

Program: B. Tech (Computer Science)				Semester: III	
Course: Essentials of Computer Science				Module Code: 702CS0C001	
Teaching Scheme				Evaluation Scheme	
Lecture (Hours per week)	Practical (Hours per week)	Tutorial (Hours per week)	Credit	Internal Continuous Assessment (ICA) (Marks - 50)	Term End Examinations (TEE) (Marks- 100 in Question Paper)
2	0	0	2	Marks Scaled to 50	Marks Scaled to 50
Pre-requisite: Programming for Problem Solving, Data Structures & Algorithms					
Course Objectives This course provides a concise introduction to fundamentals of how computer works, different programming paradigms and writing efficient programs. It covers how hardware and software work together to provide good user experience and ensure security of the system. It also provides the understanding fundamentals of Cloud Computing & Machine Learning.					
Course Outcomes: After successful completion of this course, students will be able to- <ol style="list-style-type: none"> 1. Understand number system and fundamentals of computer system. 2. Build efficient programs & algorithms 3. Demonstrate basic ideas about Operating System, Computer Networks, Distributed System. 4. Discuss how to ensure system security, fundamentals of Cloud Computing and Machine Learning. 					
Detailed Syllabus					
Unit	Description				Duration
1	Fundamentals of Computer System and Number System: von Neumann Architecture, CPU: Fetch, Decode, Execute, and Store, Main Memory and Secondary Storage, Introduction to number system and their conversion, Binary weighted and non-weighted codes: BCD, Excess 3 and gray code, 1's and 2's complement codes.				05
2	Programming, Algorithm and Data Structure: Programming Language Fundamentals, Programming Paradigms, What Is an Algorithm, Good and Not So Good Algorithm, Fundamental Data Structures and Algorithms, Problem Solving Techniques, Class of Problems, Databases, Introduction to Hierarchical and network databases.				04
3	Operating System: What Is an Operating System, Why We Need an OS, Responsibilities of an OS, Scheduling, Memory Management, I/O Management, File Systems, Access and Protection, User Interface and Shell				05

4	Computer Networks and Distributed System: History and Evolution of Networks and the Internet, Protocols: Stateful and Stateless, Internet Protocol (IP): TCP and UDP, Distributed Systems: Prominent Architectures, Distributed System Examples, Case Study: Web Application	04
5	Computer Security: Access Control, Communication Security, Security of Data in Motion, Writing Secure Programs: Where Do We Start?	03
6	Cloud Computing: Cloud Computing Models, Benefits of Cloud Computing, Cloud Deployment Configurations, Cloud Configuration Interface/Mechanism, Cloud Service Providers, Considerations for Developing Portable and Interoperable Cloud Solutions.	05
7	Machine Learning: Brief History of Machine Learning, Artificial Intelligence, Machine Learning, and Deep Learning, Fundamental Tenets of Machine Learning, Categories of Machine learning, Machine Learning in Practice, Machine Learning and Cloud Computing.	04
	Total	30
Text Books		
1. Paul D. Crutcher, Neeraj Kumar Singh, Peter Tiegs, "Essential Computer Science A Programmer's Guide to Foundational Concepts", Apress, 1 st Edition 2021.		
Reference Books		
1. V. Rajaraman, "Fundamentals of Computers", PHI, Fourth Edition 2008		
2. M. Morris Mano, "Digital Design with an Introduction to Verilog HDL", PHI, 5 th Edition 2013.		

Signature

(Head of the Department)

Program: B. Tech (Computer Science)				Semester: III	
Course: Digital Circuits and Computer Architecture				Module Code: 702CS0C002	
Teaching Scheme			Evaluation Scheme		
Lecture (Hours per week)	Practical (Hours per week)	Tutorial (Hours per week)	Credit	Internal Continuous Assessment (ICA) (Marks - 50)	Term End Examinations (TEE) (Marks- 100 in Question Paper)
3	2	0	4	Marks Scaled to 50	Marks Scaled to 50
Pre-requisite: Basic knowledge of Electronics Engineering					
Course Objectives The objectives of offering this course are to provide a brief overview of Boolean Algebra, Combinational Logic, and Sequential Logic; to understanding the fundamental structure and functions of a computer, including the arithmetic and logic units, as well as the implementation of fixed-point and floating-point arithmetic and finally to learn the different ways of communication with I/O devices.					
Course Outcomes: After successful completion of this course, students will be able to- <ol style="list-style-type: none"> 1. Understand number systems and Boolean algebra concepts in Digital Systems. 2. Apply concepts of Combinational and Sequential logic for designing Circuits. 3. Understand the fundamental structure and functioning of a computer, as well as arithmetic operations, and Central Processing Unit. 4. Understand the memory organization and working of I/O 					
Detailed Syllabus					
Unit	Description				Duration
1	Boolean Algebra: Binary logic functions, Boolean Laws, Truth tables, Associative and distributive properties, De-Morgan's Theorems.				3
2	Combinational Logic and Circuits: Switching equations, Canonical logic forms, Sum of product & Product of sums, Karnaugh maps, Simplification of expressions, Code conversion Design : Decoder, Encoder, Priority encoder, Multiplexers as function generators, Binary Full Adder, Subtractor, BCD adder				7
3	Sequential Logic and Circuits: Flip Flops: Clocked and edge triggered flip-flops, SR Flip-Flop, D Flip-Flop, JK Flip-Flop, T Flip-Flop. Registers: Serial input -serial output; serial input-parallel output; Parallel In -Parallel Out, Serial In -Serial Out. Design of Asynchronous and Synchronous Counters, Modulo Counters, UP- DOWN counter.				8
4	Basic Structure of a Computer System Functional Units, Basic Operational Concepts, Performance Instructions: Language of the Computer, Operations, Operands Instruction representation, Logical operations, decision making, MIPS Addressing.				3

5	Arithmetic for Computers Addition and Subtraction, Multiplication Division, Booth Multiplication, Floating Point Representation, Floating Point Operations	3
6	Central Processing Unit Major Components of CPU, Instruction Formats, Addressing Modes, Data Transfer and manipulation, Program Control, Subroutine Call and Return, RISC vs CISC, Pros and Cons of RISC and CISC.	6
7	Memory Organization: Internal Memory - Memory characteristics and memory hierarchy, Cache memory: Elements of cache design, Address mapping and translation-Direct mapping, Address mapping and translation-Associative mapping, Address mapping and translation -Set associative mapping, Performance characteristics of two level memory, Semiconductor main memory- Types of RAM, DRAM and SRAM. Semiconductor main memory- Advanced DRAM organizations, Chip logic, Memory module organization. High speed memories- Associative memory, High speed memories- Interleaved memory.	10
8	Input and Output Unit: Input and output- External Devices, Keyboard, Monitor, Disk drive and device driver. I/O modules- Programmed I/O, I/O modules-Interrupt Driven I/O, DMA. I/O modules- I/O channels and I/O processors, Serial transmission and synchronization.	5
	Total	45
Text Books		
<ol style="list-style-type: none"> 1. M. Morris Mano, "Digital Design with an Introduction to Verilog HDL", PHI, 5th Edition 2013. 2. William Stallings, "Computer Organization and Architecture: Designing for Performance", Pearson Education, 10th Edition 2019. 		
Reference Books		
<ol style="list-style-type: none"> 1. R P Jain, "Modern Digital Electronics", McGraw Hill Education, 4th Edition, 2013. 2. B. Holdsworth, "Digital Logic Design" Elsevier Science ,2nd Edition 2014. 3. Andrew Tannenbaum, Todd Austin, "Structured Computer Organization", 6th Edition, Prentice-Hall,2013. 4. David Harris Sarah Harris, "Digital Design and Computer Architecture", Second Edition, Elsevier Science, 2012. 5. V. Carl Hamacher and Zaky, "Computer Organization", 5th Edition, Tata Mc-Graw Hill, 2011. 		

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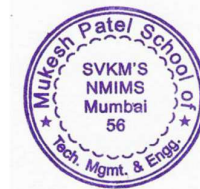
(Head of the Department)

SVKM's NMIMS Deemed-to-be University
Mukesh Patel School of Technology Management and Engineering

Program: B Tech All programs [except CSBS and CSE(DS) 311 (VT)], MBA Tech Computer, B Tech Integrated Mechanical and Computer				Semester: III / IV / VII / VIII	
Course: Probability and Statistics				Code: 702BS0C034	
Teaching Scheme			Evaluation Scheme		
Lecture (Hours per week)	Practical (Hours per week)	Tutorial (Hours per week)	Credit	Internal Continuous Assessment (ICA) (Marks - 50)	Term End Examinations (TEE) (Marks- 100)
2	2	0	3	Marks Scaled to 50	Marks Scaled to 50
Pre-requisite: Nil					
Course Objective This course aims to instill in students a sound knowledge of probability theory and statistical techniques. It equips the students with intermediate to advanced level concepts and tools in probability and statistics that help them tackle relevant problems within engineering domain.					
Course Outcomes After completion of the course, students will be able to - <ol style="list-style-type: none"> 1. Solve problems involving random variables, probability distributions and testing of hypothesis, correlation and regression 2. Identify suitable probability distribution and testing techniques to solve related problems 3. Apply knowledge of random variables, probability distributions, measures of central tendency, correlation and regression to solve real life problems 4. Analyse data samples using statistical methods 					
Detailed Syllabus					
Unit	Description				Duration
1	Basic Probability Probability spaces, conditional probability, independence; Bayes theorem.				03
2	Random variables and Probability Distributions Discrete random variables, probability mass function, cumulative distribution function, Independent random variables, Continuous random variables, distribution functions and densities, expectation, variance, raw and central moments of random variables, Binomial distribution, Poisson approximation to the binomial distribution, Normal distribution.				06
3	Bivariate Distributions Definition of Bivariate Distribution and their properties, Conditional densities.				02
4	Basic Statistics Measures of Central tendency; Moments, Moment generating function, skewness, kurtosis. Mean and variance of Binomial distribution & Poisson distribution, Moments, skewness & kurtosis for Normal distribution.				02



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5	Testing of hypothesis Point estimation, Interval estimate and Confidence interval, Criteria for good estimates, Null and Alternate hypothesis, Test Statistic, Type I and Type II errors, One-tailed and two-tailed test, Critical region, Large sample statistical test for mean, Large sample statistical test for proportion, t-test for small samples, Test for variance- F test, Chi-square test for Goodness of fit and independence of attributes, Analysis of variance.	12
6	Linear Statistical Models Scatter diagram, Linear regression and correlation, Least squares method, Rank correlation, Multiple regression.	05
	Total	30
Text Books		
<ol style="list-style-type: none"> 1. Veerarajan T, <i>Probability, Statistics and Random Processes</i>, McGraw hill Education, 4th Edition, 2017. 2. S. Ross , <i>A First Course in Probability</i>, Pearson Education India, 9th Edition, 2013. 		
Reference Books		
<ol style="list-style-type: none"> 1. W. Feller, <i>An Introduction to Probability Theory and its Applications</i>, Vol. 1, John Wiley & Sons, 3rd Edition, 2017. 2. Devore, <i>Probability and Statistics for Engineering and Sciences</i>, Cengage Learning, 2nd Indian Edition, 2009. 3. Irwin Miller, John E. Freund and R. A. Johnson, <i>Probability & Statistics for Engineers</i>, Pearson Education India, 8th Edition, 2015. 4. S. C. Gupta, V. K. Kapoor, <i>Fundamentals of Mathematical Statistics</i>, Sultan Chand & Sons, 12th Edition, 2014. 5. Murray R. Spiegel, John J. Schiller, R. Alu Srinivasn, <i>Probability and Statistics</i>, McGraw Hill Education, 4th Edition, 2013. 		
Laboratory Work		
8 to 10 experiments based on the syllabus.		



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Program: B Tech CSBS B Tech and MBA Tech (All programs except Civil and Mechanical) B Tech Computer Science and Engineering (Data Science) B Tech Integrated Computer				Semester: II III III VII	
Course: Data Structures and Algorithms				Code: 702CO1C001	
Teaching Scheme			Evaluation Scheme		
Lecture (Hours per week)	Practical (Hours per week)	Tutorial (Hours per week)	Credit	Internal Continuous Assessment (ICA) (Marks - 50)	Term End Examinations (TEE) (Marks- 100)
3	2	0	4	Marks Scaled to 50	Marks Scaled to 50
Prerequisite: Programming for Problem Solving					
Course Objective This course imparts knowledge of data structures and algorithms so as to identify and implement appropriate data structure and determine the computational complexity of the given application.					
Course Outcomes After completion of the course, students will be able to - 1. Understand the concept of data structures and computational complexity 2. Identify and implement appropriate linear data structure for the given problem. 3. Identify and implement appropriate non-linear data structure for the given problem. 4. Differentiate various searching and sorting algorithms.					
Detailed Syllabus					
Unit	Description				Duration
1	Introduction Introduction to data structure and its importance, Classification of data structures, Basic operations., Abstract data type, Performance analysis- time and space complexity, Asymptotic Notations.				04
2	Linear Data Structure I Representation of arrays in memory, Operations on arrays -Traversal, Insertion, Deletion. Introduction to Stacks, Operations on Stacks, Applications of stacks - Expression conversion and evaluation (Polish notation), Balanced parenthesis checker, Recursion, Introduction to Queue, Operation on Queues, Linear queue Circular queue, Priority queue, Application of Queues.				10
3	Linear Data Structure II Introduction to linked list, Representation of linked list in memory, Singly linked list and its operations, Introduction to Doubly Linked list Linked list				07



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	representation of Stack and Queues, Applications of linked list - Polynomial Addition	
4	Non-Linear Data Structures - I Introduction, Binary tree terminologies, Representation of Binary trees in memory, Binary Tree traversal algorithms, Construction of Binary Tree from traversals, Binary Search Tree: Insertion, Deletion, Applications of tree data structure: Expression trees, Huffman trees.	10
5	Non-Linear Data Structures - II Introduction, Graph theory terminology, Representation of graph: Adjacency Matrix, Adjacency List, Graph Traversal: Breadth first search, Depth first search, Applications of Graphs (Problem Solving): Shortest path (Dijkstra's algorithm), Minimum Spanning Tree.	06
6	Searching and Sorting Linear Search, Binary Search, Selection Sort, Insertion sort, Merge sort, Introduction to Hashing	08
	Total	45
Text Books		
<ol style="list-style-type: none"> 1. Seymour Lipschutz, "Data structures with C", Schaum's Outlines, 1st Edition, 2017. 2. Reema Thareja, "Data Structures using C", Oxford University Press, 2nd Edition, 2014. 3. Y. Langsam, M.J. Augenstein, A.M. Tenenbaum, "Data Structures using C and C++", PHI 2nd Edition, 2015. 		
Reference Books		
<ol style="list-style-type: none"> 1. Richard F. Gillberg, Behrouz A. Forouzen, "Data Structures – A Pseudo Approach with C", Cengage Publication, 2nd Edition 2004. (Classic) 2. Mark Allen Weiss, "Data Structures and Algorithm analysis in C++", PHI, 4th Edition, 2013. 3. Thomas, H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein, "Introduction to Algorithms", MIT Press, 3rd Edition 2009. 		
Laboratory Work		
8 to 10 experiments (and a practicum where applicable) based on the syllabus.		



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Program: B Tech All Programs (except Civil, Mechanical, Data Science and CSE (DS)) MBA Tech All Programs (except Data Science) BTI Computer Engineering				Semester: III/V/VI/VII	
Course: Computer Networks				Code: 702AI0C007	
Teaching Scheme			Evaluation Scheme		
Lecture (Hours per week)	Practical (Hours per week)	Tutorial (Hours per week)	Credit	Internal Continuous Assessment (ICA) (Marks - 50)	Term End Examinations (TEE) (Marks - 100)
2	2	0	3	Marks Scaled to 50	Marks Scaled to 50
Prerequisite: NA					
Course Objective This course provides the fundamental knowledge of computer networks through understanding each layer of computer network architecture, and transmission systems to network applications. It also focuses on congestion control techniques, protocols, and application layer functions.					
Course Outcomes After completion of the course, students will be able to - <ol style="list-style-type: none"> 1. Explain the concepts of computer networks, topologies and data communication. 2. Analyze the various error detection and correction and medium access techniques. 3. Apply network layer addressing and routing techniques to different network topologies. 4. Analyze the different protocols of the layered architecture of computer networks. 					
Detailed Syllabus					
Unit	Description				Duration
1	Introduction Computer Network, Peer-to-peer and client-server communication, Classifications of computer networks, Network Topologies.				02
2	Physical Layer Introduction to OSI and TCP/IP model, Transmission Media.				02
3	Data Link Layer and Medium Access Sub Layer Fundamentals of Error Detection and Error Correction, Block coding, Hamming Distance, Flow Control and Error control; error control mechanism - CRC; flow control protocols - Stop and Wait ARQ, Go-back-N ARQ, Selective Repeat ARQ, Multiple access protocols - Random Access - Pure ALOHA, Slotted ALOHA, CSMA/CD, CDMA/CA.				07
4	Network Layer Switching techniques, IPV4 addressing, subnet mask, classless inter-domain routing (CIDR), IPV6; Address mapping - ARP, RARP, and				09



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	DHCP, shortest path algorithm- RIP, Bellman-ford algorithm, link state routing, Dijkstra's algorithm, Open shortest path first protocol (OSPF).	
5	Transport Layer Process to Process Communication, User Datagram Protocol (UDP)-services, operation; Transmission Control Protocol (TCP) - features, 3-way handshaking, comparison of UDP and TCP, SCTP, Congestion Control - open loop and close-loop; Quality of Service (QoS), QoS improving techniques - Leaky Bucket and Token Bucket algorithms.	06
6	Application Layer HTTP, DNS, FTP, SMTP.	04
	Total	30

Text Books

1. A. S. Tanenbaum, *Computer Networks*, 5th edition, Pearson Prentice Hall, 2018
2. Behrouz A. Forouzan, *Data Communications and Networking*, 5th edition, McGraw-Hill Higher Education, 2017

Reference Books

1. W. Stallings, *Data and Computer Communications*, 8th edition, Pearson Prentice Hall, 2017
2. Behrouz A. Forouzan and Sophia Chung Fegan, *TCP/IP Protocol Suite*, 4th edition, McGraw-Hill Higher Education, 2019 (Re-print)
3. Alberto Leon-Garcia and Indra Widjaja, *Communication Networks: Fundamental Concepts and Key Architectures*, 2nd edition, McGraw-Hill, 2004 (Classic)
4. James F. Kurose and Keith W. Ross, *Computer Networking - A Top-down Approach*, 8th edition, Pearson, 2018 (Re-print)

Laboratory Work

8 to 10 experiments (and a practicum where applicable) based on the syllabus.



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SVKM's Narsee Monjee Institute of Management Studies
Mukesh Patel School of Technology Management & Engineering

Program: B. Tech / MBA (Computer Engineering) / B Tech Computer Science / B Tech Integrated Computer Engineering				Semester: III / III / VII	
Course: Data Extraction and Processing				Code: 702CO0C031	
Teaching Scheme				Evaluation Scheme	
Lecture (Hours per week)	Practical (Hours per week)	Tutorial (Hours per week)	Credit	Internal Continuous Assessment (ICA) (Marks 50)	Term End Examinations (TEE) (Marks- 100)
1	2	0	2	Marks Scaled to 50	—
Prerequisite: NIL					
Course Objective:					
<ul style="list-style-type: none"> • Students will be familiar with basic steps of processing given raw data and will be able to use them in data cleaning, integration and transformation. • They will be able to utilize graphical and numerical summaries of data in understanding and analysing the data more effectively. 					
Course Outcomes:					
After completion of the course, students would be able to:					
<ol style="list-style-type: none"> 1. Explain steps in data science lifecycle. 2. Describe ETL process and its significance. 3. Obtain, clean and transform data. 4. Analyse and interpret data using ethical approach. 					
Detailed Syllabus					
Unit	Description				Duration
1	Introduction to Data Science Data science life cycle, Discovery, Data Preparation, Model Planning, Model Planning, Model Building, Operationalize, Communicate Result.				2
2	Getting to know your data Data types like structured and unstructured data, Data objects and attribute types, basic statistical analysis of data, Data visualization,				4



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	Introduction to Data Warehousing, Advantages, characteristics, Architecture, Front room & back room; Metadata, its classification: - operational, extraction and Transformational, end user; its role in ETL environment, security mechanism in DW environment, ETL (extract, transform, load).	
3	Overview of data processing steps which increases the value of data, Basics of data analytical tool, Basics Statistical Analysis Tool like SPSS, Open source data cleaning tool like open refine etc.	3
4	Getting data into environment, Data quality, Data cleansing, deduplicating, and reformatting the data, Data wrangling and Analysis, slices or subsets of data, Online analytical processing.	3
5	Creating and working with vectors, matrices, lists, arrays, data frames, missing values, special values, Imputation for fields where data is missing, join data, functioning with dates, characters, functions, Distributing data, Scripting for data cleaning,	3
	Total	15

Text Books:

1. Jiawei Han, Micheline Kamber, Jian Pei, "Data Mining Concepts and Techniques" 3rd Edition, Morgan kaufmann 2011.
2. Paulraj Ponniah, "Data Warehousing Fundamentals" 2nd Edition, Wiely Interscience Publications, 2010.

References:

1. Joel Grus, "Data Science from Scratch" 1st Edition, O'reilly Media Publication, 2015.

Internet references: NIL

Laboratory Work:

8 to 10 experiments (and a practicum where applicable) based on the syllabus.



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SVKM's NMIMS Deemed-to-be University
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Program: B Tech All Program [except CSBS and CSE(DS) 311 (VT)], MBA Tech All Program, B Tech Integrated Mechanical, Computer				Semester: III / VII	
Course: Technical Communication				Code: 702BS0C062	
Teaching Scheme			Evaluation Scheme		
Lecture (Hours per week)	Practical (Hours per week)	Tutorial (Hours per week)	Credit	Internal Continuous Assessment (ICA) (Marks - 50)	Term End Examinations (TEE)
0	0	1	1	Marks scaled to 50	-
Pre-requisite: Fundamentals of English Communication					
Course Objective The objective of the course is to develop students' proficiency in written technical communication so that they are able to produce documents of the kind required in the workplace, such as reports and letters, that are sound, effective, coherent and error-free					
Course Outcomes After completion of the course, students will be able to - <ol style="list-style-type: none"> 1. Apply the fundamentals of written communication to create written documents that are coherent, error-free and well organized 2. Develop the ability to create effective and persuasive business correspondence, such as letters and emails, that follow etiquette and are able to achieve the desired outcomes 3. Create basic reports such as memo, letter and survey-based report, using their understanding of report writing 					
Detailed Syllabus					
Unit	Description				Duration
1.	Principles of Effective Writing Salient features of sentence construction, Paragraph writing, 7 Cs of communication, Making outlines, Writing for the Web				02
2.	Writing Skills Note taking, Summarizing Fiction / Non-fiction				04
3.	Business Correspondence Business letter writing - principles and types, Business email writing - subject line,				04

APMME



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	recipient design, language, structuring content, framing, etiquette, cultural sensitivity	
4.	Report Writing Introduction – what is a report, types, and characteristics of reports, pre-writing, principles and of report writing, Ethics in Writing - plagiarism. Survey-based reports Memo Report Letter Report Academic Report (with References and Citations)	05
	Total	15
Text Books 1. Meenakshi Raman and Sangeeta Sharma, <i>Technical Communication: Principles and Practice</i> , 3 rd ed. Oxford University Press, 2015		
Reference Books 1. Shirley Mathew, <i>Communication Skills</i> , Technical Publications, 2013 2. Sheryl Lindsell-Roberts, <i>Technical Writing for Dummies</i> , Hungry Minds Inc., 2001 3. Mike Markel, <i>Technical Communication</i> , Palgrave Macmillan, 2012		





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**SVKM's Narsee Monjee Institute of Management Studies
Mukesh Patel School of Technology Management & Engineering**

Program : B Tech /MBA Tech /BTI				Semester: II/III/IV/V/VI/VII	
Course : Principles of Economics and Management				Code: 702TG0C001	
Teaching Scheme			Evaluation Scheme		
Lecture (Hours per week)	Practical (Hours per week)	Tutorial (Hours per week)	Credit	Internal Continuous Assessment (ICA) (Marks - 50)	Term End Examinations (TEE) (Marks - 100)
3	---	---	3	Marks Scaled to 50	Marks Scaled to 50
Pre-requisite: NIL					
Course Objective This course provides basic orientation towards economic (micro and macroeconomics) principles and help them understand the functions of management. This course also aims to understand issues dealing with small-scale economic phenomena and concepts such as prices and output of firms, industries and resource owners along with examining market impact of technological change with regards to understand broader aspects of the economy and its environment.					
Course Outcomes After completion of the course, the student will be able to - <ol style="list-style-type: none"> 1. Illustrate basic concepts of economics (demand, supply, elasticity, scarcity) and explain behaviour on individual, households and firm and Handle economic data and write economic report, 2. Analyse and evaluate the impact of Economic Policies and its implication on the Business Environment, 3. Demonstrate and determine the students towards basic management principles and act as foundation for higher levels of learning and to be able to handle basic functions of management (planning, organizing, coordination, and control). 					
Detailed Syllabus					
Unit	Description				Duration
1	Introduction Definition of Economics, Types of Economic Systems, Problem of Scarcity of Economic Resources. Demand and Supply Demand Curve and Supply Curve, Equilibrium of Demand and Supply, Shift in Demand and Supply. Application of Demand and Supply Price Elasticity of Demand, Price Elasticity of Supply, Factors which influence Elasticity, Elasticity and Revenue.				6

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SVKM's Narsee Monjee Institute of Management Studies
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2	<p>Market Structure /Industry Analysis Types of Competition Monopoly, Oligopoly, Monopolistic Competition, Perfect and Imperfect Competition, Government Policies towards Industries. Circular Flow of Economy, Structures, Role of Government, Business Cycles.</p> <p>Macroeconomics National Income – Gross Domestic Product (GDP), Gross National Product (GNP), Inflation – Cost Push and Demand Pull Inflation, Unemployment, Philips Curve.</p>	6
3	<p>Functions of Central Bank, Money supply, RBI & Monetary Policy. (Current Credit Policy to be critiqued) Stabilization Policy Role of Fiscal Policy. Demand and Consumer Behavior: Utility and Marginal Utility. New Economic Policy: Liberalization, Privatization and Globalization</p>	6
4	<p>Theory of Production Law of Diminishing Returns, Returns to Scale, Productivity. Analysis of Costs: Types of Costs – Total Cost, Fixed Cost, Variable Cost, Marginal Cost, Impact of Marginal Cost on Average Cost.</p>	6
5	<p>Introduction to Management Management & Organizations, Management History. Understanding Management Thought, Contribution of F.W. Taylor, Henry Fayol, Elton – Mayo Contexts- Constraints & Challenges. Planning: Managers as Decision Makers, Foundations of Planning, Strategic Management.</p>	9
6	<p>Organizing Line and Staff Relationships, Centralization and Decentralization, Role of Delegation, Managing Human Resources, Managing Teams. Leading and Motivation: Basic Concepts and Practices –Maslow's, Herzberg, McClelland 's Theory of Achievement.</p>	6
7	<p>Controlling Introduction to Controlling Inventory, Quality Control. Orientation towards Finance, Marketing, Human Resources and Operation Departments.</p>	6
	Total	45

Text Books

1. Samuelson and Nordhaus, *Economics Special Indian Edition*, 20th edition Tata McGraw Hill Publication, 2020
2. Mishra and Puri, *Indian Economy*, 36th Revised Updated Edition, Himalaya Publishing House, 2018

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3. Koontz. H. and Weihrich H., *Essentials of Management: An International, Innovation and Leadership Perspective*, 10th reprint Edition, McGraw Hill Education (India), 2018
4. Deviga V. and Karunagaran M., *Principles of Economics*, 3rd Edition, Oxford University Press, 2013

Reference Books

1. Mankiw Gregory, *Economics: Principles and applications*, Cengage Learning, 2011
2. Robbins et al., *Management*, 14th Edition, Pearson India, 2019

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