Maulana Abul Kalam Azad University of Technology, West Bengal

(Formerly West Bengal University of Technology)

B. Voc. in Artificial Intelligence and Robotics (AICTE)

(Effective for Academic Session 2021-2022)

COURSE STRUCTURE

1st YEAR (Diploma)

Level	Code	Educational Component	Marks	Credits
Semester – I				
5 Semester I	**Theory**			
	5.GV.01	Principle of Electronics (Basic & Digital)	**50**	**03**
	5.GV.02	Engineering Mathematics	**50**	**03**
	5.GV.03	Computer Fundamentals & IT	**50**	**03**
	5.GV.04	English Language and Communicative Skills	**50**	**03**
	Lab / Practical			
	5.VP.01	Basic and Digital Electronics Lab	**50**	**1.5**
	5.VP.02	Engineering Drawing & IT Workshop	**50**	**1.5**
	On-Job-Training (OJT) / Qualification Packs			
	Identification & Testing of Components, Tools, Equipment and their working (Basic)		**200**	**15**
Total			**500**	**30**
Semester – II				
5 Semester II	**Theory**			
	5.GV.05	Concepts and Technologies of AI	**50**	**03**
	5.GV.06	Robot Principles and Design	**50**	**03**
	5.GV.07	Principles of Programming and Problem Solving (C / Python)	**50**	**03**
	5.GV.08	Mathematics and Concepts for Computational Thinking	**50**	**03**
	Lab / Practical			
	5.VP.03	Programming & Problem Solving Lab using C / Python	**50**	**1.5**
	5.VP.04	Fundamentals of AI & Robotics Lab	**50**	**1.5**
	On-Job-Training (OJT) / Qualification Packs			
	Troubleshooting and Feature Analysis of Components, Tools, Equipment and its working (Advanced)		**200**	**15**
Total			**500**	**30**

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2nd YEAR (Advanced Diploma)

Level	Code	Educational Component	Marks	Credits
		Semester – III		
		Theory		
	6.GV.01	Robotic Engineering	50	03
	6.GV.02	Tools, Equipment & Safety Measures	50	03
	6.GV.03	Human-Computer Interaction	50	03
6 Semester I	6.GV.04	Data Structures for Problem Solving and Design Analysis of Algorithms	50	03
		Lab / Practical		
	6.VP.01	Computer Aided Design & Drafting	50	1.5
	6.VP.02	AI based Programming Lab	50	1.5
		On-Job-Training (OJT) / Qualification Packs		
		AI based Robotic Simulation and Modelling of real life / industrial problems	200	15
		Total	**500**	**30**
		Semester – IV		
		Theory		
	6.GV.05	AI & Machine Learning	50	03
	6.GV.06	Robot Intelligent Control	50	03
	6.GV.07	Embedded Systems & Microcontrollers	50	03
6 Semester II	6.GV.08	Power Electronics and Drives	50	03
		Lab / Practical		
	6.VP.03	Embedded Systems & Microcontrollers Lab	50	1.5
	6.VP.04	Power Electronics and Drives Lab	50	1.5
		On-Job-Training (OJT) / Qualification Packs		
		To continue and implement with the same QP as opted in Third semester	200	15
		Total	**500**	**30**

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3rd YEAR (Degree)

Level	Code	Educational Component	Marks	Credits
		Semester – V		
		Theory		
	7.GV.01	AI & Expert Systems	50	03
	7.GV.02	Deep Learning & Data Analytics	50	03
	7.GV.03	Robot Vision & Image Processing	50	03
7 Semester I	7.GV.04	Elements of Mechatronics	50	03
		Lab / Practical		
	7.VP.01	Deep Learning & Data Analytics Lab	50	1.5
	7.VP.02	Advanced Robotics Lab	50	1.5
		On-Job-Training (OJT) / Qualification Packs		
		Industrial training, Industry visit, industrial problem study & analysis	200	15
		Total	500	30
		Semester – VI		
		Theory		
	7.GV.05	Robotics Engineering-Based Industrial Automation	50	03
	7.GV.06	AI in Industrial Internet of Things	50	03
	7.GV.07	Startup, Entrepreneurship and Business Planning	50	03
7 Semester II	7.GV.08	Finishing School	50	03
		Lab / Practical		
	7.VP.03	Project Work & Seminar-Presentation	100	03
		On-Job-Training (OJT) / Qualification Packs		
		To continue and implement with the same QP as opted in Fifth semester	200	15
		Total	500	30

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Detailed Curriculum
Year – I (Diploma: Level - 5)
Semester – I
(Theory)

(5.GV.01): Principle of Electronics (Basic & Digital)

Overview of Atom, Basics of Semiconductor, Bipolar Transistor, Field Effect Transistor, Op-Amp, Transistor Amplifier and Applications, Opto Electronics. Number System, Logic Gate, Boolean Algebra & Logic Family, Function of Logic ckt, Flip – Flops, Counter & Shift Resisters, D/A and A/D conversion, Memory Organization.

Reference Books:
1. Analog Electronics, I.G.Nagrath, PHI
2. Basic Electrical Engineering, Mittle & Mittal, Tata McGraw Hill
3. Basic Electric Engineering, DC Kulshrehtra, Tata McGraw Hill
4. Digital Electronics by S.Salivahan, Digital Fundamentals by Floyd, Digital Design by Morris Mano
5. Digital Electronics, A. Anand Kumar, PHI
6. Modern Digital Electronics, R.P. Jain, TMH

(5.GV.02): Engineering Mathematics

Calculus (Integration), Calculus (Differentiation), Matrices, Vector Spaces, Sequence and Series, Multivariate Calculus, Probability & Statistics.

Reference Books:
1. Engineering Mathematics for first year, Veerarajan T., Tata McGraw-Hill
2. Higher Engineering Mathematics, Ramana B.V., Tata McGraw
3. Differential Calculus Shanti Narayan & Dr. P.K. Mittal, S.Chand Publishing
4. Integral Calculus Shanti Narayan & Dr. P.K. Mittal, (ISBN: 9788121906814), S.Chand
5. A Course & Mathematical Analysis (ISBN: 9788121904728), Narayan &Mittal, S.Chand
6. Advanced Engineering Mathematics (ISBN:9788120336094), Sashtry, PHI
7. Modern Digital Electronics, R.P. Jain, TMH

(5.GV.03): Computer Fundamentals & IT

KNOWING COMPUTER: Introduction, Objectives, Basic Applications of Computer, Components of Computer System: Central Processing Unit, Keyboard, Mouse and VDU. OPERATING COMPUTER USING GUI BASED OPERATING SYSTEM: Introduction, Objectives, Basics of Operating System: Operating system, Basics of popular operating systems (LINUX, WINDOWS). INTRODUCTION TO INTERNET, WWW AND WEB BROWSERS: Introduction, Objectives. Basic of Computer Networks: Local Area Network (LAN), Wide Area Network (WAN). Internet. COMMUNICATIONS AND COLLABORATION: Introduction, Objectives, Basics of E - mail, Email Addressing.

Reference Books:
1. Computer Fundamentals by P K Sinha
2. Fundamentals of Computers by Rajaraman V and Adabala N
3. Fundamentals of Computers, Ravichandran, Tata McGraw Hill
4. Computer Fundamentals by Goel
5. Fundamentals of Computers by Reema Thareja
6. Fundamentals of Computer Networks by Kundu
7. FUNDAMENTALS OF COMPUTERS by E Balagurusamy

(5.GV.04): English Language and Communicative Skills

The Sentence and Its Structure, Spelling and Pronunciation, Self - Assessment; Identifying Strength & Limitations; Habits, Constructive Thinking, Communicating Clearly, Active Listening, Persuasive Speaking and Presentation Skills, Conducting Meetings, Writing Minutes, Sending Memos and Notices; etiquette: Effective E - mail Communication; Telephone Etiquette, Body Language in Group Discussion and Interview.

Reference Books:
1. Technical Communication, Meenakshi Raman & Sangeeta Sharma, Oxford University Press
2. Communication Skills, Pushplata, Sanjay Kumar, Oxford University Press
3. Study Writing. Liz Hamp-Lyons and Ben Heasly. Cambridge University Press. 2006
4. David F. Beer and David McMurrey, Guide to writing as an Engineer, John Willey. New York, 2004

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Year – I (Diploma: Level - 5)
Semester – I
(Lab / Practical)

(5.VP.01): Basic and Digital Electronics Lab
Different symbols and their components, Digital Multimeter and voltage, current, resistance measurement by Multimeter, CRO and its use, Component checking methodology by Multimeter, Checking of phase, neutral and earthing of AC supply line, Equivalent resistance identification when they are in series, parallel and series / parallel combination,Ohm's Law, KCL, KVL, PN junction Diode, Half wave rectifier by using Diode, Full wave rectifier by using Diode, Basic concept of soldering, de soldering, demonstration on different soldering methods, practice of solder removal, replacement of components, Op-Amp, BJT, JFET, Familiarization and interfacing of Sensors (e.g. Temperature Sensor, Gas sensor etc.)
Logic Gates, Universal Gate (NAND & NOR), Half adder, Full adder, Half Subtractor, Full Subtractor, Decoder, Encoder, MUX, DEMUX, Flip Flop, Counter, Register.

(5.VP.02): Engineering Drawing & IT Workshop
Introduction, Lettering and Dimensioning, Geometric Construction, Orthographic Projection, Isometric Projection, Sections of Solids.
IT related problem solving, Components and Tools, Basics of programming, IT Tools & Techniques.
Reference Books:
1. Hajra Choudhury S.K., Hajra Choudhury A.K. and Nirjhar Roy S.K., "Elements of Workshop Technology", Vol. I 2008 and Vol. II 2010, Media promoters and publishers private limited, Mumbai.
2. Workshop Practices, HS Bawa, Tata Mc Graw Hill
3. Fundamentals of Computers by Reema Thareja

Year – I (Diploma: Level-5)
Semester – II
(Theory)

(5.GV.05): Concepts and Technologies of AI
Introduction, Intelligent Agents, Problem Solving, Search techniques, Heuristic search strategies, Adversarial search, Knowledge & reasoning, Using predicate logic, Learning, AI problems, Need for Ambiguity and its relevance.
Reference Books:
1. Artificial Intelligence – A Modern Approach, Stuart Russell and Peter Norvig
2. A First Course in Artificial Intelligence by Deepak Khemani
3. A classical approach to Artificial Intelligence, Munesh Chandra Trivedi, Khanna Publications

(5.GV.06): Robot Principles and Design
Introduction, End effectors and robot controls, Robot transformations and sensors, Robot cell design and applications, Micro/Nano robotics system.
Reference Books:
1. Robotics Technology, Satyarajan Deb, TMH
2. S.K. Saha, Introduction to Robotics, TMH
3. S. Mukherjee, Robotics, Khanna Book Publishing Co., New Delhi

(5.GV.07): Principles of Programming and Problem Solving (C / Python)
Introduction, Conditional Statements, Control Statements, String Manipulation, Lists, Tuple, Dictionaries, Functions, Modules, Exception Handling.
Reference Books:
1. E. Balaguruswamy, Programming in ANSI C, Tata McGraw-Hill
2. Brian W. Kernighan and Dennis M. Ritchie, The C Programming Language, Prentice Hall of India
3. Byron Gottfried, Schaum's Outline of Programming with C, McGraw-Hill
4. Python Crash Course, 2Nd Edition: A Hands-On, Project-Based Introduction to Programming, Eric Matthes
5. Python Programming: Using Problem Solving Approach, Reema Thareja
6. Core Python Programming, R. Nageswara Rao

7. Introduction to Computing and Problem Solving with Python, J. Jose, Khanna Publications

(5.GV.08): Mathematics and Concepts for Computational Thinking
Initial and boundary value problems, Probability & Statistics, Principle of least squares, Sampling distributions, Time series analysis, Discrete Mathematics, Numerical Methods.
Reference Books:
1. S. Ross, A First Course in Probability, 6th Ed., Pearson Education India, 2002
2. Erwin Kreyszig, Advanced Engineering Mathematics, 9th Edition, John Wiley & Sons, 2006

Year – I (Diploma: Level - 5)
Semester – II
(Lab / Practical)

(5.VP.03): Programming & Problem Solving Lab using C / Python
Interactive interpreter and Python Script, Indentation Error, decision making and looping, one dimensional and two dimensional arrays, explore string functions, mean, median, mode, find all duplicates in the list, find all unique elements of a list, compute gcd, lcm of two numbers, use of Lists, Dictionaries, implement Turtle, Linear and Binary Search, Exceptions in Python.

(5.VP.04) Fundamentals of AI & Robotics Lab
Introduction, Search methods, Robotics, Programming and logics in artificial intelligence, Expert system.

Year – II (Advanced Diploma: Level - 6)
Semester – III
(Theory)

(6.GV.01): Robotic Engineering
Introduction, Drive systems and Sensors, Kinematics and Dynamics of Robots, Robot Control, Programming and Applications.
Reference Books:
1. Robotics and Control, Mittal & Nagrath, Tata McGraw Hill
2. Robotics Technology, Deb, Wiley India

(6.GV.02): Tools, Equipment & Safety Measures
Industrial safety, Fundamentals of maintenance engineering, Wear and Corrosion and their prevention, Fault tracing, Periodic and preventive maintenance.
Reference Books:
1. Industrial Safety and Maintenance Management, M. P. Poonia, S. C. Sharma
2. Industrial Safety Management, L M Deshmukh

(6.GV.03): Human-Computer Interaction
Introduction to Human Computer Interface, Interaction Devices, Color and Content, User Interface Design Process, Graphical User Interface, Device and Screen-Based Control, Screen Design, Windows, Understanding Business Functions, Software Tools, Information Search and Visualization, Time, Usability and Prototypes.
Reference Books:
1. Interaction Design: Beyond Human Computer Interaction, Preece Rogers, Sharp
2. Human-Computer Interaction, Alan Dix
3. Human-Computer Interaction, MacKenzie

(6.GV.04): Data Structures for Problem Solving and Design Analysis of Algorithms
Program structures, Variables, Data Types, Declarations, Operators (Arithmetic, Relational, Logical), increment and decrement operators, Assignment operators and expressions, Arithmetic expressions, Functions, external variables,

scope rules, header files, Pointers and addresses, pointers and function arguments, pointer and arrays, Data Structures: Arrays, Linked list, Stacks and queues, Trees, Graphs, Hashing, Searching & Sorting.

Reference Books:
1. Fundamentals of Data Structures, Sartaj Sahni, University Press
2. Data Structures through C, Yashwant Kanetkar, BPB Publications
3. Data Structures Through C In Depth, S.K.Srivastava/Deepali Srivastava
4. Data Structures using C & C++, Rajesh K. Shukla
5. Introduction to Algorithms, Thomas H. Cormen

Year – II (Advanced Diploma: Level - 6)
Semester – III
(Lab / Practical)

(6.VP.01): Computer Aided Design & Drafting
Introduction, Wire frame modelling, Surface Modeling, Solid Modeling Techniques, Advanced Modeling Concepts.

(6.VP.02): AI based Programming Lab
Installation of gnu-prolog, Study of Prolog (gnu-prolog), its facts, and rules, simple facts for the statements and querying it, program for Family-tree, Program for Monkey-banana Problem, program which behaves a small expert for medical Diagnosis, programs for computation of recursive functions like factorial Fibonacci numbers, etc., program to solve 5-queens problem, Program for water jug problem, program for travelling salesman program, case study of standard AI programs like Mycin and AI Shell, python and advanced viz tool like tableau/qliksense.

Year – II (Advanced Diploma: Level - 6)
Semester – IV
(Theory)

(6.GV.05): AI & Machine Learning
Introduction, Concept, Learning and General to specific ordering, Decision Tree learning (DTL), Bayesian Learning, Instance Based Learning, Learning set of rule, Analytical learning, Inductive analytical approaches to learning, supervised, unsupervised and reinforcement learning, Knowledge representation, Identify and implement appropriate learning strategies like Linear Regression, Support Vector Machine, Decision Trees, Random Forest.

Reference Books:
1. Machine Learning, Rajiv Chopra, Khanna Publishing House
2. Artificial Intelligence and Machine Learning, Chandra S.S. & H.S. Anand, PHI Publications

(6.GV.06): Robot Intelligent Control
Introduction, Robotic principles, Robotics simulation, Robotic motion, Robot design, Sensors in robotics, Miscellaneous sensors in robotics, Vision sensors in robotics, Multisensory controlled robot assembly.

Reference Books:
1. Introduction to Robotics: Mechanics and Control, John J. Craig
2. Mittel & Nagrath, Robotics and Control, TMH

(6.GV.07): Embedded Systems & Microcontrollers
Introduction to Embedded System Design, Categories of ES, Overview of Embedded System Architecture, Robotics: Classification of Robots, Degree of freedom, Kinematics; Multidisciplinary approach: Motors-DC motors, Stepper Motors, Servo Motors, Jump, Loop and Call instruction, Time delay for various 9051 chip, I/O programming and I/O bit manipulation, Case studies of Closed-loop control and a learning robot- Hardware requirement, Locomotion and obstruction sensing, Addressing Modes of 8051,Power Management of 8051, Timer Interrupts.

Reference Books:
1. Introduction to Embedded Systems, K.V. Shibu, McGraw Hill
2. Introduction to Embedded Systems, Raj Kamal, Tata McGraw Hil
3. Microprocessor Architecture: Programming and Applications with the 8085/8080A, Gaonkar, Penram Int. Pub.
4. Microprossers and Microcontrollers, Krishna Kant, PHI
5. 8051 Microcontrollers, Rajakamal, TMH

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(6.GV.08): Power Electronics and Drives
Introduction, Line Commutated Power Control Circuits, Forced Commutated Power Control Circuits, Motor Drive Applications, Power Semiconductor Devices, SCR Control Circuits, Ratings, Protection & Mounting of Thyristors, Converters, Power Supplies and Stabilizers.
Reference Books:
1. Modern Power Electronics, P.C. Sen, Chand & Co.
2. Power Electronics, V.R.Moorthi, Oxford University Press
3. Power Electronics, Muhammad H. Rashid, Pearson
4. Power Electronics, Joseph Vithyalthil, TMH
5. Elementary Concepts of Power Electronic Drives, K Sundareswaran

Year – II (Advanced Diploma: Level - 6)
Semester – IV
(Lab / Practical)

(6.VP.03): Embedded Systems & Microcontrollers Lab
Small Assembly language programs to understand the significance of Op-Codes (Arithmetic, Barrel Shifter etc.), 8051 Microcontroller trainer kit, addition of 8-bit numbers stored in an array, Multiplication by successive addition of two 8-bit numbers, finding largest no. from a given array of 8-bit numbers, arrange 8-bit numbers stored in an array in ascending order, Stepper motor control by 8051 Microcontroller, Interfacing of 8-bit ADC 0809 with 8051 Microcontroller, Serial Communication by using 8051 serial ports, Timer/Counter for various applications, Traffic light controller/Real-time clock display, ARM 9 mini 2440 kit.

(6.VP.04): Power Electronics and Drives Lab
Understand the basics of power semiconductor devices, Explain Thyristor control circuits, Generalize the protection of Thyristors, Analyse the working of DC and AC Converters, Describe the operation of power supplies, Illustrate the applications of power Electronics.

Year – III (Degree: Level - 7)
Semester – V
(Theory)

(7.GV.01): AI & Expert Systems
AI, Search Techniques, Knowledge Representation, Handling uncertainty, Planning, Expert System: Need and Justification for expert systems- cognitive problems, Neural networks, Expert System Architectures, Natural language processing, Computational models of neurons, Structure of neural networks. Functional units of ANN for pattern recognition tasks, Pattern classification using perceptron, Multilayer feed forward neural networks (MLFFNNs), Back propagation learning, Empirical risk minimization, Regularization, Newer optimization methods for neural networks (AdaGrad, RMSProp, Adam)
Reference Books:
1. Rich, Knight, Shivshankar, Artificial Intelligence, TMH
2. P.Joshi, P.Kulkarni, Artificial Intelligence: Building Intelligent Systems, PHI
3. R.B. Mishra, Articificial Intelligence, PHI Learning Pvt. Ltd

(7.GV.02): Deep Learning & Data Analytics
Introduction, Neural Networks, Convolutional Neural Networks, Different deep CNN architectures - LeNet, AlexNet, VGG, Training a CNNs: weights initialization, batch normalization, hyper parameter optimization, Understanding and visualizing CNNs, Recurrent Neural Networks, Generative Adversarial Networks, Deploying a Sentiment Analysis Model. Data analytics, Trendiness and Regression Analysis, Structures of Data analytics, Forecasting Techniques, sentiment analysis, wordclouds, Decision Analysis.
Reference Books:
1. Rajiv Chopra, Deep Learning
2. Maheshwari, Data Analytics, McGraw
3. V.K. Jain, Data Science and Analytics, Khanna Publications, Delhi
4. Data Science & Analytics, V.K. Jain, Khanna Publishing House
5. Big Data Black Book, DT Editorial Services, Wiley India

(7.GV.03): Robot Vision & Image Processing
Introduction, Recognition Methodology, Morphological Image Processing, Image Representation and Description, Binary Image Analysis and Segmentation, Area Extraction, Facet Model Recognition, Perspective Projective geometry, Object Models And Matching, Knowledge Based Vision, Object Recognition, Applications.
Reference Books:
1. Computer Vision: A Modern Approach, Forsyth / Ponce
2. Robot Vision (MIT Electrical Engineering and Computer Science)
3. Algorithms for Image Processing and Computer Vision, J. R. Parker

(7.GV.04): Elements of Mechatronics
Introduction, Sensors and Transducers, Mechanical Actuation System, Hydraulic and Pneumatic Actuation System, Electrical Actuation System, Microprocessors, Programmable Logic Controllers, System Models, Design of Mechatronics systems.
Reference Books:
1. A Textbook of Mechatronics, RK Raput, S.Chand Publishing
2. Mechatronics: Principles, Concepts and applications, Mahalik N.P, Tata McGraw Hill
3. Introduction to Mechnotronics, Kuttan, Oxford University

Year – III (Degree: Level - 7)
Semester – V
(Lab / Practical)

(7.VP.01): Deep Learning & Data Analytics Lab
Data analysis, Statistical methods, Regression, Segmentation, boosting / bagging models like gradient boost, random boost etc., Artificial Neural Networks, Convolutional Neural Networks, Recurrent Neural Networks, Boltzmann Machines, Computer Vision, Setting up the Spyder IDE Environment and Executing a Python Program, Installing Keras, Tensorflow and Pytorch libraries and making use of them, Image Transformations, Image Gradients and Edge Detection, Image Contours, Image Segmentation, Harris Corner Detection, Face Detection using Haar Cascades, Chatbot Creation.

(7.VP.02): Advanced Robotics Lab
Introduction to Robot Programming, VAL Language, RAPID Language and AML, Practical Study of Virtual Robot.

Year – III (Degree: Level - 7)
Semester – VI
(Theory)

(7.GV.01): Robotics Engineering-Based Industrial Automation
Introduction, Fixed Automation, Analysis of Automated Flow Lines, Assembly Systems and Line Balancing, Automated Assembly Systems, Automated Materials Handling, Automated Storage Systems, Automated Inspection and Testing, Modelling Automated Manufacturing Systems.
Reference Books:
1. Control in Robotics and Automation, Ghosh, Allied Publishers
2. K.Goyal and D.Bhandari, Industrial Automation and Robotics, S.K.Kataria and Sons

(7.GV.02): AI in Industrial Internet of Things
Introduction about IIoT, Sensors & actuators, Communication technologies, Networking technologies, Industry 4.0, Industrial Processes, Industrial Sensing & Actuation, Industrial Internet Systems. IIoT Sensing, IIoT Actuating, IIoT Communication Models, IIoT Networking Technologies, IIoT Business Models, IIoT Reference Architecture, Smart and Connected Business Perspective, Data Analytics in IIoT, Introduction, Big Data Analytics, Machine Learning, Artificial Intelligence and Data Science-R and Python Programming, IIoT Application Domains, Factories and Assembly Line, Food Industry, Healthcare, Power Plants, Inventory Management & Quality Control.
Reference Books:
1. Internet of Things, Jeeva Jose, Khanna Publishing House
2. Internet of Things, Arsheep Bahga and Vijay Madisetti

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3. Hands-On Artificial Intelligence for IoT: Expert machine learning and deep learning techniques for developing smarter IoT systems, Amrita Kapoor
4. Internet of Things : Architecture and Design Principles, Raj Kamal

(7.GV.03): Startup, Entrepreneurship and Business Planning

Introduction to innovation, Entrepreneur and the process, Problem identification, Idea vs opportunity, Building financial statements, Idea selection, Analysis of the competitive environment, Effective teamwork in complex and evolving contexts, Business planning process, Entrepreneurial marketing, Entrepreneurship, Business case and financing opportunities, Business model & secondary market research, Business canvas, Intellectual property and legal aspects, Pitching, Business plan.

Reference Books:
1. Entrepreneurship, Robert D. Hisrich, Michael P. Peter, Dean A. Shepherd
2. Taxmann's Entrepreneurship, CA (Dr.) Abha Mathur
3. Let's Build A Company: A Start-up Story Minus the Bullshit, Harpreet Grover, Vibhore Goyal
4. Before You Start Up: How to Prepare to Make Your Startup Dream a Reality, Pankaj Goyal

(7.GV.04): Finishing School

Health and fitness, Cleanliness and hygiene, Formal Dressing & Basic Etiquettes, Stress & Anger Management- Being positive (Coping with stress), Time Management & Goal Setting, Managing Emotions, Thinking Skills, Modes of self-development– Read, Listen, Talk, Ask, Write, Observe, Self- Motivation, Being confident-Self-esteem.

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Year – III (Degree: Level - 7)
Semester – VI
(Lab / Practical)

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(7.VP.03): Project Work & Seminar-Presentation

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