Innovative Teaching-Learning Methods- SH 2020

Category	Sr. No	Activity	Date and Day	No of Participants		Brief Summary	Remarks	Teacher I/C
				Student	**Faculty**			
	1	**A) Self-paced learning and informal writing B) Open note problem solving-MS Teams C) online meeting room discussions**	A) August 11 2020 B) September 9 and October 12, 2020 C) September 1, 2020	48	1	A) NPTEL video watching and summarizing B) Class notebook feature available in MS Teams is used for students to solve problems and get them assessed in real time. C) Students are divided in groups in online meeting and have to together solve a worksheet by discussion with each other.	All the findings are reported here Engaging Students Actively for Effective Teaching-Learning	Kolhekar	Journal of Engineering Education Transformations (journaleet.in)	Mrs. Megha K.
	2	**Seminar and software assignment DTSP Sem V EXTC**	26/10/2020 to 31/10/2020	71	01	• Software assignments were given to the students based on the syllabus contents as the subject DTSP had no laboratory course. • The students were divided into groups and were asked to	About 92% students reported that the software assignments and the seminar assignments given helped them to enhance their knowledge in the area of discrete time signal processing	Dr. Savitha U.

					demonstrate the same through simulation, presentations and discussions • Expert lecture by Alumni on " Applications of DSP"		
3	(Seminar and Course Project) of MPI Sem V EXTC SH2020	26/10/2020 to 31/10/2020	71	01	• Seminars on Latest Topics (over and above the syllabus) were given by Students • Course Project were implemented by student group of 4-5 students where they implemented codes for extended experiments and apps • Both the Activities aimed at evaluation of ability of the students to use modern tools (PO5), function as a team (PO9) and engage in Lifelong learning (PO12)	• 92 % students felt that the seminar topics helped them in understanding the applications and the advanced concepts of microprocessor. • 98 % students felt that the Course Project help in them in understanding the course content in a better way and comprehend the application aspect of the syllabus content.	Dr.Pranali C
4	Poster presentation in EME	Sept 2020	71	1	Students were divided into groups of 4-5 and each group was given a	This is to evaluate capability of students to function as	Mrs.Pushpa U.

					small topic from syllabus to prepare a poster and present the same	a team and individual(PO 9)	
	Guest lecture	5/9/2020	60	01	The guest lecture was organized to enable students understand the various Power Amplifier and their application	Students got idea about the application of Power Amplifier https://web.microsoftstream.com/video/991475f8-a057-4e40-8a07-7a3e7b8624d1 PO3 was targeted	Mrs.Smita C
6	A Flipped Classroom	27/07/2020 28/09/2020	29 BE EXTC sem 7 - DLO ICE	01	The students were divided into groups and were asked to discuss after providing them enough material towards the topic	Students considered this method effective and were ready to have more flip classroom sessions Students found it challenging and innovative way of judging themselves in their understanding with increasing participation o bserved every Remedial slot	Mrs. Nilas hree W.
		13/07/2020 and	29	01			
	B Crossword Quizes	During all Remedials			The students were divided into groups and were asked to solve the Quiz with some time limit given so as to test attentiveness as well as to test their understanding		
		05/10/2020 29/10/2020	29	01		Guest lecture was aimed to attain PO6	

	C. Guest lecures and Video lecures				Expert talk by Alumni on Internet security and firewall DVB , multimedia		
7	1. Solving the online Sanfoundry.com MCQs for practice after the classroom sessions.	Throughout the semester.	72	01	Typical Qs discussed in class and whole class attempted MS form based on topic wise MCQs from sanfoundry.com/MCQ sets of reference books.	Students considered this practice is effective but restricted the no.of Qs to 10-15. Helped in scoring MCQ sections of int and ext exams.	Mr.Yogesh C
	2. Course Project	26/10/2020 to 31/10/2020	72	01	Group of 4 students executed course projects based on C++/java language, covering the concepts learned in lab. Each group submitted a report for the same.	Activity is compulsory as a part of syllabus. Aimed to evaluation of ability of the students to use modern tools (PO5), function as a team (PO9) and engage in Lifelong learning (PO12)	
	3. Expert talk	31/10/2020	45	01	**Webinar on "Software Skillsets",** Keynote Speaker: Mr. Abhishek Lahere-Technical Project Manager, TCS, Pune. Webinar covered- how to develop Coding Skills for facing Interviews and opportunities of Electronics students in	Webinar feedback form responded by 37 participants and rated as extremely helpful in understanding the software skills required for interview and corporate world.	

					software technical domain - Embedded system domain (TCS Product Development), Tools and different type of jobs, overview of recruitment process, types of questions to test fundamentals of programming languages and reasoning.		
8	A. Mentimeter B. LMS quizzes Online class notebook	After every topic covered in the syllabus	71	01	Small quizzes were conducted after very module was covered in the class. Numerical problems were given in digital class notebook	--	Mrs.Anita J
9	a. Mentimeter b. Microsoft Quizzes c. Group semi nard. Video recorded lectures and then open discussions based on this	Throughout the semester	85	01	To make sessions interactive online Educational games were played	Students were actively involved	Mrs.Manita R
10	Case study (Disaster Management and Mitigation Measures- sem VII)	26/10/2020 to 31/10/2020	81	1	Students were divided into groups. Students were asked to do case study on real disasters happened so far.	Activity was aimed to attain PO7.	Mrs. Amruta P

Innovative Teaching-Learning Methods- FH 2021

Category	Sr. No	Activity	Date and Day	No of Participants		Brief Summary	Remarks	Teacher I/C
				Student	Faculty			
	1.	Case studies	Throughout the semester, one group at a time during FH 2021	72	1	Students were divided into groups of 4 and each group was asked to select a topic from a given pool of various electronic communication application technologies, recognize its need, summarize the communication technology used and present a report.	Activity is aimed to evaluate capability of students to function as a team (PO9) and engage in independent and lifelong learning(PO12)	Mrs.Sadhana Pai
	2.	**A) Course Project** **B) One note class notebook**	A)Second – half of the semester B) February 10, April 15 and April 19 2021	TE EXTC class (71)	1	A) Students were divided into groups of 4 maximum, were given a real-life problem statement related to IPMV that tests	A) Evaluation done for PO-7 and PO-9. B) Feedback not taken for this method	Mrs.Megha K.

	problem solving				their programming skill (lifelong learning PO-12), makes them visualize the use of course in the perspective of societal needs (PO-7), helps them learn team-work (PO-9) and tests their technical writing ability (PO-10). B) students solve problems in MS Teams featured one note class notebook and get them assessed in real time.		
3.	**Seminar and software assignment LIC Sem IV EXTC**	01/03/2021 to 31/03/2021	72	1	Assignments based on societal benefit application using LIC were given to the students The students were divided into groups and were asked to demonstrate the same through simulation, presentations and discussions	About 98.5% of the students reported that this assignment on societal benefit application of LIC was very effective and helped them in self-learning and understanding the concepts	Dr.Savitha U.

4.	Course Project	01/03/2021 to 31/03/2021	72 students (SE EXTC)	1	• Students were asked to form groups of 4 students and implement a small course project using the modern tools such as Python, Octave or Matlab to Demonstrate any concept learnt in the syllabus of Signals and systems. each group had to submit a report for the same • Activity aimed at evaluation of ability of the students to use modern tools (PO5), function as a team (PO9) and engage in	96 % students felt that the activity helped them in understanding the applications and the advanced concepts of signals and systems	Dr.Pranali C

					Lifelong learning (PO12)		
5.	Poster presentation in ARWP	April 2021	71	01	Students were divided into groups of 4-5 and each group was given a small topic from syllabus to prepare a poster and present the same	This is is to evaluate capability of students to function as a team and individual(PO9)	Mrs.Pushpa U. S
6.	Technical Paper Presentation	1st feb to 13th feb/2021	85	01	The class was divided into groups of 5 students and students prepared video presentation. This presentation was judged by the subject coordinator	Evaluation for PO2 is done https://fcrit-my.sharepoint.com/:f:/g/personal/smita_chopde_fcrit_ac_in/EpH0TXgaGKNMqlx-rtWRstQB9W0NKPe7vsHhP1cEwPSD7A?e=JdC2b0	Mrs.Smita C
		26/3/2021	84	01	This improved the students judgment and recalling capacity about their knowledge and students showed great enthusiasm in	Evaluation for PO2 and PO3	
	Cross Word Puzzle	12/2/2021	85	02			

	Guest lecture				participating in puzzle . The PO 3 was targeted The objective of Guest lecture was to make students aware about the Rf and wireless applicatio n . Let them be aware of the EMI and EMC hazards and the limitations of the RF components and equipment as wellas improvi ng the capacity of the RF application knowing these liitations.		
7.	A Flipped Classroom	5/4/2021 29/4/2021 29/01/2021an d also conducted for all remedial classes	43 TE EXTC s em 6 RADAR engg 43	01 01	The students were divided into groups and were asked to discuss after providing them enough material towards the topic	Students considered this method effective and were ready to have more flip classroom sessions Students found it challenging and innovative way of judging themselves in their understanding with increasing participation observed every Remedial slot	Mrs. NilashreeW.

	B Crossword Quizes	5/02/2021 17/03/20219/04/2021		01	The students were divided into groups and were asked to solve the Quiz with some time limit given so as to test attentiveness as well as to test their understanding	Guest lecture was aimed to attain PO6	
			43				
	C. Guest lecures and Video lecures				Expert talk by Alumni on Radar Engineering and use in Military and allied forces		
8.	1. Solving the online Sanfoundry.com MCQs for practice after the classroom sessions.	Throughout the semester	72	01	Typical Qs discussed in class and whole class attempted MS form based on topic wise MCQs from sanfoundry.com/MCQ sets of reference books Group of 4 students executed course projects based on microcontrollers listed in syllabus. Each group submitted	Students considered this practice is effective but restricted the no.of Qs to 10-15. Helped in scoring MCQ sections of int and ext exams. Activity is compulsory as a part of syllabus. Aimed to evaluation of ability of the students to use modern tools (PO5), function as a team (PO9) and engage in Lifelong learning (PO12) Webinar feedback form responded by participants and	Mr.Yogesh C
	2. Course Project	01/03/2021 to 31/03/2021	72	01			

				14/05/2021				a report for the same.	rated as extremely helpful in understanding the		
					72	02			skills required for interview and		
	3. Guest lecure							**Webinar on "Career Options and Opportunities for Electronics Graduates "-** Key note Speaker: Mr. Renjith.C.V - Architect/Product Designer at Philips India, Pune. **t**o explore job opportunities in core Electronics field and the skills required, Overview of Product Development, Industry, Tools and expectation from Industry, interview and resume preparation	corporate world and deciding options in career and understanding the scope.		
	Solving the NPTEL assignments	Throughout the semester	71	01				We all joined the NPTEL course together and tried solving the assignments together	--		Mrs.Anita J
			71	01							

				71	01	Students individually played a "Quizlet live game" before their IA exam to revise the concept		
		Played "Quizlet Live" Online brakout room in Ms teams						
						One assignments was solved by dividing the students in random groups and shifting them in one of the breakout rooms.		
		case Study on the newest Wi-FI technology	1st week Of April	85	01	This activity was named as "Something Beyond Books" Students were formed into grps, were asked to find about details of all versions of Wi-Fi which emerged till year 2020. Then they presented in grps.	Aimed PO12	Mrs.Manita R
		Solving quizzes given on Cisco packet Tracer	During Practical sessions in the month of March	85	01	Students were asked to enroll themselve	Modern tool Usage	

					s for the course of Cisco packet tracer. They attempted the quiz after simulating some networks. Some even got the completion certifiacte from cisco.		
1	1)Course Project 2)Webinar on "System On C hip Design" by Maven Silicon, Banglore	20/03/2021 to 29/04/2021 20/2/2021	28 students (TE EXTC-Elective subject)	1	1) Students were asked to form groups of 4 students and implement a small course project using the modern tools such as LT-Spice, Modelsim or Xilinx to Demonstrate any concept learnt in the syllabus of Digital VLSI Design. Each group had given presentation to class and submitted a report for the same. 2) Students were asked to attempt the quiz after 2 hrs webinar.	1) Activity aimed at evaluation of ability of the students to use modern tools (PO5, fun9) and engage in ction as a team (PO Lifelong learning (PO12) 2) 96 % students received certificate. All students liked this webinar which helped them in understanding the current requirement in VLSI industry as well as gained more knowledge from experts.	Ms. Akshata R

					Those who scored 75% and above, received certificate too. Report has generated for Quiz.		

Innovative Teaching-Learning Methods SH 2021								
Category	**Sr.No**	**Activity**	**Date and Day**	**No of Participants**		**Brief Summary**	**Remarks**	**Teacher I/C**
				Student	**Faculty**			
	1.	**Case Study**	24th September 2021 25th September 2021	80	-	Case study on real disaster incidences. Students were divided in groups and specific incidence of disaster was given to them, they were supposed to discuss the cause, effects and recovery policies used during that disaster.	Students were actively involved.	Amruta Pabarekar
	2.	**Seminars on real life problems related to neural networks and fuzzy logic**	2nd and 9th October 2021	54	-	Students prepared seminars on topics in and beyond syllabus and presented before class. A students panel was employed to judge them along with Instructor.	Students enjoyed the activity and appreciated the learnings. Feedback is available with instructor.	Megha Kolhekar
	3.	**Guided Worksheets**	Multiple times in semester	54	-	Students are provided with detailed step-wise worksheet for active learning of the topic. It is ensured that student learns the topic from exam point of view by solving the worksheet	Most of the students appreciated the learnings from this method	Megha Kolhekar

					step-by-step. Some worksheets have advanced content to get more insight in the topic.		
4.	**Challenging Assignments**	Twice in semester	54	-	These are not compulsory assignments but the objective was to differentiate academically good graspers from average students	Most of them have attempted to solve.	Megha Kolhekar
5.	Seminar	Once in a semester	69	-	Seminars on advanced topics in control systems, PLCS, Ladder diagrams and Futuristics sensors were given to the students , which they had to study and present in the class.	All students were divided in groups of 4 . And the seminar were given g roup wise	Dr. Pranali Choudhari
6.	Assignments with Blooms level 3	Thrice in semester	17	-	Compulsory assignments which were first discussed and then graded		Nilashree W
7.	Course project	one	17		Compulsory to perform in group which was graded based on innovative ideas		Nilashree W
8.	Flipped Classroom sessions	Thrice	17		Learning through discussion among students and material		Nilashree W

						was provided through teacher. Quizzes were put at the end to understand their ability of learning		
	9.	Quizes through Crossword puzzles	Thrice	17		All modules were covered through crosswords and these puzzles kept the students engaged and interested throughout the lecture sesssion		Nilashree W
	10.	Quizzes using MS Forms Quizzes on Mentimeter Course Project	Twice 3 times One – In a group of 4/5 students	73	-	Quizzes using MS Forms and Mentimeter were taken for modules1, 2, 3,4a and 5 Course project on – Ina group of four- five members- Applications of DSP were implemented using software tools like Python and Octave and was also presented and documented as power point presentation and report respectively	Mentimeter quizzes were appreciated by the students Course project was highly appreciated by students	Dr Savitha S Upadhya

Innovative Teaching-Learning Methods- FH 2022

Category	Sr.No	Activity	Date and Day	No of Participants		Brief Summary	Remarks	Teacher I/C
				Student	**Faculty**			
Activities Conducted to Improve Overall Teaching-Learning Objectives	10.	1. Seminar by students	13-04-2022	24	-	Groups were formed and topics related to 'Applications of Satellites' were distributed among them and based on it students prepared and presented seminars.		Dr. Milind Shah
		2. Quiz on 'Nearpod'	Twice in a semester	32	-	Student paced Quiz activity for two topics was conducted on a Nearpod platform.		Dr. Milind Shah
	11.	1. Software Assignment 2. Webinar report **3.** Paper review Assignment	1. March 31, 2022 2. February 6, 2022 3. April 13, 2022	1. 68 2. 20 3. 56	2. Course coordinator	1. Students were asked to implement NN algorithms in Python, for learning the concept, though the course does not have an asscoiated lab. 2. Students were encouraged to register for a free		Mrs.Megha K.

						webinar on "Applications of Machine Learning in Industry" by "BrightTalk" online platform. They were asked to make a report. 3. Students were provided with a standard paper on SVM algorithm and they were asked to write a review report.		
	12.	1. Case studies on Application of IIoT 2. Python Implmentation	Once in a semester	20	-	Groups of two students were formed and an application sector / area pertaining to IIoT was allotted to them. Each group had to review two standard papers published in last five years in that field to understand and present the implementation of		Dr.Pranali C

						IoT in the selected sector The same groups were asked to search for database related to the allotted Case study , Identify the Map and Reduce functions that can be implemented with the available database. Implementation of these functions was to be done in Python		
	13.	1 Flipclassroom sessions	Twice in a semester	22	-	Groups were formed and topics related to 'Compariosn between transport layer, Internet layer and Application layer protocols' was covered based on the already provided notes on MSTeams.	Flipclassroom interaction was highly appreciated by student	Mrs. Nilashree W.
		2 Quizes through Crossword puzzles	Twice in semester	19		Quizes as extra practice for Remedial students only	Students showed great interest in solving crosswords	
		3 Complex assignments						

		4 Course projects in CCN	Twice in semester One – In a group of 4/5 students	72 72		Compulsory assignments which were first discussed and then graded Compulsory to perform in group which was graded based on innovative ideas	All students did good implementations within the given stipulated time via provided resources and self learning	
	14.	Course projects in IPMV	One – In a group of 4/5 students	72		Students were encouraged to implement any idea with the help of concepts studied in IPMV subject	Students were very happy to develop one small application using theory studied in class.	Mrs.Anita J
	15.	1. Group seminarby students 2. Course projects in WNL	Once in a semester Once in a semester	71 71		Topics were given groupwise. They submitted the ppt for corrections before the presentation. They were evaluated by a panel comprising of students and courseteacher.	Overall the session was very interactive. Student evaluators were asking very relevant questions.	Mrs.Manita R

					Groupwise performance on different tools was simulated and demonstrated.		
16.	1. Seminars by students 2. Quiz	Semester VI Subject: Electromagnetics & Antenna Semester VI Subject: Electromagnetics & Antenna	72		Groups of 4-5 students were formed. Emerging topics related to Electromagnetics and Antenna were assigned to each group. A quiz was conducted to test the prerequisite knowledge of the students		Dr. Anant Kulkarni
17.	Micro Project	In Sem IV for MC	69	-	Groups were formed and small microcontroller based project assigned them and executed by each group.	-	Dr. Prasad Kulkarni