9

9

# **COURSE OBJECTIVES:**

To introduce the students about properties of the fluids, behavior of fluids under static

- 1. Conditions.
- 2 To impart basic knowledge of the dynamics of fluids and boundary layer concept.

To expose to the applications of the conservation laws to a) flow measurements

- 3. b) Flow through pipes (both laminar and turbulent) and c) forces on pipe bends.
- To exposure to the significance of boundary layer theory and its thicknesses.

To expose the students to basic principles of working of hydraulic machineries and to

- 5. design Pelton wheel, Francis and Kaplan turbine, centrifugal and reciprocating pumps.
  - To introduce students to advanced and interdisciplinary developments in fluid
- 6. mechanics, including smart fluids, AI enabling them to explore innovative engineering solutions and cutting-edge research in the field.

# UNIT - 1 BASIC CONCEPTS, PROPERTIES OF FLUIDS AND FLOW CHARACTERISTICS

**Applications:** Design of dam, Oil exploration, Lubricants in machinery, Capillary action in small tubes, Gas compression in turbines and pneumatic systems, ships, Hydraulic lift systems in car garages and elevators, Ship and submarine.

Definition of fluid - Properties of fluids - Classification of fluids, Fluid statics - Pressure Measurements - Compressibility, Flow characteristics - Eulerian and Lagrangian approach - Pascal's law, Hydrostatic law, Pressure and its measurement: Manometers, Mechanical gauges, Hydrostatic forces on submerged surfaces, Buoyancy and Stability of floating – Applications.

#### UNIT - 2 FLOW THROUGH PIPES AND BOUNDARY LAYER

**Applications:** Distribution of water in municipal, Transportation of crude oil, natural gas, Designing duct systems for airflow in buildings, Aircraft, Marine, Blood flow

Reynold's Experiment - Laminar flow through circular conduits - friction factor - Moody diagram - Major and minor losses - Hydraulic and energy gradient lines - Pipes in series and parallel - Boundary layer concepts - Types of boundary layer thickness

#### UNIT - 3 DIMENSIONAL ANALYSIS AND MODEL STUDIES

Applications: Aerospace, chemical, Marine, Heat Transfer, Bio Medical

Fundamental dimensions - Dimensional homogeneity - Rayleigh's method and Buckingham Pi theorem - Dimensionless parameters - Similitude and model studies - Distorted and undistorted models.

#### UNIT - 4 TURBINES 9

**Applications**: Power generation, Industrial processing, Fertilizer, Locomotive

Impact of jets - Velocity triangles - Theory of roto dynamic machines - Classification of turbines - Working principles - Pelton wheel - Modern Francis turbine - Kaplan turbine - Work done -

Efficiencies – Draft tube - Specific speed - Performance curves for turbines - Governing of turbines.

UNIT - 5 PUMPS 9

Applications: Power generation, Industrial processing, Fertilizer, Waste water treatment.

Classification of pumps - Centrifugal pumps - Working principle - Heads and efficiencies—Velocity triangles - Work done by the impeller - Performance curves - Reciprocating pump working principle - Indicator diagram and it's variations - Work saved by fitting air vessels - Rotary pumps.

#### UNIT - 6 BUSINESS STATISTICS AND CURRENT TRENDS

Market size and growth of pumps and hydraulic turbines, Applications in bioengineering, industrial processes, and polymer flows. High-efficiency pumps, Hydrokinetic turbines, wind-aided fluid systems, and solar thermal fluid mechanics.

**TOTAL: 50 PERIODS** 

5

#### **OUTCOMES:**

At the end of the course the students would be able to

- Understand the properties and behavior of fluids at rest, along with conservation laws and their 1. applications in fluid kinematics and dynamics.
- Analyze pipeline losses in laminar and turbulent flow, evaluate the losses in series and parallel pipe systems, and understand boundary layer concepts and thickness on flat surfaces.
- Establish relationships between fluid parameters and predict prototype performance using model 3. studies.
- Apply fluid mechanics to bioengineering, industry, and renewable energy systems like pumps, 4. turbines, and solar thermal flows.
- Explain the working principles of centrifugal, reciprocating and rotary pumps and design the centrifugal and reciprocating pumps
- Explore emerging trends in fluid mechanics, including smart fluids, AI applications, 6. micro fluidics, renewable energy applications, and bio-inspired fluid dynamics.

#### **TEXT BOOKS:**

Modi P.N. and Seth, S.M. Hydraulics and Fluid Mechanics, Standard Book House, New

- Delhi, 22nd edition (2019)
  - Jain A. K. Fluid Mechanics including Hydraulic Machines, Khanna Publishers, New
- 2. Delhi, 2014.

- Kumar K. L., Engineering Fluid Mechanics, Eurasia Publishing House(p) Ltd.
- 3. NewDelhi, 2016.
- 4 Yunus A. Cengel, Fluid Mechanics Fundamentals and Applications, McGraw Hil
- 5 R.K. Bansal, Fluid Mechanics and Hydraulic Machines, Laxmi Publications

#### **REFERENCES:**

- 1. Fox W.R. and McDonald A.T., Introduction to Fluid Mechanics John-Wiley and Sons, Singapore, 2011.
- 2. Pani B S, Fluid Mechanics: A Concise Introduction, Prentice Hall of India Private Ltd, 2016.
- 3. Cengel Y A and Cimbala J M, Fluid Mechanics, McGraw Hill Education Pvt. Ltd., 2014.
- 4. S K Som; Gautam Biswas and S Chakraborty, Introduction to Fluid Mechanics and Fluid Machines, Tata McGraw Hill Education Pvt. Ltd., 2012.
- 5. Streeter, V. L. and Wylie E. B., Fluid Mechanics, McGraw Hill Publishing Co., 2010
- 6. Robert W. Fox & Alan T. McDonald, Introduction to Fluid Mechanics, Wiley

#### CO – PO MAPPING

СО		PO													
CO	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	3	2	1	2	1	-	-	-	ı	-	-	2	3	3	3
2	3	3	3	2	3	-	-	-	-	-	-	2	2	2	2
3	3	3	3	3	3	-	-	-	-	-	-	2	2	2	2
4	3	3	2	3	3	2	3	-	-	2	-	2	2	2	3
5	3	3	2	3	2	-	-	-	-	-	2	2	2	2	3
6	3	3	3	3	3	3	3	-	-	3	2	3	3	3	3
				LC	W (1)	; M	EDIU	M(2);	HIC	GH (3	)				

#### **Annexure-III**

#### MANUFACTURING TECHNOLOGY – II

Subject Code XXXX

(B.E. Mechanical Engineering)

L T P C

#### **COURSE OBJECTIVES:**

- 1. To understand the concept and basic mechanics of metal cutting.
- 2. To learn working of standard machine.
- 3. To learn working of lathe, shaping and allied machines, milling, drilling.
- 4. To learn the working. Allied machines, grinding and allied machines and broaching.
- 5. To understand the basic concepts of Computer Numerical Control (CNC) of machine tools and CNC Programming
- 6. To study of recent trends in manufacturing processes and case studies.

#### UNIT - 1 THEORY OF METAL CUTTING

9

**Applications:** Tool Design, maximizing material removal rate, cutting forces, surface roughness, tool life.

Mechanics of chip formation, single point cutting tool, forces in machining, Types of chip, cutting tools—nomenclature, orthogonal metal cutting, thermal aspects, cutting tool materials, tool wear, Tool life, surface finish, cutting fluids and Machinability.

# UNIT - 2 TURNING MACHINES

9

**Applications:** Manufacturing engine crankshafts, threaded pipe fittings, and tapered roller bearings, drilled holes in engine blocks.

Centre lathe, constructional features, specification, operations – taper turning methods, thread cutting methods, special attachments, machining time and power estimation. Capstan and turret lathes- tool layout – automatic lathes: semi-automatic – single spindle: Swiss type, automatic screw type – multi spindle:

# UNIT - 3 SHAPER, MILLING AND GEAR CUTTING MACHINES

9

Applications: Engine blocks, gearboxes, and cylinder heads, aircraft parts, robotics movements.

Shaper - Types of operations. Drilling, reaming, boring, And Tapping. Milling operations-types of milling cutter. Gear cutting – forming and generation principle and construction of gear milling hobbing and gear shaping processes –finishing of gears.

#### UNIT - 4 ABRASIVE PROCESS AND BROACHING

5

**Applications:** Engine components, bearings, and gears box,

Abrasive processes: grinding wheel – specifications and selection, types of grinding process—cylindrical grinding, surface grinding, centerless grinding and internal grinding- Typical applications – concepts of surface integrity, broaching machines: broach construction – push, pull, surface and continuous broaching machines

#### UNIT - 5 CNC MACHINING

**Applications:** Producing aerospace components like engine mounts and satellite parts, cylinder heads, and transmission parts.

Numerical Control (NC) machine tools – CNC types, constructional details, special features, machining centre, and part programming fundamentals CNC – manual part programming – micromachining – wafer machining.

#### UNIT - 6 RECENT TRENDS IN MANUFACTURING PROCESSES

Introduction to Business Statistics - Robotics and Automation Internet of Things (IoT) - Manufacturers - Market size - Dynamic components - Price differences in dynamic components - Indian government initiatives.

**TOTAL: 45 PERIODS** 

#### **OUTCOMES:**

At the end of the course the students would be able to

- 1. Explain the mechanism of material removal processes.
- 2. Describe the constructional and operational features of center lathe and other special purpose lathes.
- 3. Describe the constructional and operational features of machines.
- 4. Explain the types of finishing processes apart from gear manufacturing processes
- 5. Summarize numerical control of machine tools and write a part program.
- 6. Apply suitable molding Recent Trends technique for manufacturing process.

#### **TEXT BOOKS:**

- 1. P Hajra Choudhury, "Elements of Workshop Technology", Vol.II., Media Promoters 2014
- 2. Rao. P.N "Manufacturing Technology Metal Cutting and Machine Tools", 3 rd Edition, Tata McGraw-Hill, New Delhi, 2013.
- 3. Dr. Vijayaraghavan, G.K, Manufacturing processes. .Lakshmi publication Education 11th edition, 2025.

# **REFERENCES:**

- 1. Roy. A. Lindberg, Processes and materials of manufacture, PHI / Pearson education, 2006.
- 2. Sharma, P.C., A Text book of production Technology, S.Chand and Co. Ltd., 2004
- 3. The International Journal of Advanced Manufacturing 2024

7

6

COs					PROGRAM SPECIFIC OUTCOMES (PSOs)										
	PO1	PO2	PO3	PO4	PO5	PO6	PO 7	PO 8	PO 9	PO 10	PO11	PO1 2	PSO 1	PSO 2	PSO3
CO1	3	2	-	-	-	-	-	-	-	-	-	-	3		2
CO2	3	2	2	-	-	-	-	-	-	-	-	-	2	2	2
CO3	3	2	2	-	-	-	-	-	-	-	-	-	2	2	2
CO4	3	2	2	-	-	-	-	-	-	-	-	-	2	2	2
CO5	3	2	2	-	3	-	-	-	-	-	-	-	3	3	2
CO6	2	2	-	2	2	2	2	1	2	2	2	2	2	3	2

#### **COURSE OBJECTIVES:**

- ✓ To gain practical experience in handling 2D drafting and 3Dmodelling software systems
  - Designing 3 Dimensional geometric model of parts, sub-assemblies, assemblies and
- exporting it todrawing
  - Programming G & M Code programming and simulate the CNC program and
- Generating partprogramming data through CAM software

#### 3D GEOMETRIC MODELLING

**30** 

**CAD** Introduction

Sketch:

Solid modeling: Extrude, Revolve, Sweep, Variational sweep and Loft.

1. Surface modeling: Extrude, Sweep, Trim, Mesh of curves and Free form.

Feature manipulation: Copy, Edit, Pattern, Suppress, History operations.

Assembly: Constraints, Exploded Views, Interference check

Drafting: Layouts, Standard & Sectional Views, Detailing & Plotting

Creation of 3D assembly model of following machine elements using 3D Modelling software

- 1. Flange Coupling
- 2. Screw Jack
- 3. Lathe Tailstock
- 4. Universal Joint
- 2. 5. Crosshead
  - 6. Safety Valves
  - 7. Non-return valves
  - 8. Connecting rod
  - 9. Piston
  - 10. Crankshaft

Students may also be trained in manual drawing of some of the above components (specify the number –progressive arrangement of 3D)

#### MANUAL PART PROGRAMMING

#### **CNC Machining Centre**

- i) Linear Cutting.
- ii) Circular cutting.
  - iii) Cutter Radius Compensation.
  - iv) Canned Cycle Operations.

## **CNC Turning Centre**

- ii) Straight, Taper and Radial Turning.
- 2. iii) Thread Cutting.
  - iv) Rough and Finish Turning Cycle.
  - v) Drilling and Tapping Cycle.

#### COMPUTER AIDED PART PROGRAMMING

- 3. v) Generate CL Data and Post process data using CAM packages for Machining and Turning Centre.
  - vi) Application of CAPP in Machining and Turning

**TOTAL: 60 PERIODS** 

#### **OUTCOMES:**

1.

At the end of the course the students is expected to be able to

- 1. Design experience in handling 2D drafting and 3D modelling software systems
  - Design 3 Dimensional geometric model of parts, sub-assemblies, assemblies and export
- 2. it todrawing
  - Demonstrate manual part programming and simulate the CNC program and Generate
- <sup>3</sup>. part programming using G and M code through CAM software.

## CO - PO MAPPING

						P	0						PSO			
CO	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
1	2	2	2	2	3	-	-	-	-	2	-	2	1	3	2	
2	2	2	2	2	3	-	-	-	-	2	-	2	1	3	2	
3	3	2	2	3	3	-	-	-	2	3	2	2	1	3	3	
	Low (1); Medium (2); High (3)															

# XXXXX STRENGTH OF MATERIALS FOR MECHANICAL (Sub Code) ENGINEERING

L T P C 3 0 1 3

#### **COURSE OBJECTIVES:**

- To understand the concepts of stress, strain, principal stresses and principal planes.
  - To study the concept of shearing force and bending moment due to external loads in
- 2. determinate beams and their effect on stresses.
- 3. To determine stresses and deformation in circulars hafts and helical spring due to torsion.
  - To compute slopes and deflections in beams by various methods and effective length of
- 4. columns.
- 5 To study the stresses and deformations induced in thin and thick cylinders.
  - To learn to find material strength using modern methods like strain gauges, fiber optic sensors,
- 6. nano-indentation, impact tests, and acoustic emission monitoring while understanding market trends in material applications.

#### UNIT - 1 STRESS, STRAIN AND DEFORMATION OF SOLIDS

7

Applications: Principal stresses in pressure vessels, boilers and fasteners.

Rigid bodies and deformable solids - Tension, compression and shear stresses - Deformation of simple and compound bars - Elastic constants - Volumertric strains - Stresses on inclined planes - Principal stresses and principal planes.

# UNIT - 2 TRANSVERSELOADINGONBEAMSANDSTRESSESINBEAM 8

Applications: Transverse loading on beams in machine frames, supports, automotive chassis, aircraft wings.

Types - Transverse loading on beams - Shear force and bending moment in beams - Cantilever, simply supported and over hanging beams.

# UNIT - 3 TORSION AND SPRING

8

**Applications:** Torsion and spring in suspension systems, doors and hatches, engines, pumps, turbines, and gear systems.

Stresses and deformations in solid and hollow circular shafts-Combined bending moment and torsion of shafts – Power transmitted to shaft - Shaft in series and parallel -Closed and open coiled helical springs.

#### UNIT - 4 DEFLECTION OF BEAMS AND COLUMNS

**Applications:** Columns in universal testing machines, chimneys, wind turbine, milling machines, cranes, rocket launch supports.

Double integration method - Macaulay's method for computation of slope and deflection of beams - Expression for effective length and crippling load with different end conditions of column.

#### UNIT - 5 THIN CYLINDERS AND THICK CYLINDERS

7

**Applications:** Thin and thick cylinders in aircraft fuel tanks, steam lines, tires and tubes, car exhaust systems, submarine hulls.

Stresses in thin cylindrical shell due to internal pressure - Circumferential and longitudinal stresses - Deformation in thin cylinders - Deformation in Thick cylinders.

#### UNIT - 6 BUSINESS STATISTICS AND CURRENT TRENDS

8

Market trends in material applications, Strain Gauges & Fiber Optic Sensors - Measure stress and deformation in real-time. Nano-Indentation Testing - Measures micro and nano-scale hardness and strength of advanced materials. High-Speed Impact Testing - Used for automotive crash simulations and aerospace materials to analyze material response under sudden loads. Acoustic Emission Monitoring - Detects early-stage material failure through sound wave analysis.

**TOTAL: 45 PERIODS** 

#### **OUTCOMES:**

At the end of the course the students would be able to

Discuss the concepts of stress and strain in simple and compound bars, the importance of

- 1. principal stresses and principal planes.
  - Identify the load transferring mechanism in beams and stress distribution due to shearing
- 2. force and bending moment.
- 2 Calculate basic equation of torsion in designing of shafts and helical springs.
  - Determine slope and deflection in beams using different methods. Determine slope and
- 4. deflection in beams using different methods.
- 5 Estimate internal and external pressures for thin, thick cylinder shells.
  - Understand material strength testing using modern methods like strain gauges, fiber optic
- 6. sensors, nano-indentation, impact testing, and acoustic emission monitoring, along with market trends in material applications

#### **TEXT BOOKS:**

Rajput.R.K, "Strength of Materials (Mechanics of Solids)", S.Chand& company Ltd.,

- 1. NewDelhi, 7th edition, 2023.
- 2. Bansal.R.K,"StrengthofMaterials",LaxmiPublications(P) Ltd.,2022.
- 3. Rattan.S.S, "StrengthofMaterials", TataMcGrawHillEducationPvt.Ltd., NewDelhi, 2023.

#### **REFERENCES:**

- Singh.D.K., "StrengthofMaterials", AneBooksPvtLtd., NewDelhi, 2021.
- 2. Hibbeler.R.C., "MechanicsofMaterials", PearsonEducation, LowPriceEdition, 2023.

Subramanian.R., "Strength of Materials", Oxford University Press, Oxford Higher

- 3. Education Series,2020
  - https://www.ey.com/en\_in/insights/industrial-products/emergence-of-advanced-materials-
- across-key-manufacturing-sectors-in-india
- 5. www.ibef.org

# **CO – PO MAPPING**

СО	PO													PSO				
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3			
CO1	3	3	2	2	1	1	ı	1	1	-	-	1	3	2	2			
CO <sub>2</sub>	3	3	2	2	2	-	-	1	-	-	-	1	3	2	2			
CO3	3	3	2	2	2	-	-	-	-	-	-	1	3	2	2			
CO4	3	3	3	2	2	-	-	-	-	-	-	1	3	2	3			
CO5	3	3	2	2	2	-	1	-	-	-	-	1	3	2	3			
CO6	2	2	3	2	3	2	2	-	1	1	2	3	2	3	3			
	LOW (1); MEDIUM (2); HIGH (3)																	

XXXXX (Lab Code)

# STRENGTH OF MATERIALS AND FLUID MACHINERY LABORATORY

L T P C 0 0 4 2

(B.E. Mechanical Engineering Programme)

#### **COURSE OBJECTIVES:**

- ✓ To study the mechanical properties of metals, wood and spring by testing in laboratory.
- ✓ To study the Pumps and Turbine theory by performing experiments in laboratory.
- To verify the principles studied in fluid mechanics and machinery theory by performing experiments in laboratory

#### LIST OF EXPERIMENTS:

45

- 1. Tension test on mild steel rod
- 2. Impact test (Izod or Charpy)
- 3. Rockwell Hardness test on metal
- 4. Brinell Hardness test on metal
- 5. Compression test on helical spring
- 6. Determination of coefficient of discharge of a venturi meter
- 7. Determination of coefficient of discharge of a orifice meter
- 8. Characteristics of centrifugal pumps
- 9. Characteristics of reciprocating pump
- 10. Characteristics of submerged pumps
- 11. Characteristics of Pelton wheel turbine
- 12. Characteristics of Kaplan turbine

**TOTAL: 45 PERIODS** 

#### **OUTCOMES:**

At the end of the course the students is expected to be able to

- 1. Determine the tensile and hardness properties of metals by testing
- 2. Determine the stiffness properties of helical

- 3. Apply the conservation laws to determine the coefficient of discharge of a venturimeter
- 4. Determine the performance characteristics of pump
- 5. Determine the performance characteristics of turbine

# CO – PO MAPPING

СО						P(	)						PSO			
CO	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
1	3	2	1	3	3	1	1	1	3	1	1	3	1	1	2	
2	3	1	1	2	2	2	1	2	3	2	1	3	1	1	3	
3	2	1	3	3	1	1	1	3	1	1	3	2	1	1	3	
4	3	2	1	3	3	3	2	3	2	1	1	3	1	1	2	
5	3	2	3	2	3	2	2	3	2	1	1	3	2	2	2	
	LOW (1); MEDIUM (2); HIGH (3)															

# (XXXXX) Subject Code LIFE SKILL IV – PUBLIC SPEAKING PRACTICES 2 0 0 1

# **COURSE OBJECTIVES:**

- To develop proficiency in public speaking, including its history, significance, and benefits. (C 18)
- $\checkmark$  To explore the history and evolution of public speaking. (C 19)
- ✓ To engage with the audience, especially in high-pressure situations like press meets.
- To apply structured debate formats to evaluate arguments critically and develop reasoning skills.
- To synthesize and articulate ideas effectively by engaging in complex and abstract discussions
- To demonstrate public speaking skills in real-world contexts by presenting on topics related to education, history, entertainment, and current affairs.

#### UNIT - I BASICS OF PUBLIC SPEAKING

2

History of public speaking – benefits

**Practice**: Effective practices for public speaking-Public speaking topics

#### UNIT - II LISTENING TO FAMOUS SPEECHES

2

TED talks – presentations, Josh talks (C 20)

**Practice**: Key elements of TED talk presentations - prioritize simplicity in visuals and strong stage presence

# UNIT - III RESPONDING AND TACKLING THE QUESTIONS

2

Facing the audience (Press meet)

**Practice**: Engaging with the audience in a press meet – Handling Challenging questions (C21)

#### UNIT - IV GROUP DEBATE

2

Dos and Don'ts of group debate – Practicing various types of debate format (C 22)

Practice: Structuring a debate session - Focusing on moral reasoning (C 23)

#### UNIT - V GROUP DISCUSSION LEVEL 2

2

Engaging in discussions on complex and contemporary topics (C 24)

**Practice**: Argument structure & logical flow

#### UNIT - VI PUBLIC SPEAKING PRACTICES

2

Topics in Education, History, Entertainment, Current affairs

Practice: Content, delivery, engagement, and overall effectiveness

#### **TOTAL: 12 PERIODS**

#### **OUTCOMES:**

At the end of the course the students would be able to

- 1. Initiate and manage professional conversations with correct greetings and courtesies.
- 2. Demonstrate proficiency in asking clear and appropriate questions in professional and technical conversations.
- 3. Adjust their tone and intonation based on the context of the conversation.
- 4. Demonstrate confidence in handling one-on-one interviews and personal conversations through effective communication strategies.
- 5. Students will be able to formulate and ask open-ended brainstorming questions.
- 6. Understand the importance and purpose of group discussions in professional and academic settings.

#### **REFERENCES:**

- 1. "Advanced Communication Skills" by Mathew Richardson, Charlie Creative Lab, 2020
- 2. Andy Gillett, Using English for Academic purposes for students in higher Education. https://www.uefap.org/reading/
- Meenakshi Raman & Sangeeta Sharma (2017). Technical Communication: Principles
- 3. and Practice (3rd Edition). Oxford University Press, India.
  - Rajendra Pal & J.S. Korlahalli (2011). Essentials of Business Communication. Sultan
- 4. Chand & Sons, New Delhi.

# CO - PO MAPPING

СО	PO	PO													
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	-	-	-	-	-	-	-	-	3	3	-	3	-	-	-
2	-	-	-	-	-	-	-	-	3	3	-	3	-	-	-
3	-	-	-	-	-	-	-	-	3	3	-	3	-	-	-
4	-	-	-	-	-	-	-	-	3	3	-	3	-	-	-
5	-	-	-	-	-	-	-	-	3	3	-	3	-	-	-
LOW	V(1);	ME	DIUM	I(2);	HIG	H (3)	•	•	•	•	•	•	•	•	•

(XXXXX) HOLISTIC PERSONALITY DEVELOPMENT AND L T P C
Subject
Code
BEHAVIORAL SKILLS
2 0 0 1

#### **COURSE OBJECTIVES:**

- ✓ To enable students to gain a comprehensive understanding of the self and its key components, including self-identity, self-image, self-concept, and self-confidence.
- ✓ To provide insights into the nature and types of fear, emphasizing its impact on both personal and academic spheres.
- ✓ To equip students with effective tools and strategies to assess and enhance self-esteem, while fostering a growth mindset and cultivating a positive attitude.
- ✓ To introduce the concept and dimensions of Emotional Intelligence (EQ) and differentiate it from Intelligence Quotient (IQ) and Spiritual Quotient (SQ).
- ✓ To develop students' communication proficiency and impression management skills for fostering healthy interpersonal relationships.
- ✓ To strengthen students' interpersonal competence for success in both social and professional environments.

#### UNIT – I SELF AWARENESS

2

Understanding Self (Self-Identity, Self-Concept, Self-Confidence, Self-Image) Techniques of Self Awareness (Johari Window, Self-Characteristics, Stages of Self Awareness)

#### UNIT – II FEAR MANAGEMENT

2

Understanding Fear (e.g., fear of failure, public speaking, exams, job interviews) - The science behind fear (Fight or Flight response) - Changing negative thoughts into positive ones - Facing fears step by step

# UNIT - III SELF ESTEEM

2

Self Esteem & Effectiveness (Importance, High & Low Self-Esteem, Measurement, Steps to Improve) Adopting a growth mindset for continuous improvement. Building Positive Attitude (Types & Importance of Attitude)

# UNIT - IV EMOTIONAL INTELLIGENCE

2

Emotional Intelligence (Difference between IQ, EQ, and SQ) Managing Emotions & Building Emotional Competence - Power of Now

#### UNIT – V RELATIONSHIP MANAGEMENT

2

Understanding Relationships (Roles, Healthy Relationships) - Bridging Individual Differences (TA & Communication Styles) - Impression Management

#### UNIT - VI INTERPERSONAL RELATIONSHIP

2

Interpersonal Relationship Development (Skills & Types) - Theories of Interpersonal Relationships (Social Exchange, Uncertainty Reduction) - Building Interpersonal Competence.

**TOTAL: 12 PERIODS** 

#### **COURSE OUTCOMES:**

- 1. Students will be able to identify and analyze their self-concept, self-image, and self-confidence, while recognizing their individual strengths and areas for improvement.
- Students will demonstrate an understanding of the biological and psychological foundations of fear and apply techniques to transform negative thought patterns into positive affirmations.
- 3. Students will implement evidence-based strategies to enhance self-esteem and adopt a growth-oriented approach to personal and professional development.
- 4. Students will effectively regulate and manage emotions by applying practical Emotional Intelligence (EQ) frameworks.
- 5. Students will articulate various roles within relationships, identify traits of healthy relationships, and utilize communication skills to foster meaningful connections.
- 6. Students will examine the development, theoretical foundations, and essential skills required for cultivating effective interpersonal relationships.

#### **TEXT BOOKS:**

- 1. "Emotional Intelligence: Why It Can Matter More Than IQ" by Goleman and Daniel, 10th Anniversary Edition 2006, Bantam Books.
- 2. "The 7 Habits of Highly Effective People" by Covey and Stephen R, 30th Anniversary Edition 2020, Simon & Schuster Publisher.
- 3. "Personality Development and Soft Skills" by Mitra, Barun K, 2nd Edition 2011, Oxford University Press.
- 4. "You Can Win: A Step by Step Tool for Top Achievers" by Khera, Shiv, Revised and Updated Edition 2014, Bloomsbury India Publisher.

#### **REFERENCE BOOKS:**

- 1. "You Can Win: A Step by Step Tool for Top Achievers" by Khera, Shiv, Revised and Updated Edition 2018, Bloomsbury India Publisher.
- 2. "Personality Development and Soft Skills" by Mitra, Barun K, 2nd Edition 2016, Oxford University Press.
- 3. "The 7 Habits of Highly Effective People: Powerful Lessons in Personal Change" by Covey and Stephen R, 30th Anniversary Edition 2020.
- 4. "Emotional Intelligence: Why It Can Matter More Than IQ"by Goleman, Daniel, 10th Anniversary Edition 2006.