



Society for Computer Technology and Research's
Pune Institute of Computer Technology
Department of Electronics & Telecommunication Engineering
INNOVATIVE TEACHING METHODS

Summary Sheet for Innovations by the Faculty in Teaching Learning

Academic Year 2022-23

Sr.No.	Name of the Faculty	Subject	Topic Covered	Activity Conducted	Class
Sem-I					
1	Dr. M. A. Gangarde Dr. S. S. Narkhede Ms. S. M. Hosamani	Electronic Circuits	Flash type ADC and dual slope ADC	Flipped Classroom	SE
2	Mr. N. B. Patil Dr. G. S. Mundada Mr. S. S. Khot Mr. M. N. Kakade	Electrical Circuits	Working principle of BLDC and Stepper motor	Flipped Classroom	SE
3	Mr. V. B. Vaijapurkar Mr. S. K. Choubey Ms. I. K. Gaikwad	Data Structure	Data structure using C programming	Crossword	SE
4	Mr. V. B. Vaijapurkar Mr. S. K. Choubey Ms. I. K. Gaikwad	Data Structure	Data types in C	Data Type Stickers	SE
5	Dr. Y. Ravinder Dr. P. S. Varade Mr. S. S. More	Digital Communication	PN Sequence Generator on Virtual Platforms	Crossword Problem Based Learning	TE
6	Mr. S. D. Hake	Electromagnetic Field Theory	Problem on Poynting Theorem and quiz on transmission line.	Flipped Classroom	TE5
7	Mr. S. D. Hake	Electromagnetic Field Theory	Applications of Electromagnetics	Problem Based Learning (PBL)	TE5
8	Mr. Amol S. Ingole	Electromagnetic Field Theory	Boundary Conditions, Maxwells's Equation, Poynting Theorem	Flipped Classroom	TE7
9	Mr. Amol S. Ingole	Electromagnetic Field Theory	Applications of Electromagnetics	Problem Based Learning (PBL)	TE7
10	Mr. Amol S. Ingole	Electromagnetic Field Theory	Applications of Electromagnetics	Problem Based Learning (PBL)	TE8



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11	Mr. D. M. Shinde Dr. M. P. Turuk Ms. A. A. Gawari	Microcontroller s	PIC 18FXXXX Microcontroller	Flipped Classroom	TE
12	Mr. D. M. Shinde Dr. M. P. Turuk Ms. A. A. Gawari	Microcontroller s	Concept related to 8051 Microcontroller	Word Maze Game	TE
13	Ms. M. R. Kale	Elective - I(CN)	DNS Server in details	Flipped Classroom	TE
14	Ms. M. R. Kale	Elective - I(CN)	Networking component/concept	Word Search Game	TE
15	Mr. N. S. Shirude Mr. S. N. Upasani Ms. B. D. Kadam	Elective- I(Fundamentals of JAVA Programming)	Basic of JAVA Types of inheritance in JAVA Applications using JAVA	Flipped Classroom Problem Based Learning (PBL) Crossword	TE
16	Mrs. A. M. Kulkarni Dr. S. V. Gaikwad Mrs. A. K. Patel Mr. S. D. Hake	Radiation & Microwave Theory	1)Two terminal microwave solid state active devices (Tunnel diode, Gunn Diode, PIN Diode, Schottky Barrier Diode and Varactor 2)Set ups of microwave measurement devices	Flipped Classroom	BE
17	Mr. H. S. Thakar Mr. C. C. Pawar Mr. N. G. Nirmal	VLSI Design and Technology	1) To demonstrate the concept of "Schematic to Layout" flow in VLSI Design.	Flipped Laboratory	BE
18	Mr. C. A. Bhavsar	Elective - 4	Importance to R for Data Science	Flipped Classroom	BE
19	Ms. A. A. Gawari	Embedded System and RTOS	development boards like Raspberry pi, Galileo Gen-2, Arduino-Uno, ARM-7, ARM-9, ARM-Cortex- 2	Flipped Classroom	BE



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20	Ms. A. A. Gawari	Embedded System and RTOS	Understand need of different development board platform like Raspberry pi, Galileo Gen-2, Arduino-Uno	Quiz	BE



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SEM-I					
1	Dr. S. S Narkhede Dr. M. A. Gangarde Ms. S M. Hosamani	Electronics Circuit	MOSFET and OP-AMP	Crossword	SE
2	Dr. S. K. Moon Mr. D. M. Shinde Mr. R. G. Yelalwar	Digital Circuits	Quine-McCluskey Method	Flipped Classroom	SE
3	Mr. V. B Vaijapurkar	Data Structure	Data Types in C Programming and their classification	Data type stickers	
4	Mr. V. B Vaijapurkar Mrs. I. P. Kulkarni Mr. N. S. Shirude	Data Structure	Basics of C-Programming	Crossword	SE
5	Mr. V. B Vaijapurkar Mrs. I. P. Kulkarni Mr. N. S. Shirude	Data Structure	Problem Statement Implementation in a group using C-Programming	Project Based Learning	SE
6	Mr. R. N. Shriwas Dr. Y. Ravinder Dr. P. S. Varade Mr. R J. Sutar	Digital Communication	Basics of Digital Communication	Crossword	TE



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7	Dr. G. V. Bansod Dr. M.P. Turuk Mr. N. B. Gawade	Microcontroller	Basics of 8051 Microcontroller	Crossword	
8	Mr. S. L. Dhende	Database Management	1. Relational Algebra 2. Different types of Keys in DBMS 3. Analyze Student Knowledge about the course 4. Database Design and Programming skills	1. Interacti ve PPT Presentation 2. Video Lecture Creation 3. Quiz 4. Project Based Learning	TE
9	Mr. A. S. Ingole Mr. S. D. Hake	Electromagnetic Field Theory	Gauss's Law and Ampere's Law	Quiz	TE
10	Mr. L. P. Patil Mr. S. S. Khot Mr. H. S. Thakar Dr. S. K. Saw Mrs. A. A. Kulkarni Mrs. A. A. Prabhune	Skill Development		Flipped Classroom	TE
11	Dr. R.C. Jaiswal Dr. A.v. Rajput Mr. C. A. Bhavsar	Computer Networks	Collision Detection, IP Addressing	Problem Based Learning	TE
12	Dr. S. V. Gaikwad Mrs. A. M. Kulkarni Mrs. A. K. Patel	RMT	Basics of RMT	Quiz	BE
13	Dr. S. V. Gaikwad Mrs. A. M. Kulkarni Mrs. A. K. Patel	RMT	Problem based activity based on RMT	Problem Based Learning	BE



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14	Ms.M.R.Kale Dr. R.C.Jaiswal Mr.C.A.Bhavsar Ms.V.S.Kulkarni	Computer Networks and Security	Types of networks & Mechanisms in WLAN	Crossword	BE
15	Ms.M.R.Kale Dr. R.C.Jaiswal Mr.C.A.Bhavsar Ms.V.S.Kulkarni	Computer Networks and Security	Traffic Analysis, Application Servers and Web page Designing	Problem Based Learning	BE
16	Dr. M. V. Munot	Digital Image & Video Processing (DIVP)	Fundamental of Image Processing	1) Word Maze Cross Word 2)Project Based Learning	BE
17	Mr. H. S. Thakar Mr. C. C. Pawar	VLSIDT	Concepts of VHDL Programming	Quiz	BE
SEM-II					
18	Ms.M.R.Kale Dr. S.S. Narkhede Mr.C.C.Pawar Ms.S.M.Hoshmani	Control Systems	PID Controller	Flipped Classroom	SE
19	Ms.M.R.Kale Dr. S.S. Narkhede Mr.C.C.Pawar Ms.S.M.Hoshmani	Control Systems	Stability & Time Response Analysis	Problem Based Learning	SE
20	Ms.S.M.Hoshmani Mr.D.M.Shinde	Employability Skill Development	Leadership Styles	Flipped Classroom	SE
21	Mr.N.S.Shirude Mr.S.N.Upasani	Object Oriented Programming	1. Fundamentals constructs of object oriented programming. 2. Understanding	1. Quiz 2. Crossword 3. Awarren	SE



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	Dr. M. A. Gangarde Ms.I.K.Gaikwad		and study concepts of OOP	ess session on “How to prepare OOP concepts”	
22.a	Mr.N.S.Shirude Mr.S.N.Upasani Dr. M. A. Gangarde Ms.I.K.Gaikwad	Object Oriented Programming	Develop a system using the concept of Object Oriented Programming	Project Based Learning	SE
22.b	Mr.N.S.Shirude Mr.S.N.Upasani Dr. M. A. Gangarde Ms.I.K.Gaikwad	Object Oriented Programming	How to prepare the Object Oriented Programming Concepts for SPPU Oral and Theory exam	Awareness Session	SE
23	Mr.R.J.Sutar Mr.S.K.Choubey Ms.B.D.Kadam	Signal & Systems	1. Fourier Series 2. Basics of Signal & Systems	1. Flipped Classroom 2. Crossword	SE
24	Mr. N. B. Patil Dr.G.S.Mundada Mr. L. P. Patil Mr. H. S. Thakar	Power Devices and Circuits	Demonstration of Experiments	Flipped Lab.	TE
25	Mr.C.A.Bhavsar Mr.S.L.Dhende	Network Security	1. Basics of Network Security 2. Problem Implementation 3. Digital Signature and Hash Functions	1. Quiz 2. Problem Based Learning 3. Flipped Classroom	TE
26	Mr.A.S.Ingole Dr.A.V.Rajput	Cellular Networks	Various generations and architecture of mobile communication	Flipped Classroom	TE



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	Mr.J.Sayyad				
27	Ms.M.M.Honap	Robotics	Forward and Inverse Kinematics	Flipped Classroom	BE
28	Ms.A.M.Kulkarni Mr.S.D.Hake Mr.A.A.Prabhune	Broadband Communication Systems	Optical fiber link and satellite Link budget	Problem Based Learning	BE
29	Mr.S.S.More	Mobile Communication	Concept of 4G,5G and LTE	Flipped Classroom	BE
30	Mr.S.S.More	Mobile Communication	Concept of Traffic engineering	Quiz	BE
31	Ms.A.K.Patel Ms.S.S.Vasekar Mr.N.B.Gawade	Wireless Sensor Networks	Design aspects of wireless sensor networks	Flipped Classroom	BE



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Academic Year 2020-21

Sr.No.	Name of the Faculty	Subject	Topic Covered	Activity Conducted	Class
SEM-I					
1	Dr. Y. Ravinder	Basic Electronics Engineering	Few topics of Basic Electronics	Video Lecture Creation	FE
2	Mr. V.B. Vaijapurkar	Data Structure	Basics of C-Programming	Crossword	SE
3	Mr. V.B. Vaijapurkar	Data Structure	Basics of C-Programming	Project Based Learning	SE
4	Mr. V.B. Vaijapurkar	Data Structure	Basics of C-Programming	Data type Stickers	SE
5	Dr. S. S. Narkhede Dr. M. A. Gangarde Mr. L. P. Patil Ms. S. M. Hosamani	Electronics Circuits	1. Basic of Electronics Circuit 2. Transistor as a Switch	1. Quiz 2. Video Lecture Creation	SE
6	Mr. N. B. Patil Dr. G. S. Mundada Mr. S. K. Choubey	Electrical Circuits	Operating Principle of DC Motor & 3 phase induction motor	Animation of Operating Principle of DC Motor & 3 phase induction motor	SE
7	Mr. A. S. Ingole	Electromagnetics	Fundamentals of Electromagnetics	Quiz	TE
8	Mr. R. J. Sutar	Digital Signal Processing	Digital Filters	Crossword	TE
9	Dr. G. S. Mundada	Power Electronics	Fundamentals of Power Electronics	1. Quiz 2. Crossword	TE
10	Mr. D. M. Shinde	Microcontroller	1. Test and simulate the circuits using μC 2. Basics of 8051 μC	1. Project Based Learning 2. Cross word	TE



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11	Mr.V.B.Vaijapurkar	Electronics Circuit Design	Circuit Creation	Online live simulation using Multisim live	TE
12	Dr. S. Saw	Digital Signal Processing	Infinite Impulse Response	Quiz	TE
Sr.No.	Name of the Faculty	Subject	Topic Covered	Activity Conducted	Class
13	Mr.R.Shriwas Dr.P.S.Varade	Digital Communication	Project Implementation in the area Digital Communication	Project Based Learning	TE
14	Ms.M.R.Kale Dr.R.C.Jaiswal	Computer Network and Security	Protocols used in Computer Networks	Word Search Game	BE
15	Dr. M. V. Munot	Digital Image & Video Processing	Fundamentals of Image Processing	Crossword	BE
16	Dr. S. V. Gaikwad Mr. S. D. Hake Mrs. A. A. Bidkar Mrs. A. K. Patel Mr. A.S. Ramtake	Radiation and Microwave Technique	Reflex Klystron	Online Demo on construction of Reflex Klystron	BE
17	Dr. S. V. Gaikwad Mr. S. D. Hake Mrs. A. A. Bidkar Mrs. A. K. Patel Mr. A.S. Ramtake	Radiation and Microwave Technique	Construction of Magnetron	Online Demo on construction of Magnetron and its application in Microwave oven	BE
18	Mr.Z. Ahmed Dr.G.V.Bansod Mr.N.B.Gawade	IOT	1. Project Implementation in the area IOT 2. Demonstration of IOT Concepts	1. Project Based Learning 2. MOOCS Based Learning	BE
19	Mr. C. A. Bhavsar	CNS	Computer Networking and Cyber Security	Crossword	BE
20	Mr. C. C. Pawar	VLSIDT	CMOS Circuit Design	Quiz	BE



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21	Mr.A. S.Ramteke Mr.A. S.Rasal	Artificial Intelligence	1. Search Methods 2. Pattern Recognition and Expert System	1. Video Lecture Creation 2. Flipped Classroom	BE
22	Mr. H. S. Thakar	VLSIDT	VLSIDT Practicals PART-B Demos	1. Video Lecture Creation	BE
SEM-II					
23	Dr.Y.Ravinder Mr.M.N.Kakade Ms.B.D.Kadam	Basic Electronics Engineering	1. Online Practical Conduction 2. Simulation of Experiment	1. Use of CoEP Virtual Lab for Practical 2. Use of Tinkercad – Online Simulation platform 3. Use of animation to make things clear to students 4. Revision test after experiment & unit on joinmyquiz.com	FE
24	Ms.M.R.Kale	Employability Skills Development	Leadership Skills	Case study on Leadership Skills	SE
25	Dr.R.C.Jaiswal	ITCCN	Information Theory and Source Coding	Crossword	TE
26	Mr. A. S. Ingole	ITCCN	Information Theory and Source Coding	Crossword	TE
27	Mr. D. M. Shinde	Advanced Processor	1. Test and simulate the circuits based on μ C. 2. Basic of ARM-7 Processor and LPC2148 μ C	1. Project Based Learning 2. Crossword	TE
28	Dr. R. C. Jaiswal	Audio Video Engineering	Basic of Audio Video Engineering	Crossword	BE
29	Dr. R. C. Jaiswal	CNS	Protocols used in computer networks	Word Search Game	BE
30	Dr.M.V.Munot Dr.M.P.Turuk	Machine Learning	Supervised and unsupervised Learning	Flipped Classroom	BE



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Academic Year 2019-20

Sr.No.	Name of the Faculty	Subject	Topic Covered	Activity Conducted	Class
SEM-I					
1	Mr.R.J.Sutar	S&S	Fourier Series	Teaching Fourier series with the help of DSO and function generator.	SE
2	Mr. S. S. Khot	Mechatronics	Project Implementation in the area Mechatronics	Project Based Learning	TE
3	Dr.G.S.Mundada	Mechatronics	Case studies of Anti Breaking System. Tilting Train, Boat Autopilot and Automatic Car Parking System	Flipped Classroom	
4	Dr. R. C. Jaiswal	CNS	Fundamentals of DNS Systems	Flipped Classroom	BE
SEM-II					
5	Dr. M. V. Munot	Control Systems	Fundamentals of Control Systems	Word Search Game	SE
6.a	Mr. N. S. Shirude	Object Oriented Programming	Video lecture on OOP concept and upload on the You tube channel	Flipped Classroom	SE
6.b	Mr. N. S. Shirude	Object Oriented Programming	Assigned project	Project Based Learning	SE
6.c	Mr. N. S. Shirude	Object Oriented Programming	1. Understand the concept of object oriented of	Online Exam. Portal	SE



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			programming		
7	Mr. S. L. Dhende	Integrated Circuits	<ol style="list-style-type: none"> 1. Operational Amplifier Circuits 2. Experimental Learning through Video 3. Learning Management Systems 	<ol style="list-style-type: none"> 1. Circuit simulation 2. Video Lecture Creation 3. Google classroom 4. Live session 	SE
8	Mr. R. J. Sutar	Analog Communication	Fundamentals of Analog Communication	<ol style="list-style-type: none"> 1. Crossword 2. Quiz 3. Video Lecture Creation 4. Web Blog creation 	SE
9	Mr.D. M.Shinde	Advanced Processor	Basics of DSP Processor	Crossword	TE
10	Dr. G. V. Bansod	Advanced Processor	<ol style="list-style-type: none"> 1. Basics of DSP Processor 2. DSP Processor 	<ol style="list-style-type: none"> 1. Crossword 2. Video Lecture Creation 	TE
11	Ms. I. P. Kulkarni	Business Management	<ol style="list-style-type: none"> 1. Basics of Business Management 2. Marketing Management 	<ol style="list-style-type: none"> 1. Quiz 2. Video Lecture Creation 	TE
12	Mr.H. S. Thakar	Power Electronics	<ol style="list-style-type: none"> 1. Fundamentals of Power Electronics 2. Demonstration of Laboratory Experiments 	<ol style="list-style-type: none"> 1. Quiz 2. Crossword 3. Virtual Classroom 4. Video Lecture Creation 5. Circuit simulation 	TE
13	Dr.G.S.Mundada	Power Electronics	Fundamentals of Power Electronics	<ol style="list-style-type: none"> 1. Quiz 2. Crossword 	TE



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14	Dr. R. C. Jaiswal	AVE	Basics of Audio Video Engineering	Crossword	BE
15	Mrs. M. R. Kale	Wireless Sensor Networks	Properties of Wireless Communication	Quiz	BE

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Academic Year 2018-19

Sr.No.	Name of the Faculty	Subject	Topic Covered	Activity Conducted	Class
SEM-I					
1	Mr. A. S. Ramteke Mr. Y. V. Deo Mr. S. D. Hake	Electronics Measuring Instruments and Tools	Understand various electronic measuring Instrument's operation	Flipped Laboratory	SE
2	Mr. D. M. Shinde	Microcontroller	Test and simulate the circuits based on μC .	Project Based Learning	TE
3	Dr. M. V. Munot Dr. M. P. Turuk.	Digital Image and Video Processing	Fundamental Of Image Processing	Word Maze Game	BE
4	Dr. M. V. Munot Mr. A. S. Ramteke	Artificial Intelligence	A* Search algorithm	Flipped Classroom	BE
5	Dr. R. C. Jaiswal	Computer Network and Security	Fundamentals of DNS Systems	Flipped Classroom	BE
6	Mrs. M. R. Kale	Computer Network and Security	Fundamentals of DNS Systems	Flipped Classroom	BE
Sem-II					
7	Dr. M. V. Munot	Control Systems	Fundamentals of	Word Search Game	SE



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			Control System Modeling and Time Response Analysis		
8	Mr. R. G. Yelalwar Dr. M. V. Munot	Machine Learning	Support Vector Machine	Flipped Classroom	BE



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Academic Year 2017-18

Sr. No.	Name of the Faculty	Subject	Topic Covered	Activity Conducted	Class
SEM-I					
1	Dr. P. T. Kulkarni Mrs. S. K. Jamage	Basic Electronics Engineering	Diode Circuits, BJT Circuits, Linear Integrated Circuits, Digital Circuit, Power Devices and Transducer and Electronic communication	E-Learning (Animation)	FE
SEM-II					
2	Mr. D. M. Shinde Mrs. S. K. Jamage Mrs. A. A. Dixit	Basic Electronics Engineering	Basics of Diode and Bipolar Transistor Circuit	Cross Word	FE
3	Dr. M. V. Munot	Control System	Control System Modeling and Time Response Analysis	Word Search Game	SE
4	Mr. R J. Sutar Dr. S. K. Moon Mr. R. N. Shriwas Mr. N. S. Shirude	Analog Communication	Amplitude Modulation and Demodulation	Cross Word	SE
5	Mr. R J. Sutar Dr. S. K. Moon Mr. R. N. Shriwas Mr. N. S. Shirude	Analog Communication	Generation of Amplitude and Frequency Modulation	Demo on Lab VIEW	SE



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6	Mr. R J. Sutar Dr. S. K. Moon Mr. R. N. Shriwas Mr. N. S. Shirude	Analog Communication		Presentation on practical	SE
7	Mr. A. S. Bhosale Mr. S. S. Khot Mr. S. K. Choubey	Wireless Networks	Amplitude Modulation and Demodulation	Presentation by Students	BE
8	Mr. S. S. Khot	Mobile Communication	Various Mobile Technologies	Quiz Competition	BE



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