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ಬೆಂಗಳೂರು ನಗರ ವಿಶ್ವವಿದ್ಯಾನಿಲಯ



Dr. MANMOHAN SINGH
BENGALURU CITY UNIVERSITY

Office of the Registrar, Central College Campus, Dr. B.R. Ambedkar Veedhi, Bengaluru – 560 001.

PhNo.080-22131385, E-mail: registrar@bcu.ac.in/registrarbcu@gmail.com

No.BCU/BoS/SEP/Gems & Jewellery/ 121 /2026-27

Date:09.07.2026

NOTIFICATION

Sub: B.Sc. I & II Semesters Gems & Jewellery Syllabus of Dr. Manmohan Singh Bengaluru City University-reg.

Ref: 1. Recommendations of the Board of Studies in the Gems & Jewellery [UG]
2. Approval of the Vice-Chancellor dated.09.07.2026

In pursuance of the recommendation in the BoS in Gems & Jewellery [UG] and with the approval of the Vice-Chancellor, the Syllabus of B.Sc. I & II Semester Gems and Jewellery is hereby notified for information of the concerned. This Syllabus will be effective from the academic year 2026-27.

The copy of the Syllabus is notified in the University Website: www.bcu.ac.in for information of the concerned.

REGISTRAR

To:

The Registrar (Evaluation), Dr. Manmohan Singh Bengaluru City University, Bengaluru.

Copy to;

1. The Dean, Faculty of Science, MSBCU.
2. The Chairman & Members of BoS in Gems and Jewellery [UG], MSBCU.
3. Principals of all affiliated Colleges of MSBCU.
4. The P.S. to Vice-Chancellor/Registrar/Registrar (Evaluation), MSBCU.
5. Office copy / Guard file / University Website: www.bcu.ac.in



Dr. MANMOHAN SINGH
BENGALURU CITY UNIVERSITY

CHOICE BASED CREDIT SYSTEM
(as per SEP 2025)

Proposed Syllabus for I & II Semester
B.Sc. Gems & Jewellery
2026-27

FOREWORD

As per the recommendations, made by State Education Policy (SEP), the government of Karnataka has reinforced the three-year degree program from the academic year 2024 – 2025. As per the recommendations, now colleges can offer degrees with One major with a general Degree in all 6 semesters, one major and specialisation in one subject in fifth and sixth semester or a single subject specialisation from first semester with minors. A course with practical (skill) orientation which is linked to the theoretical major course and is expected to improve employee ability. Students have to learn two languages: Kannada / Other Indian languages and English. The third compulsory subject is value or moral education which will include teaching constitutional moral values / principles of equality, liberty, fraternity, national unity, non-discrimination and similar values. It is also suggested that skill enhancement course with a tutorial based on the survey / laboratory be introduced for single subject specialisation and deep specialisation in fifth and sixth semesters. The examination pattern will be 80:20, 80 for the semester end exam, and 20 for internal assessment. Likewise, for practical oriented science subjects, the examination pattern will be 40:10, 40 for the semester end practical exam and 10 for internal assessment. The prominent features of the new scheme frame work are:

1. Colleges can offer this degree with single subject.
2. Students have to learn two languages: Kannada / other Indian languages, and English
3. The third compulsory subject is value or moral education which will include teaching constitutional moral values / principles of equality, liberty, fraternity, national unity, non-discrimination and similar values.

I am delighted to present first and second semester curriculum structure pertaining to B.Sc. Degree in Gems & Jewellery. I hope that curriculum structure and syllabus will pave the way for overall development of the student community. I ensure that student's community will procure the benefits at large in higher education


03/06/24
Prof. Dr. P. R. CHETANA
Dean, Faculty of Science
Bengaluru City University
Bengaluru - 560001.

Proceedings of the meeting of the Board of Studies in Gems & Jewellery – UG held on 03 June 2026 at 11:30 am in the Department of studies and Research in Chemistry, Dr Manmohan singh Bengaluru City University, Jnana Jyothi Central College Campus, Bengaluru

The Chairperson welcomed the members of the Board to the meeting and placed the agenda before them for discussion.

Agenda: 1. Scrutiny and approval of the syllabus for 1st and 2nd semester of new course B.Sc. Degree Gems & Jewellery (SEP 2024-2025 Scheme)

The Chairperson informed the members that as per the directive from the Dr Manmohan Singh Bengaluru City University, the Gems & Jewellery syllabus for the B.Sc., Gems & Jewellery degree for 1st and 2nd semester as per SEP has to be designed.

Resolution: The syllabus has prepared with the help of Gems & Jewellery teachers from affiliated colleges and industry experts for the year 2026 – 2027. In this connection, the core group of teachers participated in the meeting held on 03 June 2026, they prepared a syllabus, modified the corrections suggested and finalise the same in the BoS meeting.

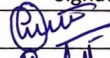
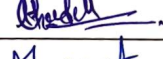
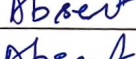
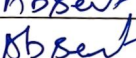
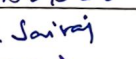
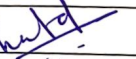
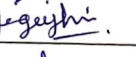
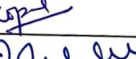
The Board of Studies (UG) approved the syllabus after some modifications.

Agenda: 2. Eligibility Criteria for B.Sc. Gems & Jewellery admission

Resolution: Educational Qualification: Passed 10+2/PUC/ Equivalent qualification examination from a recognized board. Students from any stream (Science, Commerce, or Arts) are eligible. Generally, no upper age limit.

The meeting ended with a vote of thanks by the Chairperson.

The following members were present.

SL No.	Name		Signature
1	Chaithra Chander	Member	
2	Laxman Fakira Gadade	Member	
3	Rajiv Ranjan Pandey	Member	
4	Nishitha Sharma	Member	
5	P. Ratan	Member	
6	Chittibabu Sairaj	Member (Co-opt)	
7	Sheetal Somanathan	Member (Co-opt)	
8	Wageeshwari Mandar	Member (Co-opt)	
9	Kopal Bansal	Member (Co-opt)	
10	Prof. Dr. P.R. Chetana	Chairperson	

Prof. Dr. P. R. CHETANA
Dean, Faculty of Science
Bengaluru City University
Bengaluru - 560001.

SCHEME OF EXAMINATION								
B.Sc. Gems & Jewellery								
SEMESTER I								
CODE	SUBJECTS	Paper Theory/ Practical	Instruction Hrs./week	Duration of Exam (Hrs.)	Marks			CREDITS
					IA	Exam	Total	
L1	Language I	Theory	4	3	20	80	100	3
L2	Language II	Theory	4	3	20	80	100	3
GJD 1.1 T	Gemology -I	Theory	4	3	20	80	100	3
GJD 1.1 P	Gemology -I	Practical	3	3	10	40	50	2
GJD 1.2 T	History & Fundamentals of Jewellery Design	Theory	4	3	20	80	100	3
GJD 1.2 P	Fundamentals of Jewellery Design	Practical	3	3	10	40	50	2
GJD 1.3 T	Organisational Behaviour	Theory	4	3	20	80	100	3
GJD 1.3 P	Coral Draw (practical)	Practical	3	3	10	40	50	2
	Compulsory 1 (constitutional values)	Theory	2	1.5	10	40	50	2
				Total	700			23

SEP Syllabus for B.Sc. I Semester in Gems & Jewellery-GJD 1.1 T

Gemology -I (Theory)

Program Name	B.Sc.	Semester	I
Course Title	Gemology -I (Theory)		
Course Code	GJD 1.1 T	No. of Credits	03
Contact Hours	56	Duration of SEP Exam	3 Hrs.
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Objectives:

- To understand and explain the History, origin, formation, and classification of gemstones.
- To understand and apply basic Gemological instruments (loupe, microscope, refractometer, polariscope, dichroscope, spectroscope) to accurately identify common gemstones.
- To understand the crystal structure of the rough stones and formation.
- To understand the classification, and properties of gemstones.
- To understand the trade of colour stones based on colour and value of the gemstone.
- Understand the importance of precious gemstone, their origin and value of the stone in the Jewellery industry.

UNIT - 1

8 Hrs.

Introduction to Gemology: Overview of gemstones, History of gems. Role of gemology and its relation to mineralogy and geology. Gemstone vs Mineral; Meaning of mineral (scientific definition), Characteristics of minerals: Types of rock, Geological processes: igneous, sedimentary, and metamorphic Rocks. Gemstone formation and sources. Types of Deposits, Primary deposits & Secondary deposits. Mining Process & Mining methods (alluvial, kimberlite, open-pit, underground) from Mine to Market. Organic vs inorganic gemstones. Ethical sourcing and consumer awareness.

UNIT - 2

13 Hrs.

Instruments used in Gemology and its applications: Loupe, Refractometer Applications and Uses, Polariscope and Dichroscope - Applications and Uses, Microscope and Spectroscope - Applications and Uses, Chelsea filter, Tripod, Calipers & Leveridge Gauges - Applications and Uses, Grading gemstones according to other international standards.

Colours in Gemstones: Colour theory, Hue, Tone, Saturation and How colour affects value. Trace elements: How gemstone get their colour. Shapes, Cuts & Engravings in gemstone. Terminology & nomenclature of gemstones as per Indian & International markets. The Species & Varieties of gemstones. Classification of gemstones Precious and Semi-Precious.

UNIT - 3

17 Hrs.

Properties of gemstones: Study of Physical properties for gemstone: Introduction to light Concept, Types of light used in gemology lab: Reflection, Refraction.

Physical & Optical Properties: Hardness: Scratch Hardness, Moh's Hardness Scale, Density: Determination of density by different methods: 1. Hydrostatic Balance 2. Suspension Method 3. Weights System used in the Gem trade.

Optical Properties using Instruments: Determination of Refractive Index using Refractometer, Polariscopic: Single refraction, Double refraction, Optical properties with light: Double Refraction, Dispersion, Absorption Spectra, Transparency, Lustre, Pleochroism, Luminescence, Phenomena in gems: Asterism (star effect), Chatoyancy (cat's eye) Adularescence, Labradorescence, Iridescence, Play of colour.

Crystallography: Definition of Crystallography, Importance of Crystallography in gemology, Difference between crystalline and amorphous substances. Crystal chemistry and atomic structures. Crystal systems (cubic, tetragonal, hexagonal, trigonal, orthorhombic, monoclinic, triclinic). Crystal Classes, Crystal Forms & Crystal Habit, and twinning. Symmetry elements: axes, planes, centres of symmetry. Crystal growth and defects.

UNIT - 4

18 Hrs.

Gemstones Varieties, Properties, sources, and identification: Introduction to Precious Gemstones. Definition of Precious gemstones. Historical classification of precious vs Semi-Precious. Modern gemmological perspective on classification, Importance of precious gemstones in Jewellery trade.

Mineral group Corundum: Ruby: Chemical Composition and Crystal System, causes of red colour, Physical and Optical Properties, Inclusions and identifying features. Major sources and origin importance.

Sapphire: Chemical Composition and Crystal System, causes of blue colour, Physical and Optical Properties, Inclusions and identifying features. Major sources and origin importance.

Mineral group Beryl: Chemical Composition and Crystal System, Colour causes and Inclusions (Jardin), Physical and Optical Properties, Treatments (oil, resin filling), Sources and origin significance.

Value Factors & Grading: Colour, Clarity, Cut, Carat (4C's), Origin and rarity Certification, Important Market trends.

Formative Assessment Theory	
Assessment Occasion/Type	Marks
One Internal Test	10 Marks
Assignment/Activities	10 Marks
Total	20 Marks
Formative Assessment as per UNIVERSITY Guidelines are Compulsory	

Reference Books:

1. Gemstone & Mineral Data Book by John Sinkankas (Latest addition 1994).
2. Gemology by Peter G. Read (Latest edition 1994).
3. Gem Testing by B. W. Anderson (Latest edition: 10th ed., 1990).
4. Gemstones of the World by Walter Schumann. (Latest edition: 5th, 2013).
5. Ruby & Sapphire: A Gemologist's Guide by Richard W. Hughes, Wimon Manorotkul & E. Billie Hughes (Latest edition: 2017).
6. Gems: Their Sources, Descriptions, and Identification by Robert Webster, revised by P. G. Read (Latest edition: 5th ed., 1994).
7. Guide to Affordable Gemology by W. William Hanneman (Latest edition: 2nd ed., 2001)

SEP Syllabus for B.Sc. I Semester in Gems & Jewellery-GJD 1.1 P

Gemology -I (Practical)

Course Title	Gemology-I (Practical)	Practical Credits	02
Course Code	GJD 1.1P	Contact Hours	03 Hrs.
Formative Assessment Marks	10 Marks	Summative Assessment Marks	40

List of Practicals:

1. Evaluating Color, Hue, Tone, and Saturation.
2. Identification of crystal systems using models.
3. Observation of Physical and Optical properties, and crystal habits in rough gemstones.
4. Drawing crystal forms.
5. To determine the refractive index value using a Refractometer.
6. To determine the optical behavior and pleochroism using Polariscope & Dichroscope.
7. To determine the absorption spectra with Spectroscope.
8. Microscopic observation for natural gemstones - inclusion analysis.
9. To determine the Specific gravity balance / heavy liquids.
10. Filters (Chelsea, Ruby Filter, UV fluorescence tests)
11. Gemstone identification: Ruby, Sapphire, Emerald.

Formative Assessment for Practical	
Assessment Occasion/Type	Marks
One Internal Test	05 Marks
Assignment/Activity	05 Marks
Total	10 Marks
Formative Assessment as per UNIVERSITY Guidelines are Compulsory	

Reference Books:

1. Gemstones of the World by Walter Schumann. (First published 1976; Latest edition: 5th revised ed., 2013).
2. Gems: Their Sources, Descriptions, and Identification by Robert Webster, revised by P. G. Read (First published 1962; Latest edition: 5th ed., 1994).
3. Photo atlas of Inclusions in Gemstones by Gubelin & Koivula (multi-volume set)

SEP Syllabus for B.Sc. I Semester in Gems & Jewellery-GJD 1.2 T

History and Fundamentals of Jewellery Design -Theory

Program Name	B.Sc.	Semester	I
Course Title	History and Fundamentals of Jewellery Design (Theory)		
Course Code	GJD 1.2 T	No. of Credits	03
Contact Hours	56	Duration of SEP Exam	3 Hrs.
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Objectives:

- To understand the historical evolution of jewellery across cultures and civilisations.
- To learn the fundamental elements and principles of jewellery design.
- To study the relationship between form, function, and wearability.
- To gain basic knowledge of jewellery materials, gemstones, and techniques.
- To explore motifs, symbolism, and cultural significance in jewellery.
- To develop visual sensitivity towards proportion, balance, and aesthetics.
- To encourage concept development and storytelling through jewellery design.
- To build a strong foundation for contemporary and innovative jewellery practices.

UNIT 1

11 Hrs.

Meaning and Purpose of Early Jewellery: Early jewellery was used not only for decoration but also for protection, spiritual belief, social identity, and status. It often symbolised power, faith, and belonging to a community.

Prehistoric Jewellery: Prehistoric humans used natural materials such as bones, shells, teeth, stones, and feathers to create jewellery. These ornaments were handmade and reflected survival, ritual practices, and early artistic expression.

Jewellery as Ritual, Protection, and Identity: Jewellery functioned as amulets and talismans believed to protect the wearer from evil spirits and misfortune. It also helped identify tribal affiliation, gender, age, and social role.

Indus Valley Civilisation: Indus Valley jewellery included beads made of terracotta, carnelian, gold, and shell. Designs were simple yet refined, showing advanced craftsmanship and trade practices.

Egyptian Civilisation: Egyptian jewellery used gold extensively along with lapis lazuli, turquoise, and faience. Jewellery held strong religious and symbolic meaning, often associated with gods, protection, and the afterlife.

Mesopotamian Civilisation: Mesopotamian jewellery reflected wealth and power, using gold, silver, and precious stones. Designs were bold and decorative, worn by royalty and elites as status symbols. **Greek Civilisation:** Greek jewellery was inspired by nature and mythology, featuring motifs like leaves, flowers, and gods. Craftsmanship focused on elegance, proportion, and detailed metalwork.

Roman Civilisation: Roman jewellery emphasised luxury and personal status, using gemstones, cameos, and engraved rings. Jewellery also served functional purposes such as seals and symbols of authority.

Materials, Techniques, and Symbolism: Ancient jewellery used natural and locally available materials, gradually advancing to metalworking, stone cutting, and enamelling. Each civilisation developed distinctive techniques and symbolic meanings reflected in their jewellery styles.

UNIT 2

14 Hrs.

Evolution of Indian Jewellery: Indian jewellery evolved through ancient, medieval, and modern periods, reflecting changes in culture, religion, trade, and craftsmanship while maintaining strong traditional roots.

Temple Jewellery: Temple jewellery originated as ornaments for deities and later became part of classical dance and bridal jewellery. It is known for its heavy gold forms, deity motifs, and religious symbolism.

Mughal Jewellery: Mughal jewellery introduced refined techniques such as Kundan, Meenakari, and gemstone inlay. Designs were luxurious, symmetrical, and influenced by Persian art and royal patronage.

Regional Jewellery Traditions: Different regions of India developed distinct jewellery styles based on local culture, materials, and customs, such as South Indian, Rajasthani, Gujarati, Maharashtrian, and North-Eastern jewellery.

Symbolism and Ritual Significance: Indian jewellery is deeply connected to rituals, festivals, and life events like marriage, symbolising prosperity, protection, and social identity.

UNIT 3

16 Hrs.

Elements of Design: Elements such as line, shape, form, texture, colour, space, and scale are the basic visual components used to create jewellery designs.

Line, Shape, and Form: Lines define structure, shapes create outlines, and forms give jewellery its three-dimensional appearance and volume.

Texture and Surface Design: Texture enhances visual and tactile appeal through techniques like engraving, embossing, and surface finishing.

Scale and Proportion: Scale and proportion ensure that jewellery suits the human body, maintaining comfort, balance, and visual harmony.

Principles of Design: Principles such as balance, rhythm, repetition, contrast, emphasis, and harmony organise elements to create well-composed jewellery designs.

UNIT 4

15 Hrs.

Basics of Colour Theory: Colour theory explains how colours interact, using the colour wheel to understand primary, secondary, and complementary colours.

Warm, Cool, and Neutral Colours: Warm colours convey richness and energy, cool colours suggest calmness and elegance, while neutral colours provide balance.

Metal and Gemstone Colour Relationships: Different metals enhance specific gemstone colours, influencing the overall appearance and luxury appeal of jewellery.

Colour Psychology: Colours evoke emotions and meanings, such as red for passion, gold for prosperity, and blue for calmness and trust.

Cultural Significance of Colour: Colours in jewellery carry cultural and symbolic meanings, especially in traditional and ceremonial contexts across different societies.

Formative Assessment Theory	
Assessment Occasion/Type	Marks
One Internal Test	10 Marks
Assignment/Activities	10 Marks
Total	20 Marks
Formative Assessment as per UNIVERSITY Guidelines are Compulsory	

Reference Books:

1. Jewellery Illustration & Design VOL. 1 by Manuela Brambatti & Cosimo Vinci (Latest edition: 2018).
2. Traditional Indian Jewellery, by Bernadette van Gelder (Latest edition 2018).
3. 25,000 Years of Jewellery by Maren Eichhorn Johannesen (Latest edition 2021).
4. Elements & Principles of Design by Zena O'Connor (Latest edition 2014).
5. Color Psychology: A Guide to choosing the right colors in Design by Anelly Aya (Latest edition 2024)

SEP Syllabus for B.Sc. I Semester in Gems & Jewellery
Paper I-GJD 1.2 P: Fundamentals of Jewellery Design - Practical

Course Title	Fundamentals of Jewellery Design (Practical)	Practical Credits	02
Course Code	GJD 1.2 P	Contact Hours	03 Hrs.
Formative Assessment Marks	10 Marks	Summative Assessment Marks	40

List of Practicals:

- 1. Understanding Elements of Design through activity:** To understand and apply the basic elements of design—line, shape, form, texture, space, scale, and colour, through hands-on visual exercises.
- 2. Colour Wheel Chart:** To understand basic colour theory and colour relationships used in jewellery design.
- 3. Basic Motif Creation:** Students will research reference sources and sketch multiple motif ideas. Selected motifs will be refined through repetition, symmetry, and variation. Motifs may be developed in 2D and adapted for jewellery applications such as pendants, earrings, or surface patterns.
- 4. Metal Rendering:** Students will practice rendering metals such as gold, silver, and platinum using pencils, coloured pencils, markers, or watercolours. Emphasis will be given to light, reflection, highlights, shadows, and surface finishes (polished, matte, hammered).
- 5. Gemstone and Diamond Rendering:** Students will study different gemstone cuts and practice rendering cabochon and faceted stones. Diamond rendering will focus on facets, contrast, sharp highlights, and reflections. Colour blending and light refraction techniques will be applied for coloured gemstones.

Formative Assessment for Practical	
Assessment Occasion/Type	Marks
One Internal Test	05 Marks
Activity	05 Marks
Total	10 Marks
Formative Assessment as per UNIVERSITY Guidelines are Compulsory	

Reference Books:

1. Jewellery Illustration & Design VOL. 1 by Manuela Brambatti & Cosimo Vinci (Latest edition 2018).
2. Color Psychology: A guide to choosing right colors in Design by Anelly Aya (Latest edition: 2024)

SEP Syllabus for B.Sc. I Semester in Gems & Jewellery-GJD 1.3 T

Organisational Behaviour -Theory

Program Name	B.Sc.	Semester	I
Course Title	Organisational Behaviour		
Course Code	GJD 1.3 T	No. of Credits	03
Contact Hours	48	Duration of SEP Exam	3 Hrs.
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Objectives:

- To understand the meaning, nature, scope, and importance of Organisational Behaviour.
- To comprehend the evolution of Organisational Behaviour, including the Hawthorne Experiments and contributions of various disciplines.
- To study individual behaviour in organisations with reference to personality, attitudes, values, perception, emotions, and learning.
- To comprehend personality theories and value systems and their influence on workplace behaviour.
- To understand the process of communication, barriers to effective communication, and applications of Transactional Analysis and Johari Window.
- To study classical and contemporary theories of motivation and their relevance in organisational settings.
- To understand group behaviour and team dynamics, including group formation, norms, roles, cohesiveness, and decision-making.
- To explore the nature, sources, and management of organisational conflict.
- To comprehend leadership theories, styles, and contemporary leadership approaches.
- To understand organisational culture, change management, and stress management in organisations.

Introduction to Organisational Behaviour**Foundations and Evolution of Organisational Behaviour**

Meaning and definition of Organisational Behaviour; nature and scope of OB; importance of OB in modern organisations; role of OB in managerial effectiveness; relationship between Management and Organisational Behaviour; OB as an interdisciplinary field; evolution and emergence of Organisational Behaviour as a discipline; classical, neo-classical and modern approaches to OB; Hawthorne Experiments – background, methodology, findings, criticisms and contributions to human relations movement.

Contributing Disciplines and Models of Organisational Behaviour

Contribution of Psychology (learning, motivation, personality), Sociology (group dynamics, culture), Anthropology (organisational culture, values), Economics (decision-making, incentives) to Organisational Behaviour; models of Organisational Behaviour – autocratic, custodial, supportive, collegial and system models; relevance and application of OB models in contemporary organisations.

Individual Behaviour**Section A: Personality, Attitudes and Learning**

Foundations of individual behaviour; personality – concept, nature and determinants (biological, social and situational factors); personality theories – Type A and Type B behaviour patterns, Big Five Personality Traits and their workplace relevance; attitudes – meaning, formation and components; job-related attitudes such as job satisfaction, job involvement and organisational commitment; learning – concept and significance; learning theories including classical conditioning, operant conditioning and social learning theory; reinforcement and its role in shaping employee behaviour.

Section B: Perception, Emotions, Beliefs and Values

Perceptual process; factors influencing perception (perceiver, target, and situation); perceptual errors and distortions such as halo effect, stereotyping, selective perception and projection; emotions and emotional intelligence at work; beliefs and values – concept and types; terminal and instrumental values; role of values in ethical behaviour, decision-making and organisational culture.

Communication and Motivation**Communication in Organisations**

Meaning and process of communication; types of communication – formal and informal, verbal and non-verbal, upward, downward and horizontal communication; communication styles; barriers to effective communication – personal, organisational and semantic barriers; methods to overcome communication barriers; persuasive communication in organisational settings; Transactional Analysis (TA) – ego states, life positions and applications; Johari Window – concept, quadrants and relevance in interpersonal communication and team effectiveness.

Motivation Theories and Applications

Meaning and importance of motivation; intrinsic and extrinsic motivation; need-based theories of motivation – Maslow's Need Hierarchy, ERG Theory, McClelland's Theory of Needs, Theory X and Theory Y, Herzberg's Two-Factor Theory; contemporary motivation theories – Self-Determination Theory, Goal-Setting Theory, Reinforcement Theory, Self-Efficacy Theory, Vroom's Expectancy Theory, Porter–Lawler Model and Adams' Equity Theory; Theory of Intrinsic Motivation at Work by Kenneth W. Thomas; managerial implications of motivation theories.

Group Behaviour, Leadership and Organisational Dynamics**Group Behaviour, Conflict and Leadership**

Meaning and formation of groups; types of groups – formal and informal; group norms, roles, status and group cohesiveness; groups vs teams; stages of group development; group decision-making – process, techniques and types; organisational conflict – nature, sources and levels of conflict; conflict management and resolution strategies; leadership – meaning and importance; leadership theories and approaches; leadership styles; leadership continuum; trait, behavioural and situational approaches; leadership grid; contemporary leadership approaches – servant leadership and transformational leadership.

Organisational Dynamics and Stress Management

Organisational culture – meaning, characteristics, determinants, and types; strong vs weak culture; organisational change – meaning, importance and forces of change; change management process; resistance to change and strategies to overcome resistance; stress – meaning and nature; individual and organisational sources of stress; consequences of stress on performance; stress prevention and stress management techniques at individual and organisational levels.

Formative Assessment Theory	
Assessment Occasion/Type	Marks
One Internal Test	10 Marks
Assignment/Activities	10 Marks
Total	20 Marks
Formative Assessment as per UNIVERSITY Guidelines are Compulsory	

Reference Books:

1. Greenberg, J. Behavior in Organizations (Latest edition: 10th ed., 2010).
2. Hersey, P., Blanchard, K., & Johnson, D. Management of Organizational Behavior (Latest edition: 10th ed., 2012).
3. Luthans, F. Organizational Behavior: An Evidence-Based Approach (Latest edition: 14th ed., 2021)
4. Pareek, U. Understanding Organizational Behavior (Latest edition: 3rd ed., 2011).
5. Robbins, S. P., & Judge, T. A. Essentials of Organizational Behavior (Latest edition: 15th ed., 2022).
6. Singh, A. K., & Singh, B. P. Organizational Behavior (Published 2007,).

SEP Syllabus for B.Sc. I Semester in Gems & Jewellery

Paper I-GJD 1.3 P: CorelDRAW – Practical

Course Title	CorelDRAW (Practical)	Practical Credits	02
Course Code	GJD 1.3 P	Contact Hours	03 Hrs.
Formative Assessment Marks	10 Marks	Summative Assessment Marks	40

List of Practicals:

- 1. CorelDRAW Basics for Jewellery:** Introduction to CorelDRAW (Jewellery use), Interface, tools, page setup (mm, scale 1:1), Guidelines, snap, Zoom & Precision settings.
- 2. Basic Jewellery Drawing:** Bezier & Pen tools, Node editing and curve control. Basic shapes for Jewellery Weld, trim, intersect. Drawing simple rings, pendants, earrings.
- 3. Stone & Setting Designs (2D):** Drawing round, oval, pear stones. Prong, bezel, pave layouts (2D), Stone alignment and spacing. Power clip usage, Stone symbols and repetition.
- 4. Jewellery Pattern & Motif Design:** Floral and traditional motifs, Geometric and temple patterns, Symmetry, mirror & radial designs, Step-and-repeat patterns, Bangle and necklace pattern layouts.
- 5. Presentation & Manufacturing Output Gold/silver:** Colour Application, Clean Technical Line Drawings, Layer Management, Export to PDF/JPEG, CorelDRAW to Rhino workflow.

Formative Assessment for Practical	
Assessment Occasion/Type	Marks
One Internal Test	05 Marks
Activity	05 Marks
Total	10 Marks
Formative Assessment as per UNIVERSITY Guidelines are Compulsory	

Reference Books:

1. Corel Corporation, “CorelDRAW User Guide”, Corel Corporation (Latest version: CorelDRAW Graphics Suite 2025 (v26.0)).
2. Bouton, Gary David, “CorelDRAW: The Official Guide” (Latest edition: 12th ed., January 2017).
3. Untracht, Oppi. “Jewellery Concepts and Technology” (First published 1982)

Outline for Continuous Assessment

Theory

Activity	C1	C2	Total
Session Test	10%	-	10%
Seminars/Presentations/Activity	-	05%	05%
Assignment/Field Work	-	05%	05%
Total	10%	10%	20%

Practical

Activity	C1	C2	Total
Test / Performance	05%	-	05%
Activity/Field Visit	-	05%	05%
Total	05%	05%	10%

QUESTION PAPER PATTERN (Theory)
I/II Sem. B.Sc. Examination (2026-27 Onwards)
B.Sc. GEMS & JEWELLERY
Paper code and Title of the paper

MAX MARKS-80

TIME: 3Hrs.

Instructions to the Candidates: i. All sections are compulsory.

ii. Illustrate wherever necessary.

Section –A

I Answer any Ten of the following:

10X2=20 Marks

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.

Section –B

II Answer any Five of the following:

5X4=20 Marks

- 13.
- 14.
- 15.
- 16.
- 17.
- 18.
- 19.

Section – C

III Answer any Five of the following:

5X8=40 Marks

- 20.
- 21.
- 22.
- 23.
- 24.
- 25.
- 26.

QUESTION PAPER PATTERN (Practical)
I/II Sem. B.Sc. Examination (2026-27 Onwards)
B.Sc. GEMS & JEWELLERY
Paper code and Title of the paper

MAX MARKS-40

TIME: 3 Hrs.

Instructions to the Candidates: All the questions are compulsory.

- | | |
|--------------|----------|
| 1. | 10 Marks |
| 2. | 10 Marks |
| 3. | 05 Marks |
| 4. Record | 10 Marks |
| 5. Viva Voce | 05 Marks |

B.Sc. GEMS & JEWELLERY								
SEMESTER II								
CODE	SUBJECTS	Paper Theory/ Practical	Instruction Hrs./week	Duration of Exam (Hrs.)	Marks			CREDITS
					IA	Exam	Total	
L1	Language I	Theory	4	3	20	80	100	3
L2	Language II	Theory	4	3	20	80	100	3
GJD 2.1 T	GEMOLOGY-II	Theory	4	3	20	80	100	3
GJD 2.1 P	GEMOLOGY-II	Practical	3	3	10	40	50	2
GJD 2.2 T	Design Thinking & Process	Theory	4	3	20	80	100	3
GJD 2.2 P	Techniques in Jewellery Design	Practical	3	3	10	40	50	2
GJD 2.3 T	Consumer Behavior	Theory	4	3	20	80	100	3
GJD 2.4 P	Jewellery Manufacturing level 1	Practical	3	3	10	40	50	2
	Compulsory 2 (constitutional values)	Theory	2	1.5	10	40	50	2
				Total	700			23

SEP Syllabus for B.Sc. II Semester in Gems & Jewellery-GJD 2.1T

Gemology -II (Theory)

Program Name	B.Sc.	Semester	II
Course Title	Gemology -II (Theory)		
Course Code	GJD 2.1 T	No. of Credits	03
Contact Hours	56	Duration of SEP Exam	3 Hrs.
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Objectives:

- To understand and explain the origin, formation, and classification of gemstones.
- To understand the classification, and properties of gemstones.
- To understand the organic gemstones.
- To understand the trade of colour stones based on colour and value of the gemstone.
- To understand the importance of Semi-precious gemstones, their origin and value of the stone in the Jewellery industry.
- To understand the treatment & synthetic process of the gemstones.

UNIT-1

16 Hrs.

Gemstones Varieties, Properties, sources, and identification: Introduction to Semi-Precious and Precious Gemstones. Definition of Semi-Precious and Precious gemstones. Historical classification of Precious and Semi-Precious gemstones. Modern gemmological perspective on classification. Importance of Semi-Precious and Precious gemstones in Jewellery trade.

Mineral group Garnet: Aluminium Garnets Almandine, Pyrope, Spessartine. Chemical Composition and Crystal Systems. Causes Of Colour. Physical and Optical Properties, Inclusions, and Identifying Features. Major Sources and Origin Importance.

Calcium Garnets species like Grossular, Andradite, Uvarovite, and other sub-varieties. Chemical Composition and Crystal System Causes of Colour. Physical and Optical Properties Inclusions and Identifying Features. Major Sources and Origin Importance.

Rhodolite → Pyrope + Almandine (pinkish-purple) Malaya (Malaia) Garnet → Pyrope + Spessartine (orange-pink) Color-change Garnet → Changes colour (like alexandrite effect)

Mineral group Tourmaline: Elbaite Varieties (Rubellite, Indicolite, Verdelite, Paraíba Tourmaline, Watermelon Tourmaline, and other sub-varieties), Schorl Tourmaline, Dravite Tourmaline (Chrome Tourmaline), and other varieties. Chemical composition, Physical and Optical Properties (Colour, Hardness, Luster, Specific Gravity, Refractive Index etc.), and Crystal Systems. Colour Inclusions of Tourmaline Group. Major Sources and Origin Importance.

Mineral group Topaz: Blue Topaz, Imperial Topaz, Yellow Topaz, and other varieties. Chemical composition, Colour causes, Physical and Optical properties (Colour, Hardness, Luster, Specific Gravity, Refractive Index etc.), and Crystal System and Inclusions. Major sources and origin importance.

UNIT- 2

13 Hrs.

Mineral group Quartz: Crystalline and Cryptocrystalline quartz and their sub-varieties. Amethyst, Citrine, Rose Quartz, Smoky Quartz, Aventurine, Chalcedony, Jasper. Chemical Composition and Crystal System, Colour Causes and Inclusions, Physical and Optical Properties. Origin and Major Occurrences.

Mineral group Peridot & Varieties: Chemical Composition and Crystal System, Colour Causes and Inclusions, Physical and Optical Properties. Origin and Major Occurrences.

Mineral group Zircon & Varieties: Chemical composition and Crystal System, Colour Causes and Inclusions, Physical and Optical Properties. Origin and Major Occurrences.

Mineral group Opal & Varieties: Precious Opal, Fire Opal, White (Milk) Opal, Black Opal, Boulder Opal. Origin and Major Occurrences.

Mineral group Feldspar & Varieties: Sunstone, Moonstone, Amazonite & Labradorite. Chemical Composition and Crystal System, Colour Causes and Inclusions, Physical and Optical Properties. Origin and Major Occurrences.

Mineral Varieties: Turquoise, Lapis Lazuli, Spinel, Alexandrite, Cat's Eye, Tanzanite, Jade, Malachite. Chemical Composition and Crystal System. Colour Causes and Inclusions, Physical and Optical Properties. Origin And Major Occurrences.

UNIT -3

12 Hrs.

Organic Gemstones: Definition of Organic Gemstones. Difference between Mineral, Inorganic, and Organic Gem Materials. Formation and Origin of Organic Gems. Historical importance in jewellery and ornamentation. Classification of Organic gem materials. Sources and Geographical Occurrence. Commercial importance in jewellery industry.

Pearl: Types of Pearls, Definition and Formation of pearls, Natural pearls and Cultured pearls, Freshwater, and Saltwater pearls. Structure of pearl: Nacre, Conchiolin. Pearl-producing molluscs.

Types of pearls: Akoya pearls, South Sea pearls, Tahitian pearls, Freshwater pearls, Keshi pearls, Mabe pearls. Factors affecting pearl quality: Luster, Shape, Surface, Colour Size. Imitation pearls and identification.

Treatments in pearls: Bleaching, Dyeing, Irradiation, Grading, and valuation of pearls. Care and storage of pearls.

Coral: Types of coral, red coral, Coral structure, Uses in jewellery.

Amber: Fossilized tree resin, Inclusions in amber, Identification methods.

Ivory: Sources, Uses, Legal and ethical restrictions.

Jet & Fossil Wood: Formation, Identification, Decorative use.

Value Factors & Grading: Colour, Clarity, Cut, Carat (4C's), Origin and Rarity Certification, Important Market trends.

UNIT - 4

5 Hrs.

Gemstone Treatments & Enhancements: Introduction to Gemstone treatment. History of Gem Treatments, Heat Treatment, Dyeing, Bleaching, Fracture Filling, Irradiation, Coating, Impregnation. **Identification of Treatments:** Microscopic observation, Colour Concentration, Gas bubbles, Surface residues.

Synthetic & Imitation Gemstones: Methods of Synthesis: Verneuil Process (Flame Fusion), Flux Melt Process, Hydrothermal Process, Czochralski Method. **Imitation Stones:** Glass, Plastic, Doublets, Triplets. Identification of natural, synthetic & imitation gemstones.

Certification: Types of Certificates, Role of Certificate in buying the gemstone. Market research on gemstones.

Formative Assessment Theory	
Assessment Occasion/Type	Marks
One Internal Test	10 Marks
Assignment/Activities	10 Marks
Total	20 Marks
Formative Assessment as per UNIVERSITY Guidelines are Compulsory	

Reference Books:

1. Campbell Pedersen, Maggie. Gem and Ornamental Materials of Organic Origin (Latest edition: 2010).
2. Newman, Renée. Pearl Buying Guide (Latest edition: 6th ed., 2017).
3. Sinkankas, John. Gemstone & Mineral Data Book (Latest edition 1994).
4. Read, Peter G. Gemmology (Latest edition: 3rd ed., 2005).
5. Anderson, B.W., revised by E.A. Jobbins. Gem Testing (Latest edition: 10th ed., 1990).
6. Schumann, Walter. Gemstones of the World (Latest edition: 5th., 2013).
7. Hughes, Richard W., Wimon Manorotkul & E. Billie Hughes. Ruby & Sapphire: A Gemologist's Guide (Latest edition: 2017).
8. Webster, Robert, revised by Peter G. Read. Gems: Their Sources, Descriptions, and Identification (Latest edition: 5th ed., 1994).
9. Hanneman, W. William. Guide to Affordable Gemology (Latest edition: 2nd ed., 2001)

SEP Syllabus for B.Sc. II Semester in Gems & Jewellery- GJD 2.1 P

Gemology-II - Practical

Course Title	Gemology-II (Practical)	Practical Credits	02
Course Code	GJD 2.1P	Contact Hours	03 Hrs.
Formative Assessment Marks	10 Marks	Summative Assessment Marks	40

List of Practicals:

1. Gemological Examination of Garnet Gemstone group and its varieties
2. Gemological Examination of Tourmaline Gemstone group and its varieties
3. Gemological Examination of Topaz Gemstone group and its varieties
4. Gemological Examination of Chrysoberyl Gemstone group and its varieties
5. Gemological Examination of Quartz Gemstone group and its varieties
6. Gemological Examination of Olivine Gemstone group and its varieties
7. Gemological Examination of Spinel Gemstone group and its varieties
8. Gemological Examination of Spodumene Gemstone group and its varieties
9. Gemological Examination of Zoisite Gemstone group and its varieties
10. Gemological Examination of Feldspar Gemstone group and its varieties
11. Gemological Examination of Organic Gemstone group and its varieties (Coral, Pearl, Amber etc.)
12. Practical analysis of different treatments on gemstones.
13. Practical analysis of synthetic gemstones.

Formative Assessment for Practical	
Assessment Occasion/Type	Marks
One Internal Test	05 Marks
Assignment/Activity	05 Marks
Total	10 Marks
Formative Assessment as per UNIVERSITY Guidelines are Compulsory	

Reference Books:

1. Schumann, Walter. Gemstones of the World (Latest edition: 5th revised ed., 2013).
2. Webster, Robert, revised by Peter G. Read. Gems: Their Sources, Descriptions, and Identification (Latest edition: 5th ed., 1994).
3. Gübelin, Eduard J. & Koivula, John I. Photoatlas of Inclusions in Gemstones (3-volume set) (Latest edition Vol. 1 — 5th ed., 2008; Vol. 2 — 2005; Vol. 3 — 2008)

SEP Syllabus for B.Sc. II Semester in Gems & Jewellery-GJD 2.2 T

Design Thinking & Process - Theory

Program Name	B.Sc.	Semester	II
Course Title	Design Thinking & Process - (Theory)		
Course Code	GJD 2.2 T	No. of Credits	03
Contact Hrs.	56	Duration of SEP Exam	3 Hrs.
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Objectives:

- This course introduces students to the process of jewellery designing through design thinking, user study, inspiration research.
- Understand how to develop motifs, material selection, traditional Indian jewellery techniques, and basic ornament designing.
- Understand the process of creating inspiration-based jewellery design.
- Understand the technical aspects of jewellery design.
- Students will learn how to move from concept to final jewellery design through manual sketching, technical understanding, and creative development.
- Understand the different types of setting & finishes in Jewellery.

UNIT 1

14 Hrs.

Introduction to Design Thinking in Jewellery Design: Meaning of Design and introduction to design thinking, understand different processes of Design like Mind Mapping, Brainstorming Idea generation, 7 I's Method, SCAMPER Method, 6 Thinking Hats, Mood Board Method, Kipling. Role of designers in society.

Purpose of Design Thinking in Jewellery: Understanding the wearer, occasion like Daily Wear, Office Wear, Casual Wear, Party Wear, Festive Wear, Wedding Wear, Engagement, Bridal Wear, Religious Occasion, etc., lifestyle, budget, culture, comfort, material, technique, and customer expectations before designing. How to implement design thinking processes while designing jewellery.

Factors to Consider While Designing Jewellery: Design factors such as Target Customer / Wearer, Occasion and Purpose, Comfort and Wearability, Body Proportion and Size, Design Theme and Inspiration, Material Selection, Gemstones and Settings, Budget and Cost,

Manufacturing Possibility, Durability and Strength, Aesthetic Balance, Trend and Market Demand, Safety and Practical Use, Finish and Surface Treatment.

Human - Centered Jewellery Design

Understanding the wearer's needs, emotions culture, tradition, budget, practical comfort, profession, personality, occasion, purpose.

UNIT 2

15 Hrs.

Jewellery Design Process: Meaning of Design Process, what is design process and what are its steps.

Inspiration Research: Inspiration research from nature, architecture, culture, festivals, mythology, geometry, textiles, historical jewellery, paintings, lifestyle, and current trends.

Mood Board and Theme Development: Creating mood boards using images, colours, textures, forms, materials, and keywords to define the design direction.

Form Generation: Understanding how basic shapes and forms are developed into jewellery forms through addition, subtraction, repetition, rotation, symmetry, asymmetry, folding, twisting, layering, and abstraction.

Motif Creation: Meaning of motifs and their role in jewellery design. Students study motif sources, historical motifs, cultural motifs, floral motifs, geometric motifs, animal motifs, architectural motifs, and abstract motifs.

Motif Development Process: Converting inspiration into motifs through simplification, stylisation, repetition, mirror effect, radial arrangement, border formation, and pattern development.

Design Exploration: Creating multiple rough sketches and design options based on the selected theme and motif.

Finalising the Design: Selecting the best design based on aesthetics, comfort, proportion, wearability, uniqueness, material suitability, and production feasibility.

1:1 Ratio Drawing: Drawing jewellery designs in actual size. Emphasis is given to correct proportion, symmetry, measurement, stone placement, metal thickness, and technical clarity.

Final Design Presentation: One final jewellery drawing with front view, side view where required, metal rendering, gemstone rendering, and basic design details.

Introduction to Traditional Jewellery Techniques

Students will study important Indian jewellery techniques and understand their origin, visual features, materials, craftsmanship, and design application.

Meenakari / Enamel Jewellery: Study of enamel work, colour filling, firing process, surface decoration, and its use in traditional Indian jewellery.

Nakash Work: Introduction to embossing and repoussé-style work used in temple jewellery and traditional ornaments. Students understand raised forms, deity motifs, floral patterns, and surface detailing.

Die Work: Study of die-struck jewellery, repeated forms, stamping, metal sheet impression, and mass production possibilities.

Kundan Jewellery: Introduction to kundan setting, pure gold foil setting, traditional gemstone placement, Mughal influence, and bridal jewellery application.

Jadau Jewellery: Study of jadau as a traditional handcrafted technique where stones are set into gold framework. Students understand its relationship with kundan, meenakari, and traditional bridal jewellery.

Filigree Jewellery: Introduction to fine wire work, twisting, curling, soldering, lace-like patterns, and lightweight ornamental designs.

Thewa Jewellery: Study of the traditional Thewa technique, involving gold sheet work on coloured glass, mainly associated with Rajasthan.

Pachchikam Jewellery: Introduction to Pachchikam jewellery, its rustic handmade look, silver base, uncut stones, and traditional setting style.

Application of Techniques in Modern Jewellery Design: How traditional techniques can be adapted into contemporary rings, pendants, earrings, bangles, necklaces, and statement jewellery.

Introduction to stone setting: Learning meaning of stone setting, the purpose of stone setting in jewellery design. understanding how gemstones are secured into metal and how the selection of setting depends on stone shape, size, hardness, design style, budget, and wearability.

History of Stone Setting: Learning about the early use of stones in ornaments, ancient stone setting methods, Egyptian jewellery setting, Greek and Roman stone setting, Indian traditional stone setting, understanding how stone setting changed from handmade heritage techniques to modern luxury and commercial jewellery production.

Types of Stone Settings: Basic Stone Settings, learning different types of basic stone settings such as Prong / Claw Setting, Bezel Setting, Half Bezel Setting, Channel Setting, Bar Setting,

Flush / Gypsy Setting, Bead Setting, and Cluster Setting.

Advanced Stone Settings: Learning different types of advanced stone settings like Pavé Setting, Micro Pavé Setting, Invisible Setting, Tension Setting, Kundan Setting, Jadau Setting, Closed / Foil-Back Setting, Pressure Setting, French Pavé / V-Cut Setting, Illusion Setting.

Types of Jewellery Finishes: Early surface finishing methods, ancient metal polishing techniques, Hammered and textured finishes, Engraving and carving, Granulation and filigree surface detail, Oxidised and antique finishes.

Modern Jewellery Finishes: High Polish Finish, Matte Finish, Satin Finish, Brushed Finish, Hammered Finish, Sandblasted Finish, Florentine Finish, Engraved Finish, Oxidised Finish, Enamel Finish, Diamond-Cut Finish. Use of Polishing Machines, Tumblers, Electroplating, Laser Texturing, CAD/CAM, and Modern Surface-Treatment Tools.

Formative Assessment Theory	
Assessment Occasion/Type	Marks
One Internal Test	10 Marks
Assignment/Activities	10 Marks
Total	20 Marks
Formative Assessment as per UNIVERSITY Guidelines are Compulsory	

Reference Books:

1. Universal Methods of Design: 125 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions by Martin, Bella, & Hanington, Bruce. (latest edition: 2nd ed., 2019).
2. Jewelry Concepts and Technology by Untracht, Oppi. (Latest edition; 2011).
3. Jewellery Illustration and Design, Vol. 2: From the Idea to the Project by Brambatti, Manuela, & Vinci, Cosimo (Latest edition: 1st ed., 2022).
4. The Sourcebook of Contemporary Jewelry Design by Arroyo, Natalio Martin (latest edition: 1st ed., 2012).

SEP Syllabus for B.Sc. II Semester in Gems & Jewellery - GJD 2.2 P

Techniques in Jewellery Design – Practical

Course Title	Design Thinking & process – 1 (Practical)	Practical Credits	02
Course Code	GJD 2.2 P	Contact Hours	03 Hrs.
Formative Assessment Marks	10 Marks	Summative Assessment Marks	40

List of Practicals:

1. Inspiration Study and Mood Board: Selection of one inspiration source such as nature, architecture, temple art, textiles, geometry, festivals, history, or cultural symbols and collecting references, colours, textures, keywords, shapes, and patterns to create a mood board that clearly shows the jewellery design direction.

2. Form Generation and Motif Creation Exercise: Converting basic shapes and inspiration references into jewellery forms using methods like addition, subtraction, repetition, rotation, mirror effect, symmetry, asymmetry, overlapping, folding, twisting, layering, and abstraction and preparation of a form generation sheet showing multiple design variations from one selected source.

3. Motif Application in Jewellery Design: Students will apply one selected motif to jewellery products such as ring, pendant, earring, bracelet, and necklace unit. They will learn how motif placement, scale, repetition, balance, proportion, function, and wearability affect the final jewellery design.

4. 1:1 Ratio Drawing Concept: Drawing jewellery in actual size to maintain correct proportion, stone size, metal thickness, symmetry, and technical clarity. They will draw a simple ring or pendant with measurements, stone placement, metal width, height, and production details.

5. Orthographic and Isometric: Drawing ring in top, front, and side views to understand technical presentation, measurement accuracy, and 1:1 scale. Practicing isometric drawing to show ring volume, shank curve, stone setting, head structure, metal thickness, depth, perspective, and proportion.

6. Texture Rendering for Jewellery Surfaces: Creating a texture rendering chart showing jewellery finishes such as high polish, matte, hammered, sandblasted, Florentine, engraved, granulated, oxidised, enamelled, and brushed surface using pencil, colour pencil, marker, or watercolour.

7. Creating models of jewellery using different material: Creating one complete jewellery design by following the full design process: inspiration, mood board, form generation, motif development, sketches, final using different medium.

Formative Assessment for Practical	
Assessment Occasion/Type	Marks
One Internal Test	05 Marks
Activity	05 Marks
Total	10 Marks
Formative Assessment as per UNIVERSITY Guidelines are Compulsory	

Reference Books:

1. Jewellery Illustration and Design, Vol. 1 by Brambatti, Manuela & Cosimo Vinci. (Latest edition: 2018)
2. Color Psychology: A Guide to Choosing the Right Colors in Design by Aya, Anelly. (Latest edition: 2024)

SEP Syllabus for B.Sc. II Semester in Gems & Jewellery GJD-2.3 T

Consumer Behaviour - Theory

Program Name	B.Sc	Semester	II
Course Title	Consumer Behaviour (Theory)		
Course Code	GJD 2.3 T	No. of Credits	03
Contact Hours	46	Duration OF SEP EXAM	3 Hrs.
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Objectives

- To understand the meaning, nature, scope, and importance of consumer behaviour in the gem and jewellery industry.
- To study the psychological, social, cultural, and economic factors influencing jewellery purchase decisions.
- To comprehend consumer decision-making models and their relevance in jewellery buying.
- To analyze the role of perception, motivation, learning, attitudes, beliefs, and values in jewellery consumption.
- To understand market segmentation, targeting, and positioning for gem and jewellery consumers.
- To study the influence of branding, product design, pricing, trust, and quality perception on consumer choice.
- To explore the impact of family, reference groups, word-of-mouth, and social media on jewellery buying behaviour.
- To understand the consumer buying process in traditional retail and online jewellery markets.
- To examine customer satisfaction, loyalty, post-purchase behaviour, and complaint handling in jewellery retail.
- To develop practical insights for designing consumer-focused marketing strategies in the gem and jewellery sector.

UNIT 1

12 Hrs.

Introduction to Consumer Behaviour

Meaning and definition of consumer behaviour, Nature, Scope, and Importance of Consumer Behaviour in Marketing, Relevance of consumer behaviour in the gem and jewellery industry, consumer as an individual, buyer, and decision-maker; differences between consumer goods and jewellery purchases; evolution of consumer behaviour as a field of study; interdisciplinary nature of consumer behaviour with reference to psychology, sociology, economics, anthropology, and marketing; consumer behaviour models and their application in jewellery marketing.

Consumer Behaviour in Gem and Jewellery Markets

Characteristics of jewellery consumers, Symbolic, Emotional, Aesthetic, And Investment-Oriented Purchases; differences in buying behaviour for gold, diamond, platinum, silver, imitation, and bridal jewellery; urban and rural consumer patterns; Branded vs Unbranded jewellery preferences; influence of occasion-based buying such as weddings, festivals, gifting, and investment purchases; contemporary trends in jewellery consumption.

UNIT 2

11 Hrs.

Psychological Factors in Consumer Behaviour

Consumer motivation, needs, wants, and desires in jewellery purchase; perception and perceptual process; factors influencing perception in jewellery marketing; attention, interest, and interpretation of product design, purity, certification, and price; learning and consumer experience; attitudes toward branded jewellery, hallmarked jewellery, and designer collections; beliefs and values; role of trust, quality assurance, emotional attachment, and self-expression in jewellery buying.

Personality, Lifestyle, and Self-Concept

Personality and its influence on jewellery preferences; lifestyle segmentation in luxury and fashion jewellery markets; self-image and symbolic consumption; role of status, identity, and aspiration in jewellery purchase; consumer involvement and risk perception in high-value purchases; impulse buying and planned purchases in jewellery retail; consumer confidence and purchase anxiety in premium jewellery categories.

UNIT 3

13 Hrs.

Social and Cultural Influences

Family influence and household decision-making in jewellery purchases; reference groups, opinion leaders, and word-of-mouth influence; social class and peer influence; cultural meanings of jewellery in Indian society; jewellery as tradition, identity, celebration, and asset; regional and community-based preferences; influence of religion, customs, and life events on jewellery buying; impact of celebrities, influencers, and digital communities on consumer choices.

Market Segmentation and Consumer Targeting: Bases of segmentation in gem and jewellery markets; demographic, geographic, psychographic, and behavioural segmentation; segmenting consumers by occasion, budget, style, and need; targeting bridal, festive, investment, and youth segments; positioning strategies for premium, fashion, and mass-market jewellery brands; customer personas and value propositions for different consumer groups; relevance of digital targeting and personalised marketing.

Consumer Decision-Making Process

Stages in the consumer buying process: problem recognition, information search, evaluation of alternatives, purchase decision, and post-purchase behaviour; high-involvement buying in jewellery; external and internal information sources; role of store ambience, salesperson interaction, try-on experience, and certification in decision-making; factors causing purchase delay, comparison, and brand switching; online research and offline purchase behaviour; omnichannel consumer journey in jewellery retail.

Customer Satisfaction, Loyalty, and Retail Strategy

Customer satisfaction in jewellery purchase; expectations and perceived value; service quality, complaint handling, and trust-building; loyalty programs and relationship marketing; repeat purchase and referrals; after-sales service, exchange, buy-back, and repair policies; ethical marketing, transparency, and consumer protection; using consumer insights to improve product design, store experience, pricing, and communication.

Formative Assessment for Theory	
Assessment Occasion/Type	Marks
One Internal Test	05 Marks
Activity	05 Marks
Total	10 Marks
Formative Assessment as per UNIVERSITY Guidelines are Compulsory	

Reference Books:

1. Schiffman, L. G., & Wisenblit, J. Consumer Behaviour (latest edition: 12th ed., 2019)
2. Solomon, M. R. Consumer Behavior: Buying, Having, and Being (latest edition: 14th ed., 2023)
3. Peter, J. P., & Olson, J. C. Consumer Behavior and Marketing Strategy (latest edition: 9th ed., 2009)
4. Mothersbaugh, David L., Hawkins, Delbert I., & Kleiser, Susan Bardi. Consumer Behavior: Building Marketing Strategy (latest edition: 15th ed., 2024).
5. Hoyer, Wayne D., MacInnis, Deborah J., & Pieters, Rik. Consumer Behavior (latest edition: 8th ed., 2024)
6. Relevant industry readings on jewellery consumer psychology and buying behaviour.

SEP Syllabus for B.Sc. II Semester in Gems & Jewellery GJD 2.4 P

Jewellery Manufacturing level -1 – Practical

Course Title	Jewellery Manufacturing level -1 (Practical)	Practical Credits	02
Course Code	GJD 2.4 P	Contact Hrs.	03 Hrs.
Formative Assessment Marks	10 Marks	Summative Assessment Marks	40

List of Practicals:

1. Introduction to Manufacturing tools.
2. Sawing techniques, Using Brass (straight and curved cutting and making joints).
3. Filing: Shaping & filing the metal products as per the design.
4. Doming of metals: Applications in Jewellery
5. Rolling Machine techniques: Wire drawing, Drawing flat strips, process and practice
6. Soldering techniques: Using different types of Soldering (basic joints).
7. Polishing: Metal
8. Filigree: Wire making and basic filigree practice. Creating different motifs using wire and filigree forms.
9. Metal finishing: Mirror Polish, Brushed Finish, Matte Finish, Satin Finish, Textured Finishes.

Formative Assessment for Practical	
Assessment Occasion/Type	Marks
One Internal Test	05 Marks
Activity	05 Marks
Total	10 Marks
Formative Assessment as per UNIVERSITY Guidelines are Compulsory	

Reference Books:

1. Jewelry Concepts and Technology by Untracht, Oppi. (First published 1982,)
2. The Complete Jewelry Making Course by McGrath, Jinks. (latest edition: 2007)
3. Professional Jewelry Making by Revere, Alan. (Latest edition 2011).