setting
- Presser setting
- Nick setting

5P-1-Practical

Create various 2D and 3D models of jewellery pieces in Jewel CAD

References:

1. www.studio3-jewelcad.net/3013/08/video-tutorial-jewelcad-5113.htm
2. <https://dogo.ga/DOC/Jewelcad-Pro-Tutorial.doc>
3. www.vobium.com/in/s/courses/computers...it/.../Learn-jewelcad-51
4. www.aonlinetraining.com/jewellery_jewel_cad.php3
5. www.jcadcam.com/

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**Bachelor of Jewellery Design
Semester V
Jewellery Workshop Techniques -I
PAPER II (5T-2)**

**Total marks -50
Theory Marks: 40
Internal Marks:10**

Objectives

Upon successful completion of this subject, students should:

- be able to demonstrate an understanding of the properties of precious and non-precious metals as well as various other materials relevant to Jewellery practice
- be able to identify the metals used in a variety of alloys
- be capable of operating free standing equipment in an accurate, efficient and timely manner
- be able to demonstrate a capacity to create a range of sectional profile
- be able to demonstrate a capacity to appropriately sand and/or polish metal to a standard as acceptable for a client or exhibition
- be able to demonstrate a capacity to construct basic bezel setting appropriate to the design and production of a variety of wearable Jewellery pieces
- be able to demonstrate an understanding of casting process and apply knowledge to the design and manufacture of a wax model
- be able to communicate understanding and design development through drawing/ design skills
- be able to demonstrate knowledge of appropriate OH&S practices in the studio including knowledge of the care, maintenance and safety aspects of the tools, equipment and machinery

Unit I : Application of specific skills

- Relative to aesthetic form, imagery and/or Particular function within the process of
- small scale work; ferrous metals

Unit II : Heat treatment

- Non-ferrous metal
- Of ferrous and Non-ferrous metals.
- Necessity of Alloys

Unit III: Properties and behavior of precious and Non-Precious metals and

- Other various materials such as plastic. Precious metals purity and mass;
- Definition of precious metal; Gold, silver, platinum, Titanium,
- Non-precious- Aluminum, brass, bronze, chromium, copper, Iron, lead, steel, Tin etc.

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Unit IV : Workshop equipment's

- Basic workshop equipment's, Rollers, draw
- Bench, annealing torches, polishing motors etc. - Vacuum
- Casting Process or V-process

5P-2-Practical

Practical will be based on all the four units of theory

Referances :

1. www.cusd200.org/cms/lib7/.../Elements%20and%20Principles.ppt
2. <https://prezi.com/xuupske5cq3l/7-principles-of-jewelry-design/>
3. www.whiteflash.com › Education › Je
4. www.belmontmetals.com/product/jewelry-alloys/

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**Bachelor of Jewellery Design
Semester V
Principles of Marketing -I
PAPER III (5T-3)**

Total marks -50

Theory Marks: 40

Internal Marks:10

Unit I : Marketing packaging planning- Marketing the current diamond market

- Marketing channels in jewellery industry-
- Structure I-, II, II, IV-
- Marketing packaging channels of jewellery of National level and International
- Level – Marketing behavior and Strategies of jewellers

Unit II: Consumer confidence- business

- Responsibility, social responsibility,
- Environmental responsibility, Technical
- Responsibility- Role as a retailer-
- Knowing customer-
- Retail innovation – Branding- what are brands?
- Branding in jewellery industry.

Unit III : Public Relation (PR) & events

- what is PR, why and when to use PR, importance of the company
- and product, How to generate PR- The
- end result- targeting the
- right media- writing a
- Successful press release-
- Organizing successful events

Unit IV:-

- Exchange offer, Lucky draws sponsorship on festivals,
- special offers (free gifts), price discount- Refreshment, Personal attention sales proportion
- Marketing of handcrafted and hand- made jewellery

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Reference:

1. Ramaswamy&Namakumari : Management MacMillan, New Delhi.
2. Raja Kotlar : Marketing Management (Analysis Planning and Control), Prentice Hall of Ind.
3. William J: Fundamentals of Marketing, McGraw Hill Ltd. New Delhi
4. Principles of marketing – philipkotler
5. Principle and practice of marketing - David Jobber

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**Bachelor of Jewellery Design
Semester V
Jewellery Production & Quality Assurance -I
PAPER IV (5T-4)**

**Total marks -50
Theory Marks: 40
Internal Marks:10**

Objectives:

By the end of the session students must be fully aware of

- Production procedure and principals of jewellery business.
- How to achieve Loyalty and dependability for customers.
- Scenario of jewellery business nationally and internationally
- Role of jewellery industry in country's economy.
- Legal aspects of import export and retailing jewellery.

Unit I: Techniques: Design and management of Production techniques in jewellery

- Selection of metal and its alloys, selection of stone for jewellery-
- Semiprecious, precious-
- Techniques to be used as per jewellery
- Design theme or concept eg. Hand skills,
- Texturing etc.
- Mass production Techniques
- Jewellery support system: - fittings, findings, used

Unit II: - Principles of production planning

- Customer demand; Equipment's; Manpower,
- Processes, Controls, Role of jewellery industry in Indian economy;
- History jewellery industry in India

Unit III: - Legal Aspects of jewellery industry

- Taxes, regulating bodies, Training and research,
- Deregulation of Gold in India Foreign Direct investment policy.

Unit IV: - A multifaceted future: The jewellery industry in 2020

- Growth of branded jewellery, Understanding future opportunities Jewellery quality Management system.

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References

1. www.ibef.org/industry/gems-jewellery-india.aspx
2. www.ibef.org/industry/gems-jewellery-india.aspx

ficci.in/spdocument/20332/india-jewellery-review-2013.pdf

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**Bachelor of Jewellery Design
Semester V
Jwellery Project**

**Total- 50
Project-40
Internal-10**

- **Make a set of necklace and earrings in silver metal using all hand skills.**
- **Detailing of design development**
- **Techniques and methods used in making**
- **Raw material used in project**
- **Tools used in making**
- **Attach related photographs of student making the given jewellery piece.**
- **Acknowledgments**
- **Review of literature**
- **Viewers replies**
- **Further scope in design and making same project**

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**Bachelor of Jewellery Design
Semester VI
RhinoCAD I
PAPER I(6T-1)**

**Total marks -100
Theory Marks: 40
Internal Marks:10
Practical Marks-50**

Objectives:

- Create design awareness of different styles of jewellery
- Develop skills to communicate design intention
- Create digital jewellery models.
- Introduction of powerful features of Rhino CAD and their use for converting designer's original idea and inspiration into a successful jewellery design.
- Translate digital model to 3D master model through Rhino CAD.
- To make students aware about the creative aspect of making bangles, rings, jewellery sets and professional artwork.
- Study how Rhino CAD is attached to many digital manufacturing machines eg. Casting, engraving, laser etc. and their handling.

UNIT I :

- Introduction to Rhino cad
- File and View Toolbar
- **Working With Database**
- Inserting object from the database
- Learn to select object
- Transform Toolbar
- **Copy Toolbar**
- Grid settings and measurements
 - iii) Cut-Paste Tool
 - iv) Vertical mirror copy
 - v) Horizontal mirror copy
 - vi) Revolve 180 Copy
 - vii) Cycle Copy
 - viii) Extend copy
 - ix) Revolve copy

UNIT II

- **Deform Toolbar**
- Bend tool
 - b) Bend two size

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- Taper
- Taper two size
 - e) Scaled paper
 - f) Scaled Taper (Two Sides)
 - g) Duplicate – Object Color
 - h) Skew – Skew Two Sides
 - i) Twist - Skew
- **Curve Toolbar**
- Simple Two Curves
 - b) Vertical/Horizontal mirror curve
 - c) Revolve 180 Curve
 - d) Cycle curve
 - e) Extend curve
 - f) Revolve Curve
 - g) Circle

UNIT III

- Extend
 - Vertical Revolve Surface
 - Horizontal
 - Loft surface
 - Pipe Surface
- **Deform Toolbar**
- Boolean Internet
 - b) Boolean Subtract
 - c) Boolean Union
 - d) Boolean Dis Boolean
 - e) Cv Select
 - f) Cv Edit
- **Rail Options**
- Rail Scale
 - b) Rail Scale Semi
 - c) Rail Shape
 - d) Rail Shape1
 - e) Rail Vertical
 - f) Rail Loopworld
 - g) Rail Horizontal
 - h) Rail Loopcenter
 - l) Rail Ring
 - j) Rail Ring1
 - k) Rail Ring3
 - l) Rail Ring3
 - m) Rail Ring4

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- n) 3Rail
- o) 3Rail1
- p) 3Rail3

UNIT IV

- **Deform Toolbar**
- Loop
 - b) Prong
 - c) Skoop
 - d) Socket
 - e) Supty
- **Stone settings**
- Prong setting
 - b) Pave setting
 - c) channel setting
 - d) Bezel setting
 - e) Invisible setting
 - f) Flush setting
 - g) Pressure setting
 - h) Nick setting

PRACTICAL 6P1- 40 Practical+10 Internal marks

Practical based on theory

References:

rhino3dcadjewelrydesignclasses.doattend.com

<https://www.rhino3d.com/training>

<https://www.andrew.cmu.edu/course/>

<https://www.rhino3d.com/>

www.lynda.com/Rhino-training-tutorials

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**Bachelor of Jewellery Design
Semester VI
Jewellery Workshop Techniques -II
PAPER II (6T-2)**

**Total marks -100
Theory Marks: 40
Internal Marks:10
Practical Marks-50**

Objectives

Upon successful completion of this subject, students should:

- be able to demonstrate an understanding of the properties of precious and non-precious metals as well as various other materials relevant to Jewellery practice
- be able to demonstrate an understanding of casting process and apply knowledge to the design and manufacture of a wax model
- be able to communicate understanding and design development through drawing/ design skills
- be able to demonstrate knowledge of appropriate OH&S practices in the studio including knowledge of the care, maintenance and safety aspects of the tools, equipment and machinery

Unit I: Manufacture of bezel settings

- Stone setting, prong setting
- Channel setting
- Bead setting, Burnish setting, Pave setting,
- Half bezel setting
- Quality of finish: matt Vs. Polish
- Health and safety issues specific to Jewellerymaking including :
 - Handling, use and disposal of chemicals
 - Learning new jewellerymaking Techniques

Unit II : Advanced jewellery techniques workshop

- Macrame/ fiber jewellery
- Fused glass lamp workjewellery,
- Mixed media jewellery,
- Wildjewellery- recycle- re-crafts.

Unit III: Innovative ceramic jewellery

- Transparent clay necklaces
- Liquid clay jewellery
- Vitreous enamel surface in
- Jewellery – making stacking rings or a bangle

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- Terracotta clay jewellery.

Unit IV :

- Finishing jewellery, method for obtaining a Mirror finish, Jewellery pricing formula, Type of Metal finishing, gold jewellery cleaning Buffing Jewellery Basics of buffing compounds.
- Traditional jewellery of maharashtrathushi, nath, Bridewedding Jewellery, gold jewellery mohan mala, Laxmihaar, Kolhapurisaaj, Tikda, Vaaki etc.

Practical 6P2-40 Practical+10 internal marks

Practical will be based on all the four units of theory

Referances :

1. www.cusd200.org/cms/lib7/.../Elements%20and%20Principles.ppt
2. <https://prezi.com/xuupske5cq3l/7-principles-of-jewelry-design/>
3. www.whiteflash.com › Education › Je
4. www.belmontmetals.com/product/jewelry-

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**Bachelor of Jewellery Design
Semester VI
Principles of Marketing -II
PAPER III (6T-3)**

Total Marks -50
Theory Marks: 40
Internal Marks: 10

Unit I : Advertising packaging jewellery business, online marketing

- Offline marketing jewellery marketing objective, Financial
- Objectives, Target markets, positioning, strategies, marketing
- Mix- pricing, distribution, Advertising, promotion, customer service.

Unit II:

- Marketing packaging Research, importance & needs Advertising
- packaging strategies by jewellery companies- Reasons – Competition,
- Branding, expansion- Target audience, cost, in film adds,
- Successful promotion ideas.
- Marketing campaigns, Marketing secrets, SWOT Analysis

Unit III: Marketing Right, Factors that influence consumers buyer behavior

- Situational factors, social situation, time reason for the purchase,
 - Mood, personal factors-
- Jewellery shop management-
 - Project- modules used,

Unit IV: - Difference between advertising packaging and promotion. How to approach

- Advertising getting the most from advertising agency,
- The global jewellery market, understanding carat,
- Carat weight with metaphors- rarity, rarity does not equal
- Beauty, size, color, type, location etc
- The myth, magic and mystique of diamonds

Reference:

- 1 Ramaswamy & Namakumari : Management MacMillan, New Delhi.
- 2 Raja Kotlar : Marketing Management (Analysis Planning and Control), Prentice Hall of Ind.
- 3 William J: Fundamentals of Marketing, McGraw Hill Ltd. New Delhi

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**Bachelor of Jewellery Design
Semester VI
Jewellery Production & Quality Assurance -II
PAPER IV (6T-4)**

**Total Marks -50
Theory Marks: 40
Internal Marks: 10**

Objectives: By the end of the session students must be fully aware of

- Production procedure and principals of jewellery business.
- How to achieve Loyalty and dependability for customers.
- Scenario of jewellery business nationally and internationally
- Role of jewellery industry in country's economy.
- Legal aspects of import export and retailing jewellery.

Unit I : Hallmarking

- Definition, jewellery hallmarking system current
- Hallmarking system, current hallmarking requirements
- UK hallmarking center recognized by BIS.

Unit II : History of hallmarking, Ramification of hallmarking

- Guidelines for hallmarking, methods of hallmarking-
- Their importance and limitations

Unit III: Jewellery Quality Assurance Manager

- Quality control, Waxing, Polishing soldering/ assembling,
- Setting, finishing- Avoid stone loss with quality assurance
- Benchmarks stone placement and setting.

Unit IV :Jewellery Product Quality Requirements

- Marking requirements
- Placement and location of marks. Hallmarks for items with
- Combined metals-incorrect and correct mark, colored gold-Red gold,
- White gold, measuring of coloured gold.

References

1. www.ibef.org/industry/gems-jewellery-india.aspx
2. www.ibef.org/industry/gems-jewellery-india.aspx
3. ficci.in/spdocument/20332/india-jewellery-review-2013.pdf

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**Bachelor of Jewellery Design
Semester VI
Portfolio**

**Total- 100
Portfolio- 80 Marks
Viva -20 Marks**

- **Prepare jewellery designs based on any five themes.**
- **Five designs in each theme.**
- **Detailing of theme: Inspiration, development of motifs etc.**

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