DIPLOMA WING

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA,BHOPAL

SCHEME OF STUDIES & EXAMINATIONS (IMPLEMENTED FROM SESSION : JULY 2023)

SCHEME	NAME OF BRANCH	BRANCH CODE	SEMESTER
OCBC JULY 2022/2023	MECHANICAL ENGINEERING	M02	SIXTH (VI)

S.N.	PAPER CODE	SUBJECT CODE	SUBJECT NAME	THEORY COMPONENT								PRACTICAL COMPONENT					TOTAL CREDITS	TOTAL MARKS
				HRS PER WEEK	CREDITS	TERM WORK			THEORY PAPER			HRS PER WEEK	CREDITS	LAB WORK	PRACTICAL EXAM/VIVA			
						QUIZ/ASSIGNMENT	MID TERM TEST*		TOTAL	MARKS	DURATION				MARKS	DURATION		
							I	II										
1	7386	601	ENTREPRENEURSHIP AND START-UPS	4	4	10	10	10	30	70	03 Hrs.	0	0	0	0	0	4	100
2	7420	602	DESIGN OF MACHINE ELEMENTS	5	5	10	10	10	30	70	03 Hrs.	0	0	0	0	0	5	100
3	7421	603	PRODUCTION AND OPERATIONS MANAGEMENT	5	5	10	10	10	30	70	03 Hrs.	0	0	0	0	0	5	100
4	7603	611	DISASTER MANAGEMENT OR	3	3	10	10	10	30	70	03 Hrs.	0	0	0	0	0	3	100
	7604	612	PROJECT MANAGEMENT															
5	7605	621	ARTIFICIAL INTELLIGENCE OR	3	3	10	10	10	30	70	03 Hrs.	0	0	0	0	0	3	100
	7606	622	ENGINEERING ECONOMICS AND ACCOUNTANCY															
6			INDIAN CONSTITUTION	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7			MAJOR PROJECT **	0	0	0	0	0	0	0	0	6	4	100	50	03 Hrs.	4	150
8			SEMINAR***	3	1	50	0	0	50	0	0	0	0	0	0	0	1	50
9			LIBERARY/VISITS etc.	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
TOTAL				25	21				200	350		11	4	100	50		25	700

NOTE - (1)* Two Best, out of Three Mid Term Tests (Progressive Tests) Marks should be entered here.

(2)** One Credit is carried forward from the Vth semester major project evaluation.

(3)*** One Hour Time duration for each student.

GRAND TOTAL OF CREDITS	GRAND TOTAL OF MARKS
25	700

DIPLOMA WING
RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL
DIPLOMA IN MECHANICAL ENGINEERING (M02)

SEMESTER VI

COURSE TITLE	:	ENTREPRENEURSHIP AND START-UPS
PAPER CODE	:	7386
SUBJECT CODE	:	601
TREORY CREDITS	:	04
PRACTICAL CREDITS	:	00

Course Learning Objectives:

1. Acquiring Entrepreneurial spirit and resourcefulness.
2. Familiarization with various uses of human resource for earning dignified means of living.
3. Understanding the concept and process of entrepreneurship - its contribution and role in the growth and development of individual and the nation.
4. Acquiring entrepreneurial quality, competency, and motivation.
5. Learning the process and skills of creation and management of entrepreneurial venture.

Course Content:

Unit 1 - Introduction to Entrepreneurship and Start – Ups

- Definitions, Traits of an entrepreneur, Intrapreneurship, Motivation
- Types of Business Structures, Similarities/differences between entrepreneurs and managers.

Unit 2 – Business Ideas and their implementation

- Discovering ideas and visualizing the business
- Activity map
- Business Plan

Unit 3 – Idea to Start-up

- Market Analysis – Identifying the target market,
- Competition evaluation and Strategy Development,
- Marketing and accounting,
- Risk analysis

Unit 4 – Management

- Company's Organization Structure,
- Recruitment and management of talent.
- Financial organization and management

Unit 5 - Financing and Protection of Ideas

- Financing methods available for start-ups in India
- Communication of Ideas to potential investors – Investor Pitch
- Patenting and Licenses

Unit 6: Exit strategies for entrepreneurs, bankruptcy, and succession and harvesting strategy

Learning Outcome:

Upon completion of the course, the student will be able to demonstrate knowledge of the following topics:

1. Understanding the dynamic role of entrepreneurship and small businesses
2. Organizing and Managing a Small Business
3. Financial Planning and Control
4. Forms of Ownership for Small Business
5. Strategic Marketing Planning
6. New Product or Service Development
7. Business Plan Creation

SUGGESTED LEARNING RESOURCES:

S. No.	Title of Book	Author	Publication
1.	The Startup Owner's Manual: The Step-by-Step Guide for Building a Great Company	Steve Blank and Bob Dorf	K & S Ranch ISBN – 978-0984999392
2.	The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses	Eric Ries	Penguin UK ISBN – 978-0670921607
3.	Demand: Creating What People Love Before They Know They Want It	Adrian J. Slywotzky with Karl Weber	Headline Book Publishing ISBN – 978-0755388974
4.	The Innovator's Dilemma: The Revolutionary Book That Will Change the Way You Do Business	Clayton M. Christensen	Harvard business ISBN: 978-142219602

SUGGESTED SOFTWARE/LEARNING WEBSITES:

a. https://www.fundable.com/learn/resources/guides/startup

b. https://corporatefinanceinstitute.com/resources/knowledge/finance/corporate-structure/

c. https://www.finder.com/small-business-finance-tips

d. https://www.profitbooks.net/funding-options-to-raise-startup-capital-for-your-business/

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DIPLOMA IN MECHANICAL ENGINEERING (M02)

SEMESTER VI

COURSE TITLE	:	DESIGN OF MACHINE ELEMENTS
PAPER CODE	:	7420
SUBJECT CODE	:	602
TREORY CREDITS	:	05
PRACTICAL CREDITS	:	00

Course Objectives:

- To enable the student to design and draw simple machine components used in small and medium scale industries.
- To understand the basic philosophy and fundamentals of Machine Design.
- To understand the modes of failures of m/c components and decide the design criteria and equations.
- To analyze and evaluate the loads, forces, stresses involved in components and subassemblies and decide the dimensions.
- To develop analytical abilities to give solutions to engineering design problems.

Course Content:

UNIT-I: Introduction to Design: Machine Design philosophy and Procedures; General Considerations in Machine Design; Fundamentals: Types of loads, concepts of stress, Strain, Stress – Strain Diagram for Ductile and Brittle Materials, Types of Stresses; Bearing pressure Intensity; Crushing; Bending and Torsion; Principal Stresses; Simple Numericals; Creep strain and Creep Curve; Fatigue; S-N curve; Endurance Limit; Factor of Safety and Factors governing selection of factor of Safety; Stress Concentration: Causes & Remedies; Converting actual load or torque into design load or torque using design factors like velocity factor, factor of safety & service factor; Properties of Engineering materials; Designation of materials as per IS and introduction to International standards & advantages of standardization; Use of design data book; Use of standards in design and preferred numbers series; Theories of Elastic Failures; Principal normal stress theory; Maximum shear stress theory & Maximum distortion energy theory.

UNIT-II: Design of simple machine parts: Cotter Joint; Knuckle Joint; Turnbuckle; Design of Levers: Hand/Foot Lever & Bell Crank Lever; Design of C–Clamp; Off-set links; Overhang Crank; Arm of Pulley.

Antifriction Bearings: Classification of Bearings; Sliding contact & Rolling contact; Terminology of Ball bearings: Life Load relationship, Basic static load rating and Basic dynamic load rating, limiting speed; Selection of ball bearings using manufacturer's catalogue.

UNIT-III: Design of Shafts, Keys, Couplings and Spur Gears: Types of Shafts; Shaft materials; Standard Sizes; Design of Shafts (Hollow and Solid) using strength and rigidity criteria; ASME code of design for line shafts supported between bearings with one or two pulleys in between or one overhung pulley; Design of Sunk Keys; Effect of Keyways on strength of shaft; Design of Couplings – Muff Coupling, Protected type Flange Coupling, Bush-pin type flexible coupling; Spur gear design considerations; Lewis equation for static beam strength of spur gear teeth; Power transmission capacity of spur gears in bending.

UNIT-IV: Design of Power Screws: Thread Profiles used for power Screws - Relative merits and demerits of each; Torque required to overcome thread friction; Self-locking and overhauling property;

Efficiency of power screws; Types of stresses induced; Design of Screw Jack; Toggle Jack.

Design of springs: Classification and Applications of Springs; Spring terminology; Materials and Specifications; Stresses in springs; Wahl's correction factor; Deflection of springs; Energy stored in springs; Design of Helical, Tension and Compression springs subjected to uniform applied loads like I.C. engine valves, Weighing balance, Railway buffers and Governor springs; Leaf springs: Construction and Application.

UNIT-V: Design of Fasteners: Stresses in Screwed fasteners; Bolts of Uniform Strength; Design of Bolted Joints subjected to eccentric loading; Design of Parallel and Transverse fillet welds; Axially loaded symmetrical section; Merits and demerits of screwed and welded joints.

Ergonomics & Aesthetic consideration in design: Ergonomics of Design: Man–Machine relationship; Design of Equipment for control, environment & safety; Aesthetic considerations regarding shape, size, color & surface finish.

Reference Books:

1. Machine Design – Sadhu Singh, Khanna Book Publishing Co., Delhi (ISBN: 978-9382609-575)
2. Machine Design Data Book – Sadhu Singh, Revised Edition, Khanna Book Publishing Co., Delhi (ISBN: 978-9382609-513)
3. Introduction to Machine Design – V.B.Bhandari, Tata Mc- Graw Hill, New Delhi.
4. Mechanical Engineering Design – Joseph Edward Shigley, Tata Mc- Graw Hill, New Delhi.
5. Machine design – Pandya & Shah, Dhanpat Rai & Son, New Delhi.
6. Machine design – R.K.Jain, Khanna Publication, New Delhi.
7. Design Data Book – PSG Coimbtore, PSG Coimbtore.
8. Hand Book of Properties of Engineering Materials & Design Data for Machine Elements – Abdulla Shariff, Dhanpat Rai & Sons, New Delhi.

Course outcomes:

At the end of the course, the student will be able to:

CO1	Analyze the various modes of failure of machine components under different load patterns.
CO2	Design and prepare part and assembly drawings.
CO3	Use design data books and different codes of design.
CO4	Select standard components with their specifications from manufacturer's catalogue.
CO5	Develop drawings on CAD software.

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DIPLOMA IN MECHANICAL ENGINEERING (M02)

SEMESTER VI

COURSE TITLE	:	PRODUCTION AND OPERATIONS MANAGEMENT
PAPER CODE	:	7421
SUBJECT CODE	:	603
TREORY CREDITS	:	05
PRACTICAL CREDITS	:	00

Course Objectives:

One of the most critical areas for success in any business enterprise is how Production and Operations are managed.

- To study the statistics, economics, finance, organizational behaviour and strategy into a consolidated production and operation related decisions.
- To discuss the role of location strategy and the criteria for location decisions.
- To define quality and explain quality management, including TQM and its tools.

Course Content:

UNIT-I: Process Planning and Process Engineering: Process Planning: Introduction, Function, Pre-requisites and steps in process planning, Factors affecting process planning, Make or buy decision, plant capacity and machine capacity. Process Engineering: Preliminary Part Print Analysis: Introduction, Establishing the General Characteristics of work piece, determining the principal Process, Functional surfaces of the work piece, Nature of the work to be Performed, Finishing and identifying operations. Dimensional Analysis: Introduction, types of dimensions, measuring the Geometry of form, Baselines, Direction of specific dimensions. Tolerance Analysis: Causes of work piece variation, Terms used in work piece dimensions, Tolerance stacks. Work piece Control: Introduction, Equilibrium Theories, Concept of location, Geometric Control, Dimensional control, Mechanical control.

UNIT-II: Production Forecasting: Introduction of production forecasting, The strategic role of forecasting in supply chain, Time frame, Demand behavior, Forecasting methods- Qualitative and Quantitative, Forecast accuracy.

Scheduling:

Introduction, Objectives in scheduling, Loading, Sequencing, Monitoring, Advanced Planning and Scheduling Systems, Theory of Constraints, Employee scheduling.

UNIT-III: Break-Even Analysis: Introduction, Break-even analysis charts, Breakeven analysis for process, plant and equipment selection.

Aggregate Operations Planning: Aggregate production planning, Adjusting capacity to meet the demand, Demand management, Hierarchical and collaborative planning, Aggregate planning for services.

UNIT-IV: Assembly Line Balancing: Assembly lines, Assembly line balancing, Splitting tasks, Flexible and U-shaped line layouts, Mixed model line balancing, Current thoughts on assembly lines, Computerized assembly line balancing.

UNIT-V: Material Management: Introduction, Importance and objectives, Purchasing and Stores: policies and procedures, Vendor development, selection, analysis and rating.

Reference Books:

1. Production and Operations Management – K.Aswathappa, K.Shridhara Bhat, Himalaya Publishing House, 2014.
2. Production and Operations Management – Shailendra Kale, McGraw Hill Educations(India) Private Limited,2013.
3. Production and Operations Management – R.Paneerselvam, PHI Learning Private Limited, 2013.
4. Operations Management – Joseph Monk, TMH Publishers, New Delhi, 2004.
5. Modern Production /Operations Management – Buffa Elwood S, John Wiley Publishers, Singapore, 2002.

Course outcomes:

At the end of the course, the student will be able to:

CO1	Define operations management and explain its relationship to productivity. And also understand tools and techniques.
CO2	Describe the importance of forecasting and explain the effective application of the different forecasting approaches and methods.
CO3	Explain layout strategy and how operations managers determine facility arrangements and size.
CO4	Describe how operations managers achieve a reasonable work environment and set expectations related to employee productivity.
CO5	Understand make-or-buy decisions, and the selection and integration of suppliers. And how much to order and when to order.

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DIPLOMA IN MECHANICAL ENGINEERING (M02)

SEMESTER VI

COURSE TITLE	:	DISASTER MANAGEMENT
PAPER CODE	:	7603
SUBJECT CODE	:	611
TREORY CREDITS	:	03
PRACTICAL CREDITS	:	00

Course Learning Objectives:

Following are the objectives of this course:

- To learn about various types of natural and man-made disasters.
- To know pre- and post-disaster management for some of the disasters.
- To know about various information and organisations in disaster management in India.
- To get exposed to technological tools and their role in disaster management.

Course Content:

Unit – I: Understanding Disaster

Understanding the Concepts and definitions of Disaster, Hazard, Vulnerability, Risk, Capacity – Disaster and Development, and disaster management.

Unit – II: Types, Trends, Causes, Consequences and Control of Disasters

Geological Disasters (earthquakes, landslides, tsunami, mining); Hydro-Meteorological Disasters (floods, cyclones, lightning, thunder-storms, hail storms, avalanches, droughts, cold and heat waves) Biological Disasters (epidemics, pest attacks, forest fire);

Technological Disasters (chemical, industrial, radiological, nuclear) and Manmade Disasters (building collapse, rural and urban fire, road and rail accidents, nuclear, radiological, chemicals and biological disasters) Global Disaster Trends – Emerging Risks of Disasters – Climate Change and Urban Disasters.

Unit- III: Disaster Management Cycle and Framework

Disaster Management Cycle – Paradigm Shift in Disaster Management.

Pre-Disaster – Risk Assessment and Analysis, Risk Mapping, zonation and Microzonation, Prevention and Mitigation of Disasters, Early Warning System; Preparedness, Capacity Development; Awareness.

During Disaster – Evacuation – Disaster Communication – Search and Rescue – Emergency Operation Centre – Incident Command System – Relief and Rehabilitation –

Post-disaster – Damage and Needs Assessment, Restoration of Critical Infrastructure – Early Recovery – Reconstruction and Redevelopment; IDNDR, Yokohama Stretegy, Hyogo Framework of Action.

Unit– IV: Disaster Management in India

Disaster Profile of India – Mega Disasters of India and Lessons Learnt.

Disaster Management Act 2005 – Institutional and Financial Mechanism,

National Policy on Disaster Management, National Guidelines and Plans on Disaster Management; Role of Government (local, state and national),Non-Government and Inter Governmental Agencies

Unit– V: Applications of Science and Technology for Disaster Management

Geo-informatics in Disaster Management (RS, GIS, GPS and RS).

Disaster Communication System (Early Warning and Its Dissemination).

Land Use Planning and Development Regulations, Disaster Safe Designs and Constructions, Structural and Non Structural Mitigation of Disasters

S&T Institutions for Disaster Management in India

References

1. Publications of National Disaster Management Authority (NDMA) on Various Templates and Guidelines for Disaster Management
2. Bhandani, R. K., An overview on natural & man-made disasters and their reduction, CSIR, New Delhi
3. Srivastava, H. N., and Gupta G. D., Management of Natural Disasters in developing countries, Daya Publishers, Delhi
4. Alexander, David, Natural Disasters, Kluwer Academic London
5. Ghosh, G. K., Disaster Management, A P H Publishing Corporation
6. Murthy, D. B. N., Disaster Management: Text & Case Studies, Deep & Deep Pvt. Ltd.

Course outcomes:

After competing this course, student will be:

- Acquainted with basic information on various types of disasters
- Knowing the precautions and awareness regarding various disasters
- Decide first action to be taken under various disasters
- Familiarised with organisation in India which are dealing with disasters
- Able to select IT tools to help in disaster management

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DIPLOMA IN MECHANICAL ENGINEERING (M02)

SEMESTER VI

COURSE TITLE	:	PROJECT MANAGEMENT
PAPER CODE	:	7604
SUBJECT CODE	:	612
TREORY CREDITS	:	03
PRACTICAL CREDITS	:	00

Course Learning Objectives:

- To develop the idea of project plan, from defining and confirming the project goals and objectives, identifying tasks and how goals will be achieved.
- To develop an understanding of key project management skills and strategies.

Course Content:

UNIT-I: Concept of a project: Classification of projects- importance of project management- The project life cycle- establishing project priorities (scope-cost-time)project priority matrix- work break down structure.

UNIT-II: Capital budgeting process: Planning- Analysis-Selection-Financing-Implementation-Review. Generation and screening of project ideas- market and demand analysis- Demand forecasting techniques. Market planning and marketing research process- Technical analysis

UNIT-III: Financial estimates and projections: Cost of projects-means of financing-estimates of sales and production-cost of production-working capital requirement and its financing-profitability projected cash flow statement and balance sheet. Break even analysis.

UNIT-IV: Basic techniques in capital budgeting: Non discounting and discounting methods- pay-back period- Accounting rate of return-net present value-Benefit cost ratio-internal rate of return. Project risk. Social cost benefit analysis and economic rate of return. Non-financial justification of projects**.**

UNIT-V: Project administration: progress payments, expenditure planning, project scheduling and network planning, use of Critical Path Method (CPM), schedule of payments and physical progress, time-cost trade off.

Concepts and uses of PERT cost as a function of time, Project Evaluation and Review Techniques/cost mechanisms. Determination of least cost duration. Post project evaluation. Introduction to various Project management softwares.

Reference Books:

1. Project planning, analysis, selection, implementation and review – Prasannachandra – Tata McGraw Hill
2. Project Management – the Managerial Process – Clifford F. Gray & Erik W. Larson - McGraw Hill
3. Project management - David I Cleland - Mcgraw Hill International Edition, 1999
4. Project Management – Gopala krishnan – Mcmillan India Ltd.
5. Project Management-Harry-Maylor-Peason Publication

Course outcomes:

At the end of the course, the student will be able to:

CO1	Understand the importance of projects and its phases.
CO2	Analyze projects from marketing, operational and financial perspectives.
CO3	Evaluate projects based on discount and non-discount methods.
CO4	Develop network diagrams for planning and execution of a given project.
CO5	Apply crashing procedures for time and cost optimization.

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SEMESTER VI

COURSE TITLE	:	ARTIFICIAL INTELLIGENCE
PAPER CODE	:	7605
SUBJECT CODE	:	621
TREORY CREDITS	:	03
PRACTICAL CREDITS	:	00

Course Content:

Unit 1 – Introduction to Artificial Intelligence

- Artificial Intelligence (AI) definition
- Goals of AI
- History of AI
- Applications of AI

Unit 2 – Agents and Environments

- Agent Terminology, Types of Agents – Simple Reflex Agents, Model Based Reflex Agents, Goal Based Agents
- Nature of Environments, Properties of Environments

Unit 3 – Search Algorithms

Terminology

- Brute Force Search Strategies – Breadth First Search, Depth First Search.
- Heuristic Search Strategies, Local Search Algorithms.

Unit 4 – Fuzzy Logic Systems

Introduction to Fuzzy Logic and Fuzzy systems,

- Membership functions,
- Fuzzification/Defuzzification

Unit 5 – Neural Networks

Basic structure of Neural Networks

- Perceptron
- Back-propagation

Suggested Learning Resources:

S. No.	Title of Book	Author	Publication
1	Artificial Intelligence By Example: Develop machine intelligence from scratch using real artificial intelligence use cases	Denis Rothman	Packt Publishing ISBN – 978-1788990547

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SEMESTER VI

COURSE TITLE	:	ENGINEERING ECONOMICS AND ACCOUNTANCY
PAPER CODE	:	7606
SUBJECT CODE	:	622
TREORY CREDITS	:	03
PRACTICAL CREDITS	:	00

Course Learning Objectives:

- To acquire knowledge of basic economics to facilitate the process of economic decision making.
- To acquire knowledge on basic financial management aspects.
- To develop the basic skills to analyze financial statements.

Course Content:

UNIT-I: Introduction: Managerial Economics; Relationship with other disciplines; Firms: Types, objectives and goals; Managerial decisions; Decision analysis.

Unit-II: Demand & Supply Analysis: Demand; Types of demand; Determinants of demand; Demand function; Demand elasticity; Demand forecasting; Supply; Determinants of supply; Supply function; Supply elasticity.

Unit-III: Production and Cost Analysis: Production function; Returns to scale; Production optimization; Least cost input; Isoquants; Managerial uses of production function; Cost Concepts; Cost function; Types of Cost; Determinants of cost; Short run and Long run cost curves; Cost Output Decision; Estimation of Cost.

Unit-IV: Pricing: Determinants of Price; Pricing under different objectives and different market structures; Price discrimination; Pricing methods in practice; Role of Government in pricing control.

Unit-V: Financial Accounting (Elementary Treatment): Balance sheet and related concepts; Profit & Loss Statement and related concepts; Financial Ratio Analysis; Cash flow analysis; Funds flow analysis; Comparative financial statements; Analysis & Interpretation of financial statements; Investments; Risks and return evaluation of investment decision; Average rate of return; Payback Period; Net Present Value; Internal rate of return,

Reference Books:

1. Premvir Kapoor, Sociology & Economics for Engineers, Khanna Publishing House, New Delhi, 2018
2. McGuigan, Moyer and Harris, 'Managerial Economics; Applications, Strategy and Tactics', Thomson South Western, 10th Edition, 2005.
3. Prasanna Chandra. 'Fundamentals of Financial Management', Tata Mcgraw Hill Publishing Ltd., 4th edition, 2005.
4. Samuelson. Paul A and Nordhaus W.D., 'Economics', Tata Mcgraw Hill Publishing Company Limited, New Delhi, 2004.
5. Paresh Shah, 'Basic Financial Accounting for Management', Oxford University Press, New Delhi, 2007. 3. Salvatore Dominick, 'Managerial Economics in a global economy'. Thomson South Western, 4th Edition, 2001.

Course outcomes:

At the end of the course, the student will be able to:

CO1	Understand the macro-economic environment of the business and its impact on enterprise
CO2	Understand cost elements of the product and its effect on decision making
CO3	Prepare accounting records and summarize and interpret the accounting data for managerial decisions
CO4	Understand accounting systems and analyze financial statements using ratio analysis
CO5	Understand the concepts of financial management and investment

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SEMESTER VI

COURSE TITLE	:	INDIAN CONSTITUTION
PAPER CODE	:	--
SUBJECT CODE	:	--
TREORY CREDITS	:	00
PRACTICAL CREDITS	:	00

Course Content

Unit 1 – The Constitution - Introduction

- The History of the Making of the Indian Constitution
- Preamble and the Basic Structure, and its interpretation
- Fundamental Rights and Duties and their interpretation
- State Policy Principles

Unit 2 – Union Government

- Structure of the Indian Union
- President – Role and Power
- Prime Minister and Council of Ministers
- Lok Sabha and Rajya Sabha

Unit 3 – State Government

- Governor – Role and Power
- Chief Minister and Council of Ministers
- State Secretariat

Unit 4 – Local Administration

- District Administration
- Municipal Corporation
- Zila Panchayat

Unit 5 – Election Commission

- Role and Functioning
- Chief Election Commissioner
- State Election Commission

Suggested Learning Resources:

S. No.	Title of Book	Author	Publication
1.	Ethics and Politics of the Indian Constitution	Rajeev Bhargava	Oxford University Press, New Delhi, 2008
2.	The Constitution of India	B.L. Fadia	Sahitya Bhawan; New edition (2017)
3.	Introduction to the Constitution of India	DD Basu	Lexis Nexis; Twenty-Third 2018 edition

Suggested Software/Learning Websites:

a. https://www.constitution.org/cons/india/const.html
b. http://www.legislative.gov.in/constitution-of-india
c. https://www.sci.gov.in/constitution
d. https://www.toppr.com/guides/civics/the-indian-constitution/the-constitution-of-india/

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DIPLOMA WING

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA,BHOPAL

DIPLOMA IN MECHANICAL ENGINEERING (M02)

SEMESTER - VI

COURSE TITLE	:	MAJOR PROJECT
PAPER CODE	:	--
COURSE CODE	:	--
TREORY CREDITS	:	00
PRACTICAL CREDITS	:	04 (03+01 Credit of the V Sem.)

MAJOR PROJECT

It should be based on real/live problems of the Industry/Govt./NGO/MSME/Rural Sector or an innovative idea having the potential of a Startup.

Evaluation is based on work done, quality of report, performance in vivavoce, presentation etc

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DIPLOMA WING

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DIPLOMA IN MECHANICAL ENGINEERING (M02)

SEMESTER VI

COURSE TITLE	:	SEMINAR
PAPER CODE	:	--
COURSE CODE	:	--
TREORY CREDITS	:	01
PRACTICAL CREDITS	:	00

SEMINAR

Evaluation is based on work done, quality of report, performance in Viva-voce, presentation etc .

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