Detailed Syllabus
Lecture-wise Breakup

Course Code	**19M12HS211**	Semester: Odd (specify Odd/Even)	Semester: III Session: 2020 -2021 Month from: July-December
Course Name	**Cost Accounting for Engineering Projects**		
Credits	03	Contact Hours	3-0-0

Faculty (Names)	Coordinator(s)	Dr. Praveen Kumar Sharma
	Teacher(s) (Alphabetically)	Dr. Praveen Kumar Sharma

COURSE OUTCOMES		**COGNITIVE LEVELS**
C201.1	Understand basic concepts of Cost Accounting	Understand (C2)
C201.2	Apply concepts of cost in project management	Apply (C3)
C201.3	Analyze cost behaviour for decision making	Analyze (C4)
C201.4	Construct different budgets for controlling the cost	Create (C6)

Module No.	**Title of the Module**	**Topics in the Module**	**No. of Lectures for the module**
1.	Introduction	Introduction & Overview of Cost Management Process	3
2.	Cost Concepts	Relevant Cost, Differential Cost, Incremental Cost, Opportunity Cost, Objectives of a costing system, Inventory Valuation, Provision of data for decision making	4
3.	Project execution	Meaning, Different types, why to manage, cost overruns centres, various stages of project execution: conception to commissioning. Project execution as conglomeration of technical and nontechnical activities. Detailed Engineering activities.	5
4.	Project Execution	Pre project execution main clearances and documents Project team: Role of each member. Importance Project site Data required with significance, Project contracts, Types and contents, Project execution, Project cost control, bar charts & network diagrams, Project commissioning	6
5.	Cost Behavior	Distinction between Marginal Costing and Absorption Costing; Break-even Analysis, Cost-Volume-Profit Analysis. Various decision-making problems.	6
6.	Profit Planning Marginal Costing	Standard Costing and Variance Analysis. Pricing strategies: Pareto Analysis. Target costing, Life Cycle Costing. Costing of service sector. Just-in-time approach,	6
7.	Material Planning	Material Requirement Planning, Enterprise Resource Planning, Total Quality Management and Theory of constraints. Activity-Based Cost Management, Bench Marking; Balanced Score Card& value chain analysis.	6
8.	Budgetary Control	Flexible budgets, Performance budgets, zero based budgets, Measurements of divisional profitability pricing decisions including transfer pricing.	6
Total number of Lectures			**42**

Evaluation Criteria

Components	**Maximum Marks**
T1	20
T2	20
End Semester Examination	35

TA	25 (Quiz+ Assignment)
Total	**100**

Recommended Reading material: Author(s), Title, Edition, Publisher, Year of Publication etc. (Text books, Reference Books, Journals, Reports, Websites etc. in the IEEE format)	
1.	B. M. L. Nigam and I. C. Jain, *Cost Accounting: Principles And Practice, PHI Learning Pvt. Ltd*. PHI Learning Pvt. Ltd., 2010.
2.	C. T. Horngren, *Cost accounting: A managerial emphasis, 13/e Pearson Education India*. Pearson Education India, 2009.
3.	R. S. Kaplan and A. A. Atkinson, *Advanced management accounting*. PHI Learning, 2015.
4.	A. K. Bhattacharyya, *Principles and practice of cost accounting*. PHI Learning Pvt. Ltd., 2004.
5.	N. D. Vohra, *Quantitative Techniques in Management, 3e*. Tata McGraw-Hill Education, 2006.

Detailed Syllabus
Lecture-wise Breakup

Course Code	**19M13HS211**	Semester: Odd	Semester: M.TechIII and M.Tech Integrated X Session: 2020 -2021 Month from: July-December 2020
Course Name	**Constitution of India**		
Credits	2	Contact Hours	(2-0-0)

Faculty (Names)	Coordinator(s)	Dr. Chandrima Chaudhuri
	Teacher(s) (Alphabetically)	Dr. Chandrima Chaudhuri

COURSE OUTCOMES		**COGNITIVE LEVELS**
C202.1	Demonstrate an understanding of the conflict between the Fundamental Rights and Directive Principlesas given in the Indian Constitution	Understand (C2)
C202.2	Assess the nature of the Indian constitution and its applicability in the study of politics in India.	Evaluate (C5)
C202.3	Assess the devolution of powers and authority of governance of the Union government and the local government	Evaluate (C5)
C202.4	Demonstrate an understanding ofthe powers and functions of the Indian executive, legislature and judiciary	Understand (C2)

Module No.	**Title of the Module**	**Topics in the Module**	**No. of Lectures for the module**
1.	History of Making of the Indian Constitution	• History • Drafting Committee-Composition & Working	3
2.	Philosophy of the India Constitution	• Preamble • Salient Features	1
3.	Fundamental Rights and Directive Principles	• Right to Equality • Right to Freedom • Right against Exploitation • Right to Freedom of Religion • Cultural and Educational Rights • Right to Constitutional Remedies • Directive Principles of State Policy	5

4.	Organs of Governance	• Parliament-Composition, Qualifications & and Disqualification ,Powers and Functions • Executive- President , Governor , Council of Ministers • Judiciary-Appointment and Transfer of Judges, Qualifications, Power and Functions	8
5.	Local Administration	• District's Administration head: Role and Importance • Municipalities: Introduction, Mayor and role of Elected Representative, CEO of Municipal Corporation • Panchayati raj: Introduction, PRI: ZilaPanchayat. • Elected officials and their roles, CEO ZilaPanchayat: Position and role • Block level: Organizational Hierarchy(Different departments) • Village level: Role of Elected and Appointed officials • Importance of Grass root democracy	8
6.	Election Commission	• Election Commission: Role and Functioning	3
Total number of Lectures			**28**

Evaluation Criteria

Components	**Maximum Marks**
Mid Term Examination:	30
End Semester Examination	40
TA	30 (Attendance, Quiz, Project)
Total **100**	

Recommended Reading material: Author(s), Title, Edition, Publisher, Year of Publication etc. (Text books, Reference Books, Journals, Reports, Websites etc. in the IEEE format)

1.	Austin, G. (1996). *The Indian Constitution: Corner Stone of a Nation*. Oxford: Oxford University Press
2.	Bakshi, P.M.(2015). *The Constitution of India*. Delhi: Universal Law Pub. Co. Pvt. Ltd
3.	Bhuyan, D. (2016). *Constitutional Government and Democracy in India*. Cuttack:KitabMahal..
4.	Busi, S.N. (2016). *Dr. B. R. Ambedkar framing of Indian Constitution*. Hyderabad*:*Ava Publishers
5.	Basu, D.D. (2018). *Introduction to the Constitution of India*. Nagpur: Lexis Nexis
6.	Jayal, N.G. & Mehta, P.B. (eds.)(2010). *The Oxford Companion to Politics inIndia*. New Delhi: Oxford University Press.

Course Description

Course Code	17M17EC218	**Semester** Odd **(specify Odd/Even)**	**Semester** 10th **Session** 2020-2021 **Month from** July to December
Course Name	*Seminar &Term Paper*		
Credits		**Contact Hours**	

Faculty (Names)	**Coordinator(s)**	Dr. Saurabh Chaturvedi
	Teacher(s) (Alphabetically)	Dr. Saurabh Chaturvedi

S. N.	**COURSE OUTCOMES:** After the completion of this course, students will be able to	**COGNITIVE LEVELS**
C212.1	Understand relevant theories, methods and research design relating to the seminar topic selected by a student.	Understanding Level (C2)
C212.2	Analyze the work of other authors/researchers and contribute to the field of knowledge with the cooperation of the supervisor.	Analyzing Level (C4)
C212.3	Evaluate the previously published research works, findings and conclusions.	Evaluating Level (C5)
C212.4	Develop and refine the master's dissertation topic and proposal. Develop the effective technical writing, communication and presentation skills.	Creating Level (C6)

Evaluation Criteria

Components	**Maximum Marks**
Mid-sem. viva	20
End-sem. viva	20
Day-to-day evaluation	40
Report	20
Total	**100**

Detailed Syllabus
Lecture-wise Breakup

Subject Code	**17M22EC116**	**Semester (Odd)**	**Semester I** **Session –** 2020-21 **Month** Aug 2020 to Dec 2020
Subject Name	**DSP Architecture**		
Credits	3	**Contact Hours**	3-1-0

Faculty (Names)	**Coordinator(s)**	Dr. Madhu Jain
	Teacher(s) (Alphabetically)	Dr. Madhu Jain

COURSE OUTCOMES- At the completion of the course, students will be able to		**COGNITIVE LEVELS**
CO1	Recall the concepts of Digital Signal Processing and study the computational building blocks of DSP Processor	Understanding Level (C2)
CO2	Understand the various addressing modes, peripherals, interrupts and pipelining structure of DSP processor	Understanding Level (C2)
CO3	Implementation and applications of DSP Processor	Applying Level (C3)

Module No.	**Subtitle of the Module**	**Topics**	**No. of Lectures**
1.	Introduction to digital signal processing	Introduction, A Digital Signal-Processing System, The Sampling Process, Discrete Time Sequences, Discrete Fourier Transform (DFT) and Fast Fourier Transform (FFT), Linear Time-Invariant Systems, Digital Filters, Decimation and Interpolation.	5
2.	Architectures for programmable digital signal-processors	Introduction, Basic Architectural Features, DSP Computational Building Blocks, Bus Architecture and Memory, Data Addressing Capabilities, Address Generation Unit, Programmability and Program Execution, Features for External Interfacing.	8
3.	Programmable digital signal processors	Introduction, Commercial digital Signal-processing Devices, Data Addressing Modes of TMS32OC54xx., Memory Space of TMS32OC54xx Processors, Program Control.	6
4.	Detail Study of TMS320C54X & 54xx	Detail Study of TMS320C54X & 54xx Instructions and Programming, On-Chip peripherals, Interrupts of TMS32OC54XX Processors, Pipeline Operation of TMS32OC54xx Processor.	6
5.	Implementation of basic DSP algorithms	Introduction, The Q-notation, FIR Filters, IIR Filters, Interpolation and Decimation Filters	6
6.	Implementation of FFT algorithms	Introduction, An FFT Algorithm for DFT Computation, Overflow and Scaling, Bit-Reversed Index Generation &	6

		Implementation on the TMS32OC54xx.	
7.	Interfacing and applications of DSP processor	Introduction, Synchronous Serial Interface, A CODEC Interface Circuit. DSP Based Bio-telemetry Receiver, A Speech Processing System, An Image Processing System.	5
		Total number of Lectures	42

Evaluation Criteria

Components	**Maximum Marks**
T1	20
T2	20
End Semester Examination	35
TA	25(Attendance, Performance. Assignment/Quiz)
Total	**100**

Recommended Reading (Books/Journals/Reports/Websites etc.: Author(s), Title, Edition, Publisher, Year of Publication etc. in IEEE format)

1.	Digital Signal Processing, Avatar Singh and S. Srinivasan, Thomson Learning, 2004.
2.	Digital Signal Processing: A practical approach, Ifeachor E. C., Jervis B. W Pearson-Education, PHI/ 2002
3.	Digital Signal Processors, B Venkataramani and M Bhaskar TMH, 2002
4.	Architectures for Digital Signal Processing, Peter Pirsch John Weily, 2007

Detailed Syllabus
Lecture-wise Breakup

Subject Code	20M11EC111	**Semester: ODD**	**Semester: ISession: 2020-2021** **Month from** July **to** December
Subject Name	Advanced RF and Microwave Engineering		
Credits	3	**Contact Hours**	3
Faculty (Names)	**Coordinator(s)**	Dr. Jasmine Saini	
	Teacher(s) (Alphabetically)	Dr. Jasmine Saini	

COURSE OUTCOMES-At the completion of the course, students will be able to		**COGNITIVE LEVELS**
C141.1	Develop an understanding of concepts of microwave circuits and ISM applications.	Understanding (Level II)
C141.2	Explain the concepts of microwave circuits and scattering parameters.	Evaluating (Level V)
C141.3	Design and analyze impedance transformers.	Analyzing (Level IV)
C141.4	Design and apply microwave components like dividers, filters,resonators etc. in Microwave systems.	Applying (Level III)

Module No.	**Title of the Module**	**Topics in the module**	**No. of Lectures for the module**
1.	Transmission Lines and Waveguides	Review of Microwave Engineering; Advantages, disadvantages and ISM applications of microwaves; TEM mode transmission lines: lossless line, line with small losses; Quasi TEM mode lines: Fields in micro striplines and striplines, losses in microstrips, microstrip discontinuities, coupled lines, slot lines and coplanar waveguides; Wave velocities.	8
2.	Microwave Circuit Theory Principles	Equivalent voltages and currents; Z, Y, S, and ABCD parameters; Equivalent circuit representation of microwave junctions; Scattering parameter analysis of microwave junctions.	10
3.	Impedance Transformers	Review of single-, double- and triple-stub tuners; waveguide reactive elements; quarter-wave transformers; design of maximally flat and Chebyshev transformers; Introduction to tapered transmission lines.	6

4.	Power Dividers and Couplers	Scattering matrix of 3- and 4-port junctions; Design of T-junction and Wilkinson power dividers; Design of 90□ and 180□ hybrids.	6
5.	Filters	Analysis of periodic structures; Floquet's theorem; filter design by insertion loss method; maximally flat and Chebyshev designs.	6
	Resonators	Principles of microwave resonators; loaded, unloaded and external Q, open and shorted TEM lines as resonators; microstrip resonators; dielectric resonators.	6
		Total number of Lectures	**42**

Evaluation Criteria

Components	**Maximum Marks**
T1	20
T2	20
End Semester Examination	35
TA	25(Attendance, Performance. Assignment/Quiz)
Total	**100**

Recommended Reading material: Author(s), Title, Edition, Publisher, Year of Publication etc. (Text books, Reference Books, Journals, Reports, Websites etc. in the IEEE format)

1.	Collin, R.E., "Foundations for Microwave Engineering", 2nd Ed., John Wiley & Sons,2000.
2.	Pozar, D.M., "Microwave Engineering", 3rd Ed., John Wiley & Sons,2004.
3.	Edwards, T.C. and Steer M.B., "Foundations for Interconnects and Microstrip Design", 3rd Ed., John Wiley & Sons.,2001.
4.	Ludwig, R. and Bretchko, P., "RF Circuit Design", Pearson Education,2000.
5.	Hunter, I., "Theory and Design of Microwave Filters", IEE Press,2001.
6.	Misra, D.K., "Radio-frequency and Microwave Communication Circuits", John Wiley & Sons,2001.
9.	https://nptel.ac.in/courses/108/101/108101112/

Subject Code	20M11EC112	**Semester: ODD**	**Semester: I Session: 2020-2021** **Month from** July **to** December
Subject Name	Photonics Materials & Devices for Communications		
Credits	3	**Contact Hours**	3-0-0
Faculty (Names)	**Coordinator(s)**		Dr. Amit Kumar Goyal
	Teacher(s) (Alphabetically)		Dr. Amit Kumar Goyal

COURSE OUTCOMES- At the completion of the course, students will be able to		**COGNITIVE LEVELS**
CO1	Develop an understanding of photonic components and optical fiber technology.	Understanding (Level II)
CO2	Design and analyze different types of Photonic/Nano-photonic devices and components.	Applying (Level III)
CO3	Classify the material system/technologies along with their fabrication processes to design efficient photonic devices for communication.	Analyzing (Level IV)
CO4	Analytically evaluate the various photonic devices.	Evaluating (Level V)

Module No.	**Title of the Module**	**Topics in the module**	**No. of Lectures for the module**
1.	Basics of Photonics, and Optical fibers	Photonics, integrated photonics and their brief history, Basic photonic technologies and components, Brief introduction to Maxwell's equations, wave equation, Electromagnetic waves at different dielectric intserfaces. Overview of Optical fibers, types (step-index and graded index), single-mode and multi-mode along with their condition, birefringent fiber, numerical aperture, Optical fiber communications, Dispersion and scattering	10
		losses in fiber, budget analysis.	

2.	Optical waveguides and Photonic Devices	Optical waveguides classification, Guided modes in optical waveguides, Dispersion of guided modes, Single-mode 3-D optical waveguides. Basic integrated-optic devices: Optical power splitter, Directional coupler, thermo-optic switches, Mach-Zehnder interferometer, Arrayed Waveguide Grating (AWG)-based MUX/DEMUX, Add-drop multiplexer, Design of photonic devices: Beam Propagation Method and Marcatili's Method.	10
3.	Fundamental of Nano-Photonic Devices and Components	Nano-photonics: Photonic crystal (PhC) technology, PhC waveguide, PhC resonator, PhC MUX/DEMUX, PhC Filters, PhC fibers, Nano-wires, Packaging of photonic devices. Recent studies on PhC based devices for communication applications.	6
4.	Photonic Materials and Fabrication Technologies	Photonic materials, selection of materials like silicon, silica, Lithium Niobate, Compound Semiconductor and Polymers. Fabrication and process techniques like Lithography, Deposition, and Diffusion etc. Parameter measurement and techniques, recent studies on photonic materials.	10
5.	Coupled-mode Theory and Devices	Basic concepts of coupled mode theory, Mode coupling: co-directional and contra-directional, Mode coupling in corrugated waveguides, Short-period and long-period gratings in optical fibers and optical waveguides, Properties of short-period and long-period gratings, Application of gratings in communication, and Recent trends.	8
		Total number of Lectures	**44**

Evaluation Criteria

Components	**Maximum Marks**
T1	20
T2	20
End Semester Examination	35
TA	25(Attendance, Performance. Assignment/Quiz)
Total	**100**

Recommended Reading material: Author(s), Title, Edition, Publisher, Year of Publication etc. (Text books, Reference Books, Journals, Reports, Websites etc. in the IEEE format)	
1.	Gerd Keiser, Optical Fiber Communications, 3rd Edition, McGraw-Hill International edition, 2000.
2.	John M. Senior, Optical Fiber Communications, 2nd Edition, PHI, 2002.
3.	H Nishihara, M Haruna and T Suhara, Optical integrated Circuits, McGraw-hill, 1989.
4.	D.K. Mynbaev, S.C. Gupta and Lowell L. Scheiner, Fiber Optic Communications, Pearson Education, 2005.
5.	C. R. Pollock and M. Lip Son, Integrated Photonics, Kluwer Pub., 2003.
6.	T. Tamir, (ed), Guided-wave optoelectronics, (2nd edition), Springer-Verlag, 1990.
7.	Clifford Pollock, Fundamentals of Optoelectronics, Richard Irwin Inc., Chicago, 1995.
8.	Journal articles i.e. IEEE, Springer, IOPscience, Elsevier and Video lectures from nanohub, NPTEL, MIT video lectures
9.	https://nptel.ac.in/courses/117/108/117108142/

Detailed
Syllabus Lab-
wise Breakup

Course Code	17M15EC113	**Semester: Odd 2020 (specify Odd/Even)**	**Semester** 10th **Session** 2020 -2021 **Month from** July to December
Course Name	ECE Design and Simulation Lab -I		
Credits	3	**Contact Hours**	5

Faculty (Names)	**Coordinator(s)**	Ashish Goel
	Teacher(s) (Alphabetically)	Juhi Gupta, Shweta Srivastava

COURSE OUTCOMES		**COGNITIVE LEVELS**
C171.1	At the end of the module the student will be able to explain relative merits and demerits of wireless communication technologies.	Remember Level (I)
C171.2	At the end of the lab the students will be able to simulate the radio propagation model	Understand Level (II)
C171.3	Plan a communications system for a given environment in which it is to be deployed.	Apply Level (III)
C171.4	Select a wireless technology or a combination of technologies to suit a given application.	Analyze Level (IV)
C171.5	Use of MIMO technology in 5G communication	Evaluate Level (V)
C171.6	Perform measurements with commercial equipment and understand the effects of radio channel on the OFDM signal as well as strategies to compensate them	Create Level (VI)

Module No.	**Title of the Module**	**List of Experiments**	**CO**
1.	Exp.1	Introduction to MATLAB and its various applications.	**C171.**1
2.	Exp.2	To study and simulate Rayleigh and Rician distribution using two signals that follow normal distribution	**C171.**2
3.	Exp.3	To study and simulate Propagation Path loss Models: Free Space Propagation, log distance and log normal.	**C171.**2
4.	Exp.4	To study atmospheric turbulence models in Free Space Optical Communication system and implement them using MATLAB	**C171.**3
5.	Exp.5	To determine the channel capacity for AWGN and faded wireless channels	**C171.**3
6.	Exp.6	To study Pulse code modulation and demodulation using Matlab	**C171.**4
7.	Exp.7	Write Matlab program to perform Delta modulation and Adaptive Delta modulation for a sinusoidal signal. Also study the effect of step size and sampling rate on delta modulated signal.	**C171.**4
8.	Exp.8	To study and simulate the following systems using BPSK modulation: a) wired or AWGN (Additive White Gaussian Noise); b) wireless or faded channel system.	**C171.**4
9.	Exp.9	Write Matlab program to evaluate the SER of 16-QAM modulated signal over AWGN channel and also verify it with the theoretical	**C171.**4

		results.	
10.	Exp.10	To simulate the channel capacity for MIMO system	**C171.**5
11.	Exp.11	To analyze the performance of MIMO systems by using space time code technique.	**C171.**5
12.	Exp. 12	OFDM systems implementation using MATLAB	**C171.**6
13.	Exp. 13	To obtain the PAPR analysis of multi-carrier signal and the performance of PAPR & BER with clipping and filtering Scheme	**C171.**6

Evaluation Criteria Components	**Maximum Marks**
Viva -1	20
Viva -2	20
D2D	60
Total	**100**

Project based learning: Here, students will learn latest communication technologies, starting from the basics process of modulation, demodulation and its impairment. These schemes are of utmost importance to understand the concepts of current and future generations of communication system and to design the same. Student will be able to design the physical layer of 4G communication and to analyze its implementations issues. Students can perform the some simulation on Matlab to analyze the same. Understating of these techniques will further help to work in any core communication industry.

Recommended Reading material: Author(s), Title, Edition, Publisher, Year of Publication etc. (Text books, Reference Books, Journals, Reports, Websites etc. in the IEEE format)	
1.	Aditya K Jagannatham, Principles of Modern Wireless Communication Systems Theory and Practice, TMH, 2/e, 2017
2.	Yong Soo Cho, Jaekwon Kim, Won Young Yang, Chung-Gu Kang , MIMO-OFDM Wireless Communications with MATLAB, Wiley, 2013
3.	

Detailed Syllabus
Lecture-wise Breakup

Course Code	17M22EC113	**Semester: (specify Odd/Even)**	**Semester: I Session: 2020-21 Month: Aug-Dec**
Course Name	HDL Based Digital Design		
Credits	3	**Contact Hours**	3-1-0
Faculty (Names)	**Coordinator(s)**	Dr. Shruti Kalra	
	Teacher(s) (Alphabetically)		

COURSE OUTCOMES- At the completion of the course, students will be able to		**COGNITIVE LEVELS**
CO1	Recall the basics combinational and sequential circuits	Remembering Level (C1)
CO2	Understand the concepts of Verilog hardware description language and distinguish between good and bad coding practices	Understanding Level (C2)
CO3	Learn to model synchronous and Asynchronous digital circuits	Applying Level (C3)
CO4	Fault analysis and case studies on complex digital circuits	Analyzing Level (C4)

Module No.	**Title of the Module**	**Topics in the module**	**No. of Lectures for the module**
1.	Introduction to Verilog	Overview of Digital Design with Verilog HDL, Hierarchical Modeling Concepts, Modules and Ports, Gate-Level Modeling, Dataflow Modeling, Behavioral Modeling, Tasks and Functions, Useful Modeling Techniques	9
2.	Advanced topics in Verilog	Timing and Delays, Switch-Level Modeling, User-Defined Primitives, Programming Language Interface, Logic Synthesis with Verilog HDL, modeling memory and register banks, introduction to the concept of pipelining.	9
3.	Synchronous Finite State Machine	Flip-Flops, Triggering of Flip-Flops, Analysis of Clocked Sequential Circuits, State Reduction and Assignment, Flip-Flops Excitation Tables, Design Procedure	9
4.	Asynchronous Finite State Machines	Asynchronous Analysis, Design of Asynchronous Machines, Flow table realization, reduction, state assignments and design, Cycle and race analysis. Hazards, Essential Hazards, and its removal	10
5.	Fault Analysis	s-a-0, s-a-1 fault analysis using path sensitization method, Boolean Difference Method	5
		Total number of Lectures	**42**

Evaluation Criteria	
Components	**Maximum Marks**
T1	20
T2	20
End Semester Examination	35
TA	25(Attendance, Performance. Assignment/Quiz)
Total	**100**

Recommended Reading material: Author(s), Title, Edition, Publisher, Year of Publication etc. (Text books, Reference Books, Journals, Reports, Websites etc. in the IEEE format)	
1.	Monk S. Programming FPGAs: Getting Started with Verilog. McGraw Hill Professional; 2016.
2.	Li Y. Computer principles and design in Verilog HDL. John Wiley & Sons; 2015.
3.	Ciletti M. Advanced digital design with the Verilog HDL. Prentice hall; 2009.
4.	Sutherland S. The Verilog PLI Handbook: a user's guide and comprehensive reference on the Verilog programming language interface. Springer Science & Business Media; 2013.