



DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION

COURSE OUTCOMES AND PROGRAM OUTCOMES

Program Outcomes (POs) and Program Specific Outcomes (PSOs)

PSOs:

PO1	ACADEMICS: Apply knowledge of electronics/course in analog and digital domains.
PO2	INTER DISCIPLINARY: Use of technique, skill & engineering tool necessary for engineering practices.
PO3	SOCIAL ASPECT: Able to demonstrate engineering knowledge, interpersonal skills for societal responsibilities

Course Outcomes (COs)

After completion of course, student will be able

Course Name: Electronic Devices and Circuits	Course Code: - C202	Course -2015
Subject Teacher: - Mr. B. J. Pawar	A.Y.: -2019-20 SEM-1	Class: - SE
C202.1	Distinguish & compare the parameters of FET & design small signal JFET amplifier.	
C202.2	Analyze and test the DC parameters by DC analysis of MOSFET	
C202.3	Analyze the AC parameters of MOSFET amplifier and MOSFET as Basic Element in VLSI	
C202.4	Examine various MOSFET based electronic circuits.	
C202.5	Analyze various FET based feedback topologies and test the results.	
C202.6	Compare various voltage regulators, design and test an adjustable voltage regulator circuit	

Course Name: Object oriented Programming Language	Course Code: - C211	Course -2015
Subject Teacher: - Ms.T.S. Deshmukh	A.Y.: -2019-20 SEM-II	Class: - SE
C211.1	Apply the principles of object oriented programming and basic of C++ to write simple programming.	
C211.2	Apply the concepts of oop such as classes & objects, data encapsulation, inheritance in C++ to create application.	
C211.3	Create Simple application in java by using basic construct of java.	
C211.4	Apply the concepts of classes, methods and use array, strings to develop programs in Java	
C211.5	Use inheritance, packages and interfaces to develop programs in Java	

C211.6	Create user friendly program by using the concepts in Java
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Course Name: Digital Communication	Course Code: - C301	Course -2015
Subject Teacher: - Ms. Jagtap. S. M	A.Y.: -2019-20 SEM-I	Class: - TE
C301.1	Compare various modulation techniques in a digital communication system.	
C301.2	Classify & compare Multiplexing, synchronization techniques. Apply line coding and pulse shaping techniques for data transmission	
C301.3	Apply the knowledge of probability and statistical calculations on random signal analysis.	
C301.4	Measure the performance of digital communication receiver systems in terms of probability of error in presence of noise	
C301.5	Find the probability of error of different pass band transmission techniques.	
C301.6	Analyze Performance of spread spectrum communication system and classify it to improve the performance under fading channels for various applications.	

Course Name: System Programming and Operating Systems	Course Code: - C313	Course -2015
Subject Teacher: - Mr Viraj R Sonawane	A.Y.: -2019-20 SEM-II	Class: - TE
C313.1	Identify and analyse various language processing activities, apply the knowledge of assembler and macro processor for developing passes for them.	
C313.2	apply the function , phases, optimization technique of the compiler for the compilation of the general and control structures along with understand design of absolute loader, compare various loading and linkers scheme.	
C313.3	understand the concept and Compare various Operating system also apply the concept of process management for finding efficiency and comparing scheduling algorithm.	
C313.4	Student will be able to compare various concurrency method find the solution to the classical IPC, Apply the deadlock principle for prevention, avoidance , detection of same	
C313.5	understand various concept of memory management, compare page replacement algorithm by finding the efficiency.	
C313.6	understand I/O management and file management , apply Disc scheduling and compare allocation methods of files	

Course Name: Computer Networks & Security	Course Code: - C402	Course -2015
Subject Teacher: - Dr. V. M. Birari	A.Y.: -2019-20 SEM-1	Class: - BE
C402.1	Apply fundamental underlying principles of computer networking by Drawing TCP/IP, Analysis of Media Access Control & its Comparison & Classify Ethernet as well as Wireless LAN & its application.	
C402.2	Apply Analyze & Classify network layer protocol & Determine suitable IP addresses.	
C402.3	Analyze the requirements for a given organizational structure, Compare and select/Draw the most appropriate networking architecture and technologies;	
C402.4	Analyze, Classify and Compare various protocols used at Transport layer & able to Draw architecture of various protocols.	
C402.5	Analyze & Compare various Protocols suitable at applications Layer.	
C402.6	Apply & Analyze cryptography technique for network security	

Course Name: Elective IV Wireless Sensor Network	Course Code: - C412	Course -2015
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Subject Teacher: -Mr. V. P. Gawai		A.Y.: -2019-20 SEM-II	Class: - BE
C411A.1	Analyse various concepts and terminologies used in WSN for various application.		
C411A.2	Differentiate modulation techniques for radio wave. Analyse medium access protocols for different topology		
C411A.3	Differentiate wireless standards and protocols		
C411A.4	Analyse Localization Schemes and Routing ALGORITHMS		
C411A.5	Analyse techniques of data aggregation and importance of security in WSN		
C411A.6	Examine the issues involved in design and deployment of WSN		

CO-PO matrices of above selected courses

Course Name: Electronic Devices and Circuits						Course Code: - C202				Course -2015		
Subject Teacher: - Mr. B. J. Pawar						A.Y.: -2019-20 SEM-1				Class: - SE		
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C202.1	3	2	2	2	3	--	--	1	1	1	--	1
C202.2	3	2	1	1	2	--	--	--	--	--	--	1
C202.3	3	1	1	1	--	--	--	--	--	--	--	1
C202.4	3	2	1	1	1	--	--	--	--	--	--	--
C202.5	3	2	2	2	2	--	--	--	--	--	--	1
C202.6	3	1	2	--	--	--	--	--	--	--	--	2
C202	3	1.67	1.5	1.4	2	--	--	1	1	1	--	1.2

Course Name: Object oriented Programing Language						Course Code: - C211				Course -2015		
Subject Teacher: - Ms.T.S.Deshmukh						A.Y.: -2019-20 SEM-II				Class: - SE		
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C211.1	3	2	3		3							3
C211.2	3	2	3		3				2			3
C211.3	3				3							
C211.4	3		2		3							
C211.5	3	2	2		3				2			1
C211.6	3		2		3				2			3
C211	3	2	2.4		3				2			2.5

Course Name: Digital Communication						Course Code: - C301				Course -2015		
Subject Teacher: - Ms. Jagtap. S. M						A.Y.: -2019-20 SEM-I				Class: - TE		

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C301.1	3	3	--	--	--	--	--	--	--	--	--	--
C301.2	3	3	2	--	--	--	--	--	--	--	--	--
C301.3	3	3	2	--	--	--	--	--	--	--	--	--
C301.4	3	2	--	--	--	--	--	--	--	--	--	--
C301.5	3	3	1	--	--	--	--	--	--	--	--	--
C301.6	3	3	2	--	--	--	--	--	--	--	--	--
C301	3	2.83	2.33	--	--	--	--	--	--	--	--	--

Course Name: System Programming and Operating Systems						Course Code: - C313				Course -2015		
Subject Teacher: - Mr Viraj R Sonawane						A.Y.: -2019-20 SEM-II				Class: - TE		
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C313.1	3	2	-	-	-	-	-	-	-	-	-	-
C313.2	3	2	-	-	-	-	-	-	-	-	-	3
C313.3	3	3	-	-	-	-	-	2	2	2	-	3
C313.4	3	3	-	-	-	-	-	-	-	-	-	-
C313.5	3	3	-	-	-	-	-	-	-	-	-	-
C313.6	3	2	-	-	-	-	-	-	-	-	-	-
C313	3	2.5	-	-	-	-	-	2	2	2	-	3

Course Name: Computer Networks & Security						Course Code: - C402				Course -2015		
Subject Teacher: - Dr. V. M. Birari						A.Y.: -2019-20 SEM-1				Class: - BE		
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C402.1	3	3	--	--	--	--	--	--	--	--	--	3
C402.2	3	3	3	--	--	--	--	--	--	--	--	3
C402.3	--	3	--	2	--	--	--	--	--	--	--	--
C402.4	--	3	--	3	--	--	--	--	--	--	--	--
C402.5	--	3	--	--	3	--	--	3	--	3	--	3
C402.6	3	3	--	--	--	--	--	--	--	--	--	--
C402	3	3	3	2.5	3	--	--	3	--	3	--	3

Course Name: Elective IV Wireless Sensor Network						Course Code: - C412				Course -2015		
Subject Teacher: -Mr. V. P. Gawai						A.Y.: -2019-20 SEM-II				Class: - BE		

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C412.1	2	--	--	--	--	--	--	--	--	1		1
C412.2	2	1	--	--	--	--	--	--	--	--	--	--
C412.3	2	1	--	--	--	--	--	--	--	--	--	--
C412.4	2	1	--	--	--	--	--	--	--	--	--	--
C412.5	2	1	--	--	--	--	--	--	--	--	--	--
C412.6	2	--	--	--	--	--	--	--	1	3	--	3
C412	2	1	--	--	--	--	--	--	1	2	--	2

Mapping of COs with PSOs:

Course Name: Electronic Devices and Circuits	Course Code: - C202	Course -2015
Subject Teacher: - Mr. B. J. Pawar	A.Y.: -2019-20 SEM-1	Class: - SE

COs	PSO1	PSO2	PSO3
C202.1	3	2	--
C202.2	3	1	--
C202.3	2	1	--
C202.4	2	1	--
C202.5	2	2	--
C202.6	2	--	--
C202	2.33	1.4	-

Course Name: Object Oriented Programing Language	Course Code: - C211	Course -2015
Subject Teacher: - Ms.T.S.Deshmukh	A.Y.: -2019-20 SEM-II	Class: - SE

COs	PSO1	PSO2	PSO3
C211.1	3	--	--
C211.2	3	--	--
C211.3	3	--	--
C211.4	3	--	--
C211.5	3	--	--
C211.6	3	--	--
C211	3	--	--

Course Name: Digital Communication	Course Code: - C301	Course -2015
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Subject Teacher: - Ms. Jagtap. S. M	A.Y.: -2019-20 SEM-I	Class: - TE
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COs	PSO1	PSO2	PSO3
C301.1	2	--	--
C301.2	2	--	--
C301.3	2	--	--
C301.4	2	--	--
C301.5	2	--	--
C301.6	2	--	--
C301	2	--	--

Course Name: System Programming and Operating Systems	Course Code: - C313	Course -2015
Subject Teacher: - Mr Viraj R Sonawane	A.Y.: -2019-20 SEM-II	Class: - TE

COs	PSO1	PSO2	PSO3
C313.1	3	-	-
C313.2	3	-	-
C313.3	3	-	-
C313.4	3	-	-
C313.5	3	-	-
C313.6	3	-	-
C313	3	-	-

Course Name: Computer Networks & Security	Course Code: - C402	Course -2015
Subject Teacher: - Dr. V. M. Birari	A.Y.: -2019-20 SEM-1	Class: - BE

COs	PSO1	PSO2	PSO3
C402.1	3		
C402.2	3		
C402.3	3		
C402.4	3		
C402.5	3		
C402.6	3		
C402	3		

Course Name: Elective IV Wireless Sensor Network	Course Code: - C412	Course -2015
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Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C303	3	3	2					2				
C304	3	2.16	2	1.33								2
C305	2.17	2.17	2.5	2.33		3	2	2	3	2.17		2.17
C306	2.833	0	1.5	1	2	0	0	1	0	0	0	1
C307	1	1.67	1.83	1.2	3	1.5	1.5	1	1	1.2	1	1.33
C308	3	2.4	2	2.5	1.8	2	0	1.3	3	3	0	1.5
C317												
C309	3	2.83	1.83	1.17	1	0	0	1.2	0	0	0	1.33
C310	2.33	2	2.5									2
C311	3	2	2						2	2		
C312	1.83	2	1.83	0	1.5	1	0	0.5	1	1.5	0.5	1.5
C313	2	2	1.8	1.83								1
C314	1.5	2	2.16	1				1	2	2		2
C315	2.16	2							2	2.5		3
C316	2.16	2							2	2.5		3
C318				2	3				2			2
C401	3	2	2.5		2.66					1		2
C402	3	3	3	2.5	3			3		3		3
C403	3	3	1.25	1.8								
C404A	3	2.2	2						2			2
C404B	2.16	2.5	1.83	0.33								2
C405A	2.67	2	2	2.4		2.8	2.8	2	2	2		2.83
C405B	1.83	2	2.33	1.5								2
C405C	1.83	1.83	2	2		2	2	2		1		2
C406	3	3	3		3				1	2.66		3
C407	2.17	1.5	1.75	1.5	1.17	1.5	1.5	0.67	1.33	1.5	1.5	2
C408	2.33	2	2.5	2.33		2	2	2				2
C416	2.16	2							2	2.5		3
C409	3	3	3	2.66	3					3		3
C410	2.5	2.17	2.25	2					2	2.5		2
C411A	2.67	2.33	2.75	2.6	2	2	1.8	2	1	2		2.17
C411B	3	2.83	2	2	3							3
C412	2	1							1	2		2
C413	3	3	3		3							3
C414		1.67	2.5	2	2	1	1.5	2	2	2	2	1.67
C415	2.67	2.33	2.75	2.6	2	2	1.8	2	1	2		2.17
C417	2.16	2							2	2.5		3
Average	2.41	2.15	2.11	1.85	1.99	1.69	1.57	1.5736	1.68	1.95	0.85	1.83

Table 2 : Program level Course-PSO matrix of all courses INCLUDING first year courses

Course	PO1	PO2	PO3
C201	2		
C202	2.33	1.4	0
C203	3		
C204	3		
C205	3		
C206	2		
C207	1	1	1

Course	PO1	PO2	PO3
C208	2	--	--
C209	2		
C210	2		
C211	3		
C212	3		
C230			3
C231			3
C301	2		
C302	2		
C303	3		
C304	2.33		0.66
C305	2.17	2.5	2.5
C306	3	0	0
C307	1.25	1.5	1.4
C308	2.4	2.3	1
C317	3		
C309	2.83	1.5	1.2
C310	2		
C311		2	
C312	1.66	1.66	1.83
C313	1	1	1.5
C314	2	1	1
C315	2.5		
C316	3		
C318	2		
C401	1.8		
C402	3		
C403	2		
C404A	3		
C404B	2		0.33
C405A	2.67	2.33	2.33
C405B	2		
C405C	1.8	2	1.8
C406	3		
C407	1	1	
C408	2.5	2	2
C416	3		
C409	3		
C410	2		
C411A	2.2	2	2
C411B	3		
C412	1.5		
C413	3		
C414	1	1	1
C415	2.2	2	2
C417	3		
Average	2.18	1.56	1.55

External Assessment																		
Course Code	Theory (%)						Oral / Practical (%)						Term Work (Ext)					
	CO 1	CO 2	CO3	CO4	CO5	CO6	CO1	CO2	CO3	CO4	CO5	CO6	CO 1	CO2	CO3	CO4	CO5	CO6
C405B	66.67	66.67	66.67	66.67	66.67	66.67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C405C	73.08	73.08	73.08	73.08	73.08	73.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C406	NA	NA	NA	NA	NA	NA	44.44	44.44	44.44	44.44	44.44	44.44	44.44	44.44	44.44	44.44	44.44	44.44
C407	NA	NA	NA	NA	NA	NA	59.15	59.15	59.15	59.15	59.15	59.15	33.8	33.8	33.8	33.8	33.8	33.8
C408	NA	NA	NA	NA	NA	NA	97.22	97.22	97.22	NA	NA	NA	NA	NA	NA	NA	NA	NA
C416																		
C409	90.28	90.28	90.28	90.28	90.28	90.28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C410	95.83	95.83	95.83	95.83	95.83	95.83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C411A	96.23	96.23	96.23	96.23	96.23	96.23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C411B	89.47	89.47	89.47	89.47	89.47	89.47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C412	93.06	93.06	93.06	93.06	93.06	93.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C413	NA	NA	NA	NA	NA	NA												
C414	NA	NA	NA	NA	NA	NA	100	100	100	NA	NA	NA	NA	NA	NA	NA	NA	NA
C415	NA	NA	NA	NA	NA	NA	98.61	98.61	98.61	98.61	98.61	98.61	98.61	98.61	98.61	98.61	98.61	98.61
C417	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 4 : Internal Assessment

Internal Assessment													
Course Code	Unit Test						Term Work (Int)						
	CO1	CO2	CO3	CO4	CO5	CO6	CO1	CO2	CO3	CO4	CO5	CO6	
C201	81.08	81.08	92.42	80.3	89.09	85.45	97.01	98.51	98.51	97.01	98.51	97.01	
C202	70.83	50	88.89	75.93	81.82	81.82	NA	NA	NA	NA	NA	NA	

Internal Assessment

Course Code	Unit Test						Term Work (Int)					
	CO1	CO2	CO3	CO4	CO5	CO6	CO1	CO2	CO3	CO4	CO5	CO6
C311	75.56	82.61	55.11	67.8	68.33	60	NA	NA	NA	NA	NA	NA
C312	71.21%	76.06%	96.97%	83.33%	77.27%	80.30%	NA	NA	NA	NA	NA	NA
C313	86.96%	91.30%	44.44%	89.66%	87.72%	94.74%	100.00%	86.36%	95.38%	96.55%	97.73%	100.00%
C314	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C315	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C316	NA	NA	NA	NA	NA	NA	100.00%	86.36%	NA	NA	NA	NA
C318	NA	NA	NA	NA	NA	NA	100.00%	86.36%	NA	NA	NA	NA
C401	54.1	83.61	88.52	88.71	75.81	87.1	NA	NA	NA	NA	NA	NA
C402	75	75	72.22	75	73.61	73.61	NA	NA	NA	NA	NA	NA
C403	70	68.57	78.57	73.53	75	69.12	NA	NA	NA	NA	NA	NA
C404A	96.15%	92.31%	42.31%	100%	53.85%	100%	NA	NA	NA	NA	NA	NA
C404B	73.81	83.33	90.48	73.81	90.48	73.81	NA	NA	NA	NA	NA	NA
C405A	59.09	77.27	71.43	66.67	88.89	85.19	NA	NA	NA	NA	NA	NA
C405B	68.42	68.42	57.89	84.31	73.68	57.89	NA	NA	NA	NA	NA	NA
C405C	88.46	73.08	92.31	76.92	88.46	73.08	NA	NA	NA	NA	NA	NA
C406	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C407	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C408	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C416	NA	NA	NA	NA	NA	NA	100.00%	86.36%	NA	NA	NA	NA
C409	75	77.78	70.83	77.78	73.61	79.17	NA	NA	NA	NA	NA	NA
C410	78.79	69.7	100	98.61	100	100	NA	NA	NA	NA	NA	NA
C411A	94.34	96.23	94.34	81.13	86.79	86.79	NA	NA	NA	NA	NA	NA
C411B	100	89.47	89.47	89.47	100	100	NA	NA	NA	NA	NA	NA

Internal Assessment

Course Code	Unit Test						Term Work (Int)					
	CO1	CO2	CO3	CO4	CO5	CO6	CO1	CO2	CO3	CO4	CO5	CO6
C412	61%	81%	79%	79%	69%	80%	NA	NA	NA	NA	NA	NA
C413	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C414	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C415	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C417	NA	NA	NA	NA	NA	NA	100.00%	86.36%	NA	NA	NA	NA

Table 5 : Indirect Assessment

Indirect Assessment						
Course Code	Course Exit Survey					
	CO1	CO2	CO3	CO4	CO5	CO6
C201	98.51	95.52	97.01	91.04	92.54	89.55
C202	96.97	100	96.97	95.45	92.42	96.97
C203	96.97%	98.48%	100.00%	98.48%	100.00%	90.91%
C204	98.51%	97.01%	100.00%	97.01%	98.51%	98.51%
C205	96.92%	96.92%	93.85%	98.46%	93.85%	96.92%
C206	98.51	97.01	97.01	98.51	97.01	94.03
C207	87.30	84.66	85.19	78.84	77.25	74.07
C208	96.92%	96.92%	89.23%	89.23%	92.31%	89.23%
C209	81.54	76.92	76.41	74.87	76.92	75.9
C210	96.97	95.45	98.48	100	90.91	92.42
C211	98.48%	98.48%	95.45%	95.45%	92.42%	95.45%
C212	98.31%	94.92%	89.83%	93.22%	93.22%	96.61%
C230	NA	NA	NA	NA	NA	NA
C231	83%	86%	NA	NA	NA	NA
C301	96.96	98.48	100	98.48	100	90.90
C302	96.72	96.72	98.36	96.32	96.72	98.36
C303	92.31	81.54	95.38	93.85	92.31	87.69
C304	96.97	100	95.45	96.97	98.48	96.97
C305	100	98.46	98.46	98.46	98.46	100
C306	96.97	98.48	100	98.48	100	90.91
C307	98.33	100	98.33	100	100	100
C308	96.83	96.83	96.83	98.41	95.24	

Indirect Assessment						
Course Code	Course Exit Survey					
	CO1	CO2	CO3	CO4	CO5	CO6
C317	96.83	96.83	96.83	98.41	95.24	100
C309	98	98	100	100	90	96
C310	89.08	83.33	86.38	85.06	87.93	83.91
C311	95.45	95.45	92.42	92.42	90.91	93.94
C312	98.00%	98.00%	100.00%	100.00%	90.00%	96.00%
C313	83.00%	86.00%	86.00%	81.00%	82.00%	83.00%
C314	89.08	83.33	86.38	85.06	87.93	83.91
C315	86%	84%	83%	78%	84%	88%
C316	91.67	91.67	91.67	91.67	91.67	93.06
C318	83.00%	86.00%	86.00%	81.00%	82.00%	83.00%
C401	91.67	91.67	91.67	91.67	91.67	93.06
C402	95.83	97.22	84.72	86.11	87.5	94.44
C403	88.41	81.16	79.71	86.96	82.61	86.96
C404A	100.00%	100.00%	100.00%	100.00%	96.55%	96.55%
C404B	95.24	95.24	95.24	92.86	92.86	92.86
C405A	96.3	100	96.3	96.3	96.3	96.3
C405B	94.74	94.74	94.74	100	94.74	89.47
C405C	96	100	88	96	96	92
C406	97.01	100	97.01	97.01	95.52	98.51
C407	95.77%	97.18%	97.18%	97.18%	92.96%	92.96
C408	100	100	100	NA	NA	NA
C416	83.00%	86.00%	86.00%	81.00%	82.00%	83.00%
C409	94.44	94.44	93.06	94.44	93.06	94.44

Indirect Assessment						
Course Code	Course Exit Survey					
	CO1	CO2	CO3	CO4	CO5	CO6
C410	100	97.22	98.61	98.61	98.61	98.61
C411A	96.23	98.11	100	96.23	96.23	94.34
C411B	100	100	100	100	100	100
C412	97.14%	98.57%	95.71%	94.29%	91.43%	92.86%
C413	98.61	97.22	95.83	97.22	98.61	97.22
C414	98.11	98.11	96.23	NA	NA	NA
C415	100	100	100	100	100	100
C417	83.00%	86.00%	86.00%	81.00%	82.00%	83.00%

Table 6 : CO Attainment

Course Code	CO Attainment by						Overall Attainment
	External assessment			Internal assessment		Indirect	
	TH	PR/OR	TW(Ext)	UT	TW(Int)	Course Exit	
C201	0	NA	NA	3	3	3	0.84
C202	0	1	NA	3	NA	3	1.2
C203	1			2	3	3	1.56
C204	3	2		3		3	2.64
C205	2	3		3	3	3	2.64
C206	NA	NA	NA	NA	1	3	1.2
C207	3	NA	NA	3	3	3	3
C208	3	3	NA	3	3	3	3
C209	3	NA	NA	2		2	2.72
C210	3	3	-	3	-	3	3
C211	3	3	-	3		3	3

Course Code	CO Attainment by						Overall Attainment
	External assessment			Internal assessment		Indirect	
	TH	PR/OR	TW(Ext)	UT	TW(Int)	Course Exit	
C212	NA	NA	NA	NA	3	3	3
C230	NA	NA	NA	NA	3	NA	3
C231	NA	NA	NA	NA	3	NA	3
C301	1	-	-	2	-	3	1.38
C302	1	NA	NA	3	NA	3	1.56
C303	0	NA	NA	3	NA	3	0.84
C304	0	NA	NA	3	NA	3	0.84
C305	1		NA	1	NA	3	1.2
C306	NA	0	NA	NA	3	3	1.56
C307	NA	3	NA	NA	3	3	3
C308	NA	1	NA	NA	NA	3	1.2
C317	NA	NA	NA				
C309	0	NA	NA	2	NA	3	0.66
C310	0			1		3	0.2
C311	1	NA	NA	1	NA	3	1.2
C312	2	NA	NA	2	NA	3	2.1
C313	3	NA	NA	3	3	3	3
C314	NA	2	NA	NA	3	3	0
C315	NA	1	NA	NA	3	3	1.56
C316	NA	NA	NA				
C318	NA	NA	NA	NA	3	NA	3
C401	2	NA	NA	3	NA	3	2.01
C402	0	NA	NA	3	NA	3	0.66

Course Code	CO Attainment by						Overall Attainment
	External assessment			Internal assessment		Indirect	
	TH	PR/OR	TW(Ext)	UT	TW(Int)	Course Exit	
C403	0	NA	NA	3	NA	3	0.84
C404A	1	NA		3		3	1.56
C404B	3	NA	NA	3	NA	3	3
C405A	0	NA	NA	2	NA	3	0.66
C405B	2	NA	NA	2	NA	3	2.1
C405C	2	NA	NA	3	NA	3	2.28
C406	NA	0	0	NA	NA	3	0.6
C407	NA	0	0	NA	NA	3	0.3
C408	NA	3	NA	NA	NA	3	3
C416	NA	NA	NA	3	NA	3	3
C409	3	NA	NA	3	NA	3	3
C410	3	NA	NA	3	NA	3	3
C411A	1.5	NA	NA	3	NA	3	1.92
C411B	3	NA	NA	3	NA	3	3
C412	3	NA	NA	2	NA	3	2.8
C413	NA			NA	NA	NA	NA
C414	NA	3	NA	NA	NA	NA	3
C415	NA	3	3	NA	NA	3	3
C417	-	-	-	-	3	NA	3

Attainment of Program Outcomes and Program Specific Outcomes

Results of evaluation of each PO & PSO

Table 7 : PO attainment matrix of all courses INCLUDING first year courses

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	0.38	0.38	--	--	--	--	--	--	--	--	--	0.19
C102	0.86	0.86	--	--	--	--	--	--	--	--	--	0.43
C103	0.1	0.1	0.1	--	--	--	--	--	--	--	--	0.1
C104	0.29	0.19	--	--	--	--	--	--	--	--	--	0.19
C105	0.51	--	--	--	--	0.28	0.46	--	0.46	0.46	0.42	0.32
C106	0.2	--	--	--	--	--	--	--	--	--	--	0.1
C107	--	--	--	--	--	--	--	--	1	--	--	1
C108	0.32	0.32	--	--	--	--	--	--	--	--	--	0.16
C109	0.38	0.38	--	--	--	--	--	--	--	--	--	0.19
C110	0.1	0.1	0.1	-	0.1	-	-	-	-	-	-	0.1
C111	0.44	0.33	--	--	--	--	--	--	0.33	--	--	0.33
C112	0.35	0.44	-	0.26	-	-	-	0.22	-	0.22	-	0.22
C113	0.19	0.19	--	--	--	--	--	--	--	--	--	0.19
C114	--	--	--	--	0.33	--	--	--	--	--	--	0.33
C201	0.8	0.6	0.6	0.6					0.6			0.6
C202	1.2	0.67	0.6	0.56	0.8			0.4	0.4	0.4		0.48
C203	1.38	1.38	1.04	1.04								0.68
C204	2.64	1.76	2.2		1.76				1.76			2.46
C205	2.64	2.64	2.64	=	1.47	=	=	=	=	=	=	1.76
C206	0.93	0.8	0.8				0.4					0.8
C207	2	2	--	--	--	--	--	--	--	--	--	1
C208	3	3	2	3	--	--	--	2	--	2	--	--
C209	2.57	2.42	2.54	2.36								2.72
C210	2.5	2.5	1.75		2				2	2		2
C211	3	2	2.4		3				2			2.5
C212	3							1.67	2	2.6		1.75
C230						3	2	3	3	3		3
C231		2				3		3	3	3		3
C301	1.38	1.3	1.07									
C302	1.21	1.21	1.21	1.04								1.04
C303	0.8	0.8	0.6					0.6				0.6
C304	0.8	0.6	0.6	0.4								0.6
C305	0.87	0.87	1	0.93		1.2	0.8	0.8	1.2	0.87		0.87

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C306	1.47		0.78	0.52	1.04			0.52				0.52
C307	1	1.67	1.83	1.2	3	1.5	1.5	1	1	1.2	1	1.33
C308	1.2	0.96	0.8	1	0.7	0.8	0	0.53	1.2	1.2	0	0.6
C317	2.16	2							2	2.5		3
C309	0.66	0.62	0.4	0.31	0.28	0	0	1.32	0	0	0	0.35
C310	0.37	0.32	0.4									0.32
C311	1.2	0.8	0.8						0.8	0.8		
C312	1.3	1.4	1.3		1.05	0.7		0.35	0.7	1.05	0.35	1.05
C313	2	2	1.8	1.83								1
C314	0.82	1.09	1.18	0.54				0.54	1.04			1.09
C315	1.12	1.04							1.04	1.3		1.56
C316	2.16	2							2	2.5		3
C318				2	3				2			2
C401	2.28	1.52	1.9		2.02					0.76		1.52
C402	0.7	0.7	0.7	0.55	0.7			0.66		0.66		0.66
C403	0.84	0.84	0.35	0.5								
C404A	1.6	1.1	1						1.04			1.04
C404B	2.16	2.5	1.83	1								2
C405A	0.59	0.44	0.44	0.53		0.62	0.62	0.44	0.44	0.44		0.62
C405B	1.28	1.4	1.63	1.05		2.1	2.1	2.1				2
C405C	1.39	1.39	1.52	1.52		1.52	1.52	1.52		0.76		1.52
C406	1.5	1.5	1.5		1.5				0.5	1.3		1.5
C407	0.22	0.15	0.18	0.15	0.12	0.15	0.15	0.07	0.13	0.15	0.15	0.2
C408	2.33	2	2.5	2.33		2	2	2				2
C416	2.16	2							2	2.5		3
C409	3	3	3	2.7	3					3		3
C410	2.5	2.17	2.25	2					2	2.5		2
C411A	1.71	1.49	1.76	1.66	1.28	1.28	1.15	1.28	0.64	1.28		1.39
C411B	3	2.83	2	2	3	0	0	0	0	0	0	3
C412	1.88	0.94							0.94	1.88		1.88
C413	0	0	0		0							0
C414		1.67	2.5	2	2	1	1.5	2	2	2	2	1.67
C415	2.67	2.33	2.75	2.6	2	2	1.8	2	1	2		2.17

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C417	2.16	2							2	2.5		3
Direct Attainment	2.50	2.00	3.00	2.50	2.50	2.50	3.00	2.50	2.50	3.00	3.00	3.00
Indirect Attainment	1.73	1.53	1.69	1.56	1.73	1.61	1.63	1.47	1.56	1.79	1.32	1.63
Overall Attainment	1.89	1.62	1.95	1.75	1.88	1.79	1.90	1.67	1.74	2.03	1.66	1.91
Overall Attainment in Percentage	57.73	50.9	56.27	52.00	57.5	53.7	54.2	48.8	51.8	59.60	44.00	54.41

Program level Course-PO attainment

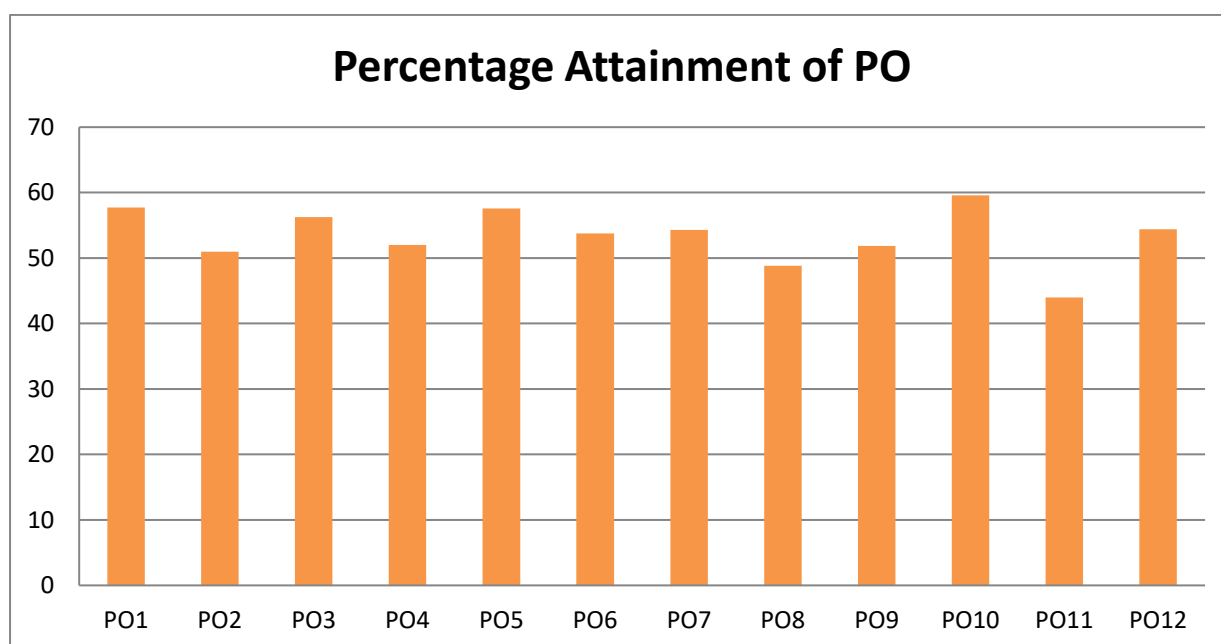


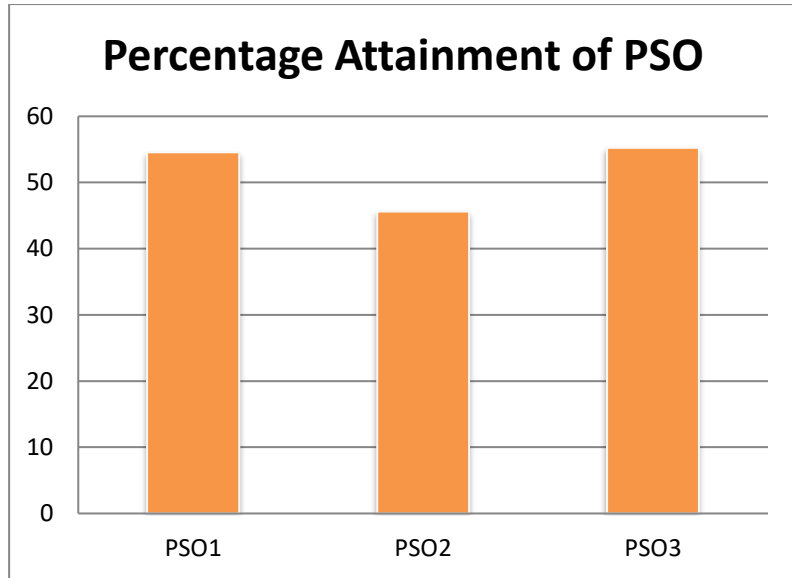
Table 8 : PSO attainment matrix of all courses INCLUDING first year courses

Course	PSO1	PSO2	PSO3
C101			
C102			
C103			
C104			
C105			
C106			
C107			
C108			

Course	PSO1	PSO2	PSO3
C109			
C110			
C111			
C112			
C113			
C114			
C201	0.56		
C202	0.93	0.56	
C203	1.56		
C204	2.64		
C205	2.64	--	--
C206	0.8		
C207	1	1	1
C208	2	--	--
C209	1.81		
C210	2		
C211	3		
C212			
C230			3
C231			3
C301	0.92		
C302	1.04		
C303	0.6		
C304	0.65		0.28
C305	0.87	1	1
C306	1.56	0	0
C307	1.25	1.5	1.4
C308	0.96	0.9	0.4
C317			
C309	0.62	0.4	0.22
C310	0.32		
C311		2	
C312	1.16	1.16	1.28

Course	PSO1	PSO2	PSO3
C313	1	1	1.5
C314	1.09	0.54	0.54
C315	1.3		
C316			
C318	2		
C401	1.38		
C402	0.66		
C403	0.56		
C404A	1.56		
C404B	2		2
C405A	0.59	0.51	0.51
C405B	2.1		
C405C	1.37	1.52	1.37
C406	1.5		
C407	0.1	0.1	
C408	2.5	2	2
C416			
C409	3		
C410	2		
C411A	1.41	1.28	1.28
C411B	3		
C412	1.41		
C413	0		
C414	1	1	1
C415	2.2	2	2
C417			
Direct Attainment	2.50	2.50	3.00
Indirect Attainment	1.64	1.37	1.66
Overall Attainment	1.81	1.60	1.93
Overall Attainment in Percentage	54.56	45.64	55.23

Program level Course-PSO attainment



Program level Course-PO & PSO attainment in Percentage

