



A.R.ENGINEERING COLLEGE

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Vadakuchipalayam, Kappiyampuliyur post, Villupuram-605601, Tamilnadu.

Criterion2:Teaching-LearningandEvaluation

Key Indicator –2.6 Student Perfomance and Learning Outcomes

2.6.2. Attainment of POs and COs are evaluated.

NOTE: The supporting documents for this metric exceed the upload limit of 5MB. Hence the documents are made available in HEI website and links for the metric is given below.

INDEX

METRIC	PARAMETER	LINK TO RELEVANT DOCUMENTS
2.6.2	Attainment of POs and COs are evaluated.	VIEW DOUCUMENT



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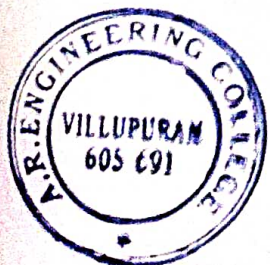
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2.6.2. Attainment of POs and COs are evaluated.

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2.6.2 Attainment of POs and COs are evaluated:

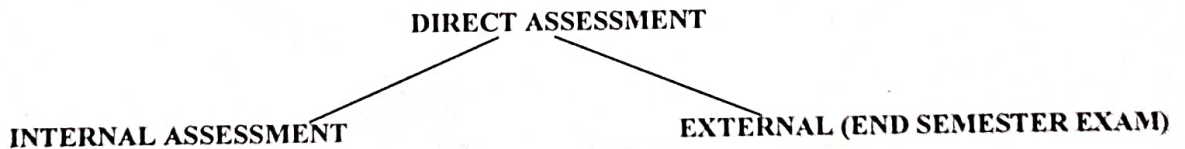
AREC has its own procedure to calculate the POs and COs attainment. Attainment of outcomes is evaluated by the following method:

COs are mapped with POs and PSOs on a different correlation level, such as strong, moderate and light. COs are mapped with continuous internal assessment (IA) question papers prepared by course instructors. Faculty members are familiarized with the outcomes by participating in faculty development programmes (FDPs) on Outcome-Based Education (OBE).

Attainments of POs and PSOs are evaluated through direct and indirect methods. Direct attainment is achieved by IA marks, assignments and end-semester examination marks, whereas indirect attainment is calculated by course exit survey on programme. The calculation of CO attainment and mapping the COs with POs and PSOs are compared with the predefined target value. Every CO attainment is carried out at the end of the semester.

Steps to calculate the COs attainment are as follows:

The Principal fixes a target value and approved by governing council for each batch of students. Based on the assessment procedure, the CO articulation matrix is calculated for each course. The average mark for each CO is calculated and attainment is determined. The difference between the average mark of COs and the target is identified. The gap is reviewed and analysed, thereby revising the teaching-learning methods. If the target is achieved, it is inferred that CO is achieved for that period. Similar procedure is followed for all the courses. Finally, POs are mapped with COs for each course at the end of the programme; i.e., CO PO Mapping Matrix. If the POs/PSOs attainment is less than the target, reform the teaching and learning method in order to improve students' performance in consultation with the course instructor.



DIRECT ASSESSMENT:


INTERNAL ASSESSMENT: Refers to evaluation through internal assessments which majorly include Continuous Internal Assessments (IA1, IA2, IA-3 (Model)) in terms of Internal Assessment Tests.

EXTERNAL (END SEMESTER EXAM): Refers to evaluation through End Semester Examination (ESE)

INDIRECT ASSESSMENT: Refers to the exit feedback survey taken by students/faculty. The exit feedback survey must be taken up before the end of the semester. The exit survey may be based on a marking scheme (1-3) for each CO.

- Further steps to follow for the calculation of Course Outcome attainment (COA) level:
 - ❖ Assign the attainment level (3 for >70%/2 for >60%/1 for >50%) for Direct Assessment (INTERNAL ASSESSMENT, EXTERNAL (ESE)) and Indirect Assessment.
 - ❖ Attainment based on internal assessment (IA) = Average of [IA-1, IA-2(a) and IA-3 MODEL (b)]
 - ❖ Direct CO Attainment Level (DA) = 20% IA + 80% End Semester Exam (c)
 - ❖ Indirect CO Attainment Level (ICOA) = Exit Survey (d)




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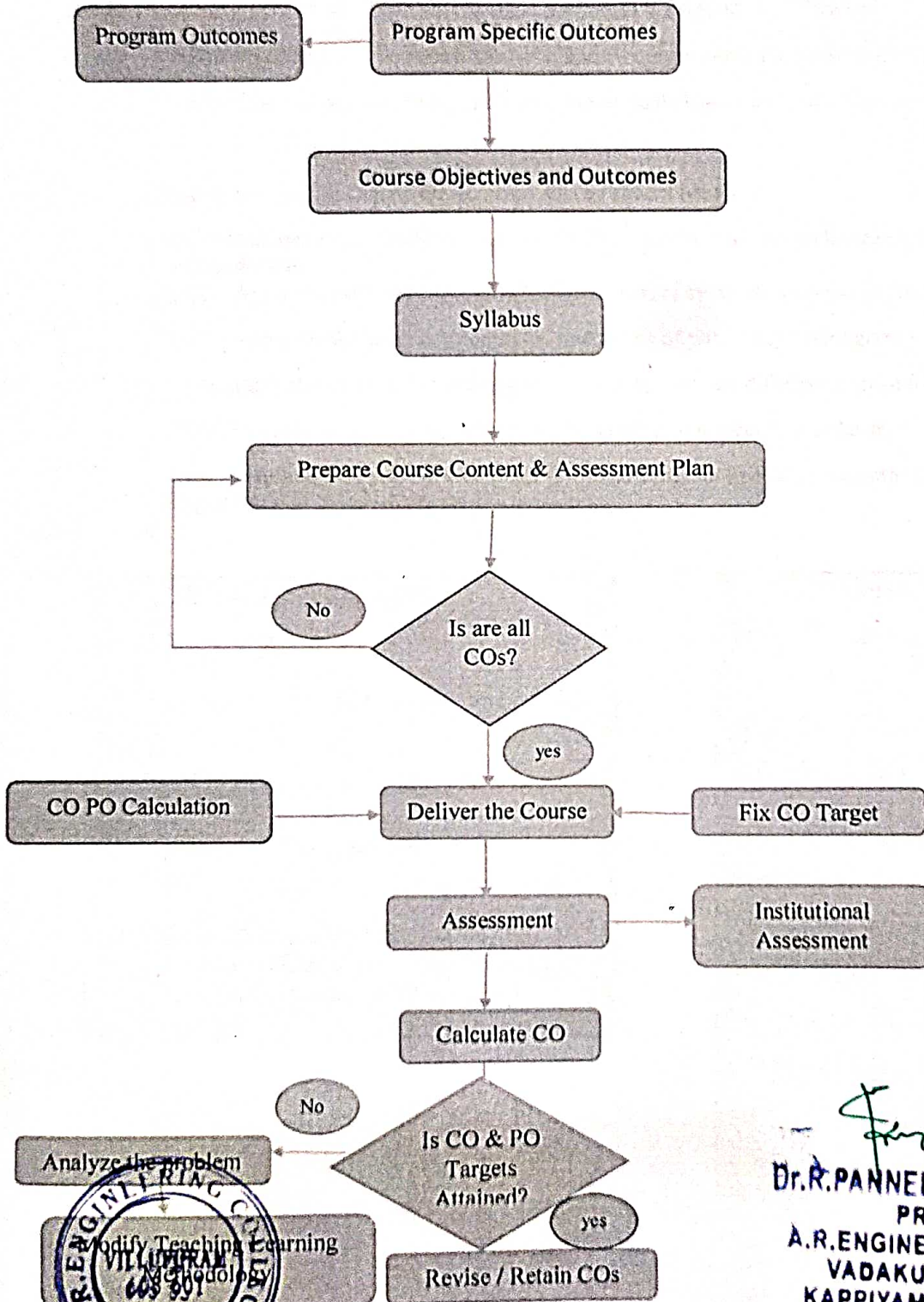


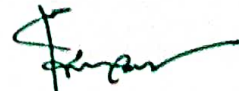
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- ❖ Finally, Course Outcome Attainment (COA) level = 80% of DA and 20% of ICOA. The overall process of calculating COs, POs, and PSOs are explained in the flow chart given below

FLOW CHART:




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STEPS FOR PREPARATION OF CO-PO ATTAINMENT

Step 1: Details of the course (course name, course code, total student no., semester.)

(CRYPTOGRAPHY AND NETWORK SECURITY, CS8792, 5, 7TH Sem.)

Course Objectives : To impart the basic knowledge on Network security and cryptography techniques

Course Prerequisites : A strong understanding of mathematics and computer science

Step 2: Outline the Course Outcomes (COs) as shown below:

CO1: Understand the fundamentals of networks security, security architecture, threats and vulnerabilities

CO2 : Apply the different cryptographic operations of symmetric cryptographic algorithms

CO3 : Apply the different cryptographic operations of public key cryptography

CO4: Apply the various Authentication schemes to simulate different applications.

CO5 : Understand various Security practices and System security standards

Step 3: Outline the Program Outcomes (PO) and Program Specific Outcomes (PSO). Perform the CO mapping with PO and PSO, as illustratively shown in the table.


Program Specific Outcome

1. Analyze, design and develop computing solutions by applying foundational concepts of computer science and engineering.
2. Apply software engineering principles and practices for developing quality software for scientific and business applications.
3. Adapt to emerging information and communication technologies to innovate ideas and solutions to existing/novel problems.

Program Outcomes

PO1	Engineering knowledge
PO2	Problem analysis
PO3	Design/development of solutions
PO4	Conduct investigations of complex problems
PO5	Modern tool usage
PO6	The engineer and society
PO7	Environment and sustainability
PO8	Ethics
PO9	Individual and team work
PO10	Communication
PO11	Project management and finance
PO12	Life-long learning




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Step 4: Perform the CO mapping with PO and PSO, as illustratively shown in the table.

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
2	2	1	1	1	-	-	-	-	-	-	-	-	2	2	-
3	3	2	2	-	-	-	-	-	-	-	-	-	2	3	2
4	2	2	2	1	-	-	-	-	1	-	-	-	2	2	-
5	3	2	2	1	-	-	-	-	-	-	-	-	2	3	1
AVERAGE	2.4	1.6	1.6	1	0	0	0	0	0	0	0	0	2	2.4	0.75


Here in the table, '3' corresponds to a high correlation; '2' corresponds to a medium correlation, and '1' corresponds to a low correlation, between CO and PO/PSO

STEPS: The table for CO attainment calculations.

If needed, one may use more internal assessment tools (IA-1, IA-2, MODEL(IA-3).)

The target (P) may be 60% (first division) or as per the requirements of the course and program. Further, the target remains same for direct and indirect assessments




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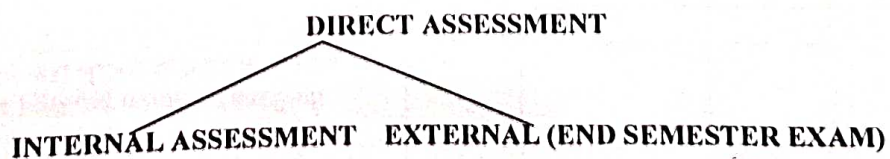
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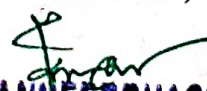
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CO ATTAINMENT CALCULATION				
Step	DIRECT ASSESSMENT			INDIRECT ASSESSMENT
	INTERNAL ASSESSMENT		EXTERNAL (END SEM EXAM)	COURSE EXIT SURVEY
	IA1, IA2	IA3 (MODEL)	ESE	
Number of students who have scored more than target (P) (Target is 60%)	P	P	P	P
Percentage of students who have achieved the target = $P/N * 100$	100	100	80	100
Attainment Level 3 for >70%, 2 for >60%, 1 for > 50%	a=	b=	c=	d=
Attainment based on internal assessment (IA) = Average of (a and b);			IA=	
Direct CO Attainment Level (DA) = 20% IA + 80% End semester exam (c);			DA=	
Indirect CO Attainment Level = ICOA (based on Exit survey) (d);			ICOA=	
80 % of DA =				
20 % IA =				
CO Attainment Level (COA) = 80 % DA + 20 % IA;			COA=	

Step 6: After filling in the details in the last step (P and P/N), assign the attainment level (3/2/1 according to (P/N) values) based on **Direct Assessment** = (INTERNAL and EXTERNAL) and **Indirect Assessment**.

Attainment level (3 if more than 70% of students achieved the target / 2 for >60% / 1 for >50%)




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INDIRECT ASSESSMENT: Refers to the exit feedback survey taken by students/faculty. The exit feedback survey must be taken up before the end of the semester. The exit survey may be based on a marking scheme (1-3) for each CO.

- The course exit survey samples are given below for student/faculty.

Sample 1: Course Outcome exit survey for students

COURSE OUTCOME		1(Low)	2(Moderate)	3(High)
CO1	Understand the fundamentals of networks security, security architecture, threats and vulnerabilities			
CO2	Apply the different cryptographic operations of symmetric cryptographic algorithms			
CO3	Apply the different cryptographic operations of public key cryptography			
CO4	Apply the various Authentication schemes to simulate different applications			
CO5	Understand various Security practices and System security standards			


Sample 2: Course Contents exit survey for students

QUESTIONS	1(Low)	2(Moderate)	3(High)
Quality of the Course Content			
Relevance of the textbook to this course			
Were the lectures clear/well organized and presented at a reasonable pace?			
Did the lectures stimulate you intellectually?			
Are the assignment/lab experiment procedures clearly explained?			

Sample 3: Faculty Survey

QUESTIONS	1(Low)	2(Moderate)	3(High)
Satisfaction with the caliber of the graduates			
Courses are relevant to the organization's vision and mission			
Relevant subject or discipline knowledge			
Satisfaction with the speed at which course content is being adapted to meet changing industrial needs			
Quality of employability skills and attributes			
The satisfaction that graduates are learning the right skills			




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- Further steps to follow for the calculation of Course Outcome attainment (COA) level:
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 - ❖ Attainment based on internal assessment (IA) = Average of [IA-1, IA-2(a) and IA-3 MODEL (b)]
 - ❖ Direct CO Attainment Level (DA) = 20% IA + 80% End Semester Exam (c)
 - ❖ Indirect CO Attainment Level (ICOA) = Exit Survey (d)
 - ❖ Finally, Course Outcome Attainment (COA) level = 80% of DA and 20% of ICOA

Step 7: Based on the Course Outcome Attainment (COA) value as calculated at the end of step 6, perform the PO/PSO Attainment Calculations as shown below:

$$\text{PO/PSO Attainment} = \text{COA} \times M/3$$

PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Average Mapping (M)	2.4	1.6	1.6	1	-	-	-	-	-	-	-	-	2	2.4	0.75
PO / PSO Attainment Level*	2.24	1.4	1.4	0.9	0	0	0	0	0	0	0	0	1.8	2.24	0.7

- ❖ PO/PSO Attainment = COA x M/3 (Refer to Step 6 for COA value)

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DEPARTMENT OF COMPUTER SCIENCE ENGINEERING IA-1 Course Outcome Attainment

Batch: 2018-

2022 Year: IV Total no. of students: 5 Subject Code: CS8792 Subject

Name: Cryptography and Network Security Sem : VII

COURSE OUTCOME			CO1	CO2	CO1	CO2	CO1	CO2	TOTAL OUT OF 100	CO1%	CO2%
QUESTION NO	1to4	5to10	11,12,15	13,14,16	TOTAL	TOTAL					
MAX MARKS	8	12	39	41	47	53	100				
S.NO	REGISTER NO	STUDENT NAME									
1	420319104001	CHANDRU.M	5	8	33	32	38	40	78	80.8	75.1
2	420319104002	GOPINATH.K	6	9	35	35	41	44	85	87	83
3	420319104003	REVATHY.E	8	11	37	39	45	50	95	95.7	94.3
4	420319104501	JAYASRI.V	5	10	34	33	39	43	82	82.9	81.1
5	420319104701	IYAPPAN.B	8	11	35	41	43	52	95	91.4	98.1

NO. OF ABSENT: 5 5

CO ATTAINMENT LEVEL

CO1	CO2
3	3

PASS	5
FAIL	0
ABSENT	0
PASS%	100

LEVEL1	50	% OF STUDENT SCORING	60	% OF MARKS	1
LEVEL2	60		60		2
LEVEL3	70		60		3

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DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

IA-2 Course Outcome Attainment

Batch: 2018-2022 Year: IV Total no. of students: 5 Subject Code: CS8792 Subject Name: Cryptography and Network Security Sem: VII

COURSE OUTCOME			CO3	CO4	CO3	CO4	CO3	CO4	TOTAL OUT OF 100	CO3%	CO4%
QUESTION NO			1 to 5	6 to 10	11, 12, 16	13, 14, 15	TOTAL	TOTAL			
MAX MARKS			10	10	41	39	51	49	100		
S.NO	REGISTER NO	STUDENT NAME									
1	420319104001	CHANDRU.M	9	10	39	37	48	47	95	94.1	95.9
2	420319104002	GOPINATH.K	10	8	38	37	48	44	95	94.1	95.9
3	420319104003	REVATHY.E	10	10	40	38	50	48	98	98	97.9
4	420319104501	JAYASRI.V	8	8	36	34	44	42	86	86.2	85.7
5	420319104701	IYAPPAN.B	9	8	36	34	45	42	87	88.2	85.7

NO. OF PRESENT: 5 5

CO ATTAINMENT LEVEL
CO3 3 CO4 3

PASS	5
FAIL	0
ABSENT	0
PASS%	100

LEVEL1	50	% OF STUDENT SCORING	60	% OF MARKS	1
LEVEL2	60		60		2
LEVEL3	70		60		3

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DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

IA-3(MODEL) Course Outcome Attainment

Batch: 2018-2022 Year: IV Total no. of students: 5 Subject Code: CS8792

Subject Name: Cryptography and Network Security Sem : VI

COURSE OUTCOME			CO1	CO2	CO3	CO4	CO5	CO1	CO2	CO3	CO4	CO5	CO1	CO2	CO3	CO4	CO5	CO1%	CO2%	CO3%	CO4%	CO5%		
QUESTION NO			1,2	3,4	5,6	7,8	9,10	11,16	12	13	14	15												
MAX MARKS			4	4	4	4	4	28	13	13	13	13	32	17	17	17	17							
S.NO	REGISTER NO	STUDENT NAME																						
1	420319104001	CHANDRUM	4	4	3	3	4	25	12	13	13	12	29	16	16	16	16	90.6	94.1	94.1	94.1	94.1		
2	420319104002	GOPINATH.K	4	4	4	3	4	26	13	12	13	13	30	17	16	16	17	93.7	100	94.1	94.1	100		
3	420319104003	REVATHY.E	4	4	3	3	4	26	13	12	13	13	30	17	15	16	17	93.7	100	88.2	94.1	100		
4	420319104501	JAYASRLV	2	2	3	2	3	23	11	12	12	12	25	13	15	15	15	78.1	76.4	88.2	88.2	88.2		
5	420319104701	JYAPPAN.B	4	3	2	3	3	25	10	11	12	13	29	13	13	15	16	90.6	76.4	76.4	88.2	94.1		
																		NO. OF PRESENT:		5	5	5	5	5
																		CO ATTAINMENT LEVEL		3	3	3	3	3

PASS	5
FAIL	0
ABSENT	0
PASS%	100

LEVEL1	50	% OF STUDENT SCORING	60	% OF MARKS	1
LEVEL2	60		60		2
LEVEL3	70		60		3



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DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

End Semester Exam

Batch: 2018-2022 Year: IV Total no. of students: 5 Subject Code: CS8792

Subject Name: Cryptography and Network Security Sem : VII

END SEMESTER EXAM			
SNO	NAME	GRADE	FIXED MARKS
1	CHANDHRU.M	B(50-60)	55
2	GOPINATH.K	B(50-60)	55
3	REVATHY.E	B+(61-70)	65
4	JAYASRI.V	UA (ABSENT)	UA
5	IYAPPAN.B	B(50-60)	55
	NO. OF PRESENT:		4
	CO ATTAINMENT LEVEL:		3

ATTAINMENT LEVEL				
CO	IA-1	IA-2	IA-3	University Exam
Co-1	3		3	3
Co-2	3		3	3
Co-3		3	3	3
Co-4		3	3	3
Co-5			3	3

		PASS	4		
		FAIL	0		
		ABSENT	0		
		PASS%	100		
LEVEL 1	50	% OF STUDENT SCORING	60	% OF MARKS	1
LEVEL 2	60		60		2
LEVEL 3	70		60		3

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CO Attainment Level

Batch: 2018-2022 Year: IV Total no. of students: 5 Subject Code: CS8792
Subject Name: Cryptography and Network Security Sem : VII

CO ATTAINMENT CALCULATION				
	DIRECT ASSESSMENT			INDIRECT ASSESSMENT
	INTERNAL ASSESSMENT		EXTERNAL (END SEM EXAM)	COURSE EXIT SURVEY
	IA1, IA2	IA3 (MODEL)	ESE	
Number of students who have scored more than target (P) (Target is 60%)	5	5	4	5
Percentage of students who have achieved the target = $P/N * 100$	100	100	80	100
Attainment Level 3 for >80%, 2 for >70%, 1 for >60%	a=3	b=3	c=3	d=2
Attainment based on internal assessment (IA) = Average of (a and b);	IA=3			
Direct CO Attainment Level (DA) = 20% IA + 80% End semester exam (c);	DA=3 (0.2*3+0.8*3)			
Indirect CO Attainment Level = ICOA (based on Exit survey) (d);	ICOA=2			
80% of DA =	2.4 (0.8*3)			
20% of ICOA =	0.4 (0.2*2)			
CO Attainment Level (COA) = 80% DA + 20% IA	COA=2.8			



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- IA
-----INTERNALASSESSMEN
T
- ESE---ENDSEMESTEREXAM
- DA ----DIRECTASSESSMENT
- ICOA
-----INDIRECTCOATTAINM
ENT
- COA ----COATTAINMENTLEVEL

CourseOutcomeSurvey:

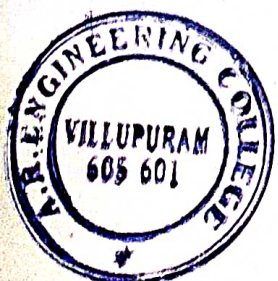
Sample1:CourseOutcomeExitSurveyforstudents

CourseOutcome	1(Low)	2(Moderate)	3(High)	
CO1	Understandthefundamentalsofnetworks security,securityarchitecture,threatsand Vulnerabilities	3	2	0
CO2	Applythedifferent cryptographic operations of symmetric cryptographic algorithms	1	3	1
CO3	Applythedifferentcryptographicoperations of public key cryptography	0	1	4
CO4	ApplythevariousAuthenticationschemesto simulate different applications.	5	0	0
CO5	UnderstandvariousSecuritypracticesand System security standards	0	5	0

Sample2:CoursecontentsExitSurveyforstudents

Course Outcome	1(Low)	2(Moderate)	3(High)	
CO1	Satisfactionwiththecaliberofthegraduates	2	3	0
CO2	Coursesarerelevanttotheorganization'svision and mission	1	1	3
CO3	Satisfactionwiththecoursecontentisadpatedto changing industrial needs	2	3	0
CO4	Relevantsubjectordisciplineknowledge	3	2	0
CO5	Qualityofemployabilityskillsandattributes	3	2	0

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Sample3: Faculty/Employer Survey.

Course Outcome		1(Low)	2(Moderate)	3(High)
CO1	Satisfaction with the caliber of the graduates	2	3	0
CO2	Courses are relevant to the organization's vision and mission	1	1	3
CO3	Satisfaction with the course content is adapted to changing industrial needs	2	3	0
CO4	Relevant subject or discipline knowledge	3	2	0
CO5	Quality of employability skills and attributes	3	2	0

	Mark scheme		
co1	1	3	2
co2	2	3	3
co3	3	2	2
co4	1	2	1
co5	2	3	1
Average	1.8	2.6	1.8
Overall Course Exit survey = 2			




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DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

CO-PO-PSO ATTAINMENT

Batch: 2018-2022 Year: IV Total no. of students: 5 Subject Code: CS8792

Subject Name: Cryptography and Network Security Sem : VII

CO mapping with PO and PSO

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
2	2	1	1	1	-	-	-	-	-	-	-	-	2	2	-
3	3	2	2	-	-	-	-	-	-	-	-	-	2	3	2
4	2	2	2	1	-	-	-	-	1	-	-	-	2	2	-
5	3	2	2	1	-	-	-	-	-	-	-	-	2	3	1
AVERAGE	2.4	1.6	1.6	1	0	0	0	0	1	0	0	0	2	2.4	0.75

$PPO/PSO \text{ Attainment} = CO \times M / 3$

PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Average Mapping (M)	2.4	1.6	1.6	1	-	-	-	-	1	-	-	-	2	2.4	0.75
PO/PSO Attainment Level*	2.24	1.4	1.4	0.9	0	0	0	0	1	0	0	0	1.8	2.24	0.75

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ANNA UNIVERSITY R-2017

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

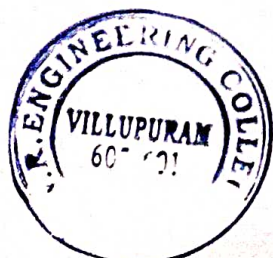
LIST OF COURSES CO-PO MAPPING

Sl. No	COURSE CODE	COURSE TITLE
1.	HS8151	Communicative English
2.	MA8151	Engineering Mathematics-I
3.	PH8151	Engineering Physics
4.	CY8151	Engineering Chemistry
5.	GE8151	Problem Solving and Python Programming
6.	GE8152	Engineering Graphics
7.	GE8161	Problem Solving and Python Programming Laboratory
8.	BS8161	Physics and Chemistry Laboratory

SEMESTER-I

S.No	COURSE CODE	COURSE TITLE
9.	HS8251	Technical English
10.	MA8251	Engineering Mathematics-II
11.	PH8252	Physics for Information Science
12.	BE8255	Basic Electrical, Electronics and Measurement Engineering
13.	GE8291	Environmental Science and Engineering
14.	CS8251	Programming in C
15.	GE8261	Engineering Practices Laboratory
16.	CS8261	C Programming Laboratory

SEMESTER-II




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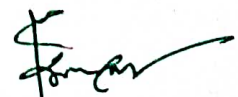
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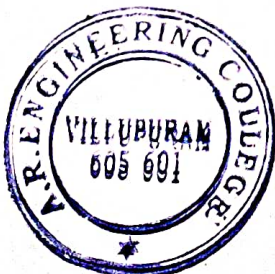
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S.No	COURSE CODE	COURSETITLE
17.	MA8351	DiscreteMathematics
18.	CS8351	DigitalPrinciplesandSystemDesign
19.	CS8391	DataStructures
20.	CS8392	ObjectOrientedProgramming
21.	EC8395	CommunicationEngineering
22.	CS8381	DataStructuresLaboratory
23.	CS8383	Object Oriented ProgrammingLaboratory
24.	CS8382	DigitalSystemsLaboratory
25.	HS8381	Interpersonal Skills/Listening&Speaking
SEMESTER-III		

SLNo	COURSECODE	COURSETITLE
26.	MA8402	ProbabilityandQueueingTheory
27.	CS8491	ComputerArchitecture
28.	CS8492	DatabaseManagementSystems
29.	CS8451	DesignandAnalysisofAlgorithms
30.	CS8493	OperatingSystems
31.	CS8494	SoftwareEngineering
32.	CS8481	DatabaseManagementSystemsLaboratory
33.	CS8461	OperatingSystemsLaboratory
34.	HS8461	AdvancedReadingandWriting
SEMESTER-IV		

	COURSECODE	COURSETITLE
35	MA8551	Algebra andNumberTheory
36	CS8591	ComputerNetworks
37	EC8691	MicroprocessorsandMicrocontrollers
38	CS8501	TheoryofComputation
39	CS8592	ObjectOrientedAnalysis and Design


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40	EC8681	Microprocessors and Microcontrollers Laboratory
41	CS8582	Object Oriented Analysis and Design Laboratory
42	CS8581	Networks Laboratory
SEMESTER V		
Sl.No	COURSE CODE	COURSE TITLE
43.	CS8651	Internet Programming
44.	CS8691	Artificial Intelligence
45.	CS8601	Mobile Computing
46.	CS8602	Compiler Design
47.	CS8603	Distributed Systems
48.	CS8661	Internet Programming Laboratory
49.	CS8662	Mobile Application Development Laboratory
50.	CS8611	Mini Project
51.	HS8581	Professional Communication
SEMESTER VI		

S.No	COURSE CODE	COURSE TITLE
52.	MG8591	Principles of Management
53.	CS8792	Cryptography and Network Security
54.	CS8791	Cloud Computing
55.	OBM752	Hospital Management
56.	CS8079	Human computer interaction
57.	CS8711	Cloud Computing Laboratory
58.	IT8761	Security Laboratory
SEMESTER VII		

S.No	COURSE CODE	COURSE TITLE
59.	CS8078	Green computing
60.	GE6075	Professional Ethics in Engineering
61.	CS8811	Project Work
SEMESTER VIII		




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PROGRAM OUTCOMES POS:

Engineering Graduates will be able to:

- 1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
- 2. Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- 3. Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- 4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- 5. Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- 6. The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- 7. Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- 8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 9. Individual and teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- 10. Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- 11. Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary




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environments.

12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OBJECTIVES (PSOs)

1. To analyze, design and develop computing solutions by applying foundational concepts of Computer Science and Engineering.
2. To apply software engineering principles and practices for developing quality software for scientific and business applications.
3. To adapt to emerging Information and Communication Technologies (ICT) to innovate ideas and solutions to existing/novel problems



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COURSE CODE & NAME: HS8151 & COMMUNICATIVE ENGLISH

COURSE CODE	COURSE NAME	COURSE OUTCOMES
HS8152	COMMUNICATIVE ENGLISH	CO1-Read articles of a general kind in magazines and newspapers.
		CO2-Participate effectively in informal conversations; introduce themselves and their friends and express opinions in English.
		CO3-introduce themselves and their friends and express opinions in English
		CO4-Comprehend conversations and short talks delivered in English
		CO5-Write short essays of a general kind and personal letters and emails in English.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	-	-	-	-	2	2	2	2	1	2	2	2	3	2	3
2	-	-	-	-	2	2	1	2	2	3	2	2	3	2	2
3	-	-	-	-	2	3	2	2	2	2	2	2	2	3	2
4	-	-	-	-	2	2	2	2	3	3	2	3	2	2	2
5	-	-	-	-	2	2	2	2	2	2	2	3	3	3	3
AVERAGE					2	2.2	1.8	2	2	2.4	2	2.4	2.6	2.4	2.4



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COURSE CODE & NAME: MA8151 & Engineering Mathematics-I

COURSE CODE	COURSE NAME	COURSE OUTCOMES
MA8151	ENGINEERING MATHEMATICS-I	CO1-Use both the limit definition and rules of differentiation to differentiate functions. Apply differentiation to solve maxima and minima problems.
		CO2-Evaluate integrals both by using Riemann sums and by using the Fundamental Theorem of Calculus.
		CO3-Apply integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables.
		CO4-Evaluate integrals using techniques of integration, such as substitution, partial fractions and integration by parts.
		CO5-Determine convergence/divergence of improper integrals and evaluate convergent improper integrals.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	2	-	-	-	-	-	-	2	2	2	3	2
2	3	2	2	2	-	-	-	-	-	-	2	2	3	3	2
3	3	2	2	3	-	-	-	-	-	-	2	2	3	2	1
4	3	2	2	2	-	-	-	-	-	-	2	3	2	1	2
5	3	2	2	2	-	-	-	-	-	-	2	3	3	3	3
AVERAGE	3	2	2	2.2							2	2.4	2.6	2.4	2




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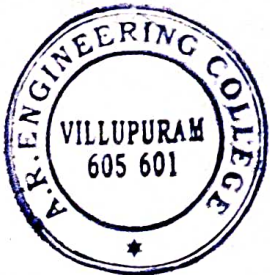
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COURSECODE&NAME:PH8151&ENGINEERINGPHYSICS

COURSE CODE	COURSENAME	COURSEOUTCOMES
PH8151	ENGINEERING PHYSICS	CO1-gainknowledgeonthebasicsofpropertiesofmatter and its applications
		CO2-acquireknowledgeontheconceptsofwavesand optical devices and theirapplicationsinfiberoptics
		CO3-Thestudentswillhaveadequateknowledgeonthe concepts of thermal properties of materialsandtheirapplicationsinexpansionjointsand heat exchangers
		CO4-getknowledgeonadvancedphysicsconceptsof quantum theory and its applicationsintunnelingmicroscopes
		CO5-understandthebasicsofcrystals,theirstructuresand different crystal growthtechniques.

MAPPINGCOURSE OUTCOMEWITHPROGRAMOUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	2	2	2	-	-	-	-	-	-	2	2	1	2	2
2	3	3	3	2	-	-	-	-	-	-	2	3	1	2	2
3	3	2	1	1	-	-	-	-	-	-	2	3	2	1	2
4	2	2	2	2	-	-	-	-	-	-	2	3	2	2	2
5	3	3	3	3	-	-	-	-	-	-	2	3	3	2	2
AVERAGE	2.6	2.4	2.2	2							2	2.8	1.8	1.8	2




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COURSECODE&NAME:CY8151&ENGINEERINGCHEMISTRY

COURSE CODE	COURSENAME	COURSEOUTCOMES
CY8151	ENGINEERING CHEMISTRY	CO1-watertreatmentTechniques
		CO2-gainknowledgeonengineeringmaterials
		CO3-gainknowledgeonALLOYSANDPHASERULE
		CO4-gainknowledgeonfuels
		CO5-gainknowledgeonenergysourcesandstoragedevices

MAPPINGCOURSE OUTCOMEWITHPROGRAMOUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	3	1	-	-	-	-	-	-	2	2	2	2	2
2	3	3	2	3	-	-	-	-	-	-	2	2	2	3	3
3	3	2	3	3	-	-	-	-	-	-	2	2	3	3	3
4	3	3	3	2	-	-	-	-	-	-	2	2	2	2	3
5	3	3	3	3	-	-	-	-	-	-	2	3	2	3	3
AVERAGE	3	2.6	2.8	2.4							2	2	2.2	2.6	2.8

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COURSECODE&NAME:GE8151&PROBLEMSOLVINGANDPYTHON PROGRAMMING

COURSE CODE	COURSENAME	COURSEOUTCOMES
GE8151	PROBLEM SOLVING AND PYTHON PROGRAMMING	CO1-DevelopAlgorithmicSolutionsToSimple Computational Problems CO2- Read, Write, Execute By Hand Simple Python Programs.CO3structureSimplePythonProgramsFor Solving Problems. CO4-DecomposeAPythonProgramIntoFunctions. CO5-RepresentCompoundDataUsingPythonLists, Tuples, Dictionaries.

MAPPINGCOURSE OUTCOMEWITHPROGRAMOUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	3	2	-	-	-	-	-	2	2	3	3	-
2	3	3	3	3	2	-	-	-	-	-	2	2	3	-	-
3	3	3	3	3	2	-	-	-	-	-	2	-	1	-	-
4	2	2	-	2	2	-	-	-	-	-	1	-	3	-	-
5	1	2	-	-	1	-	-	-	-	-	1	-	2	-	-
AVERAGE	2.4	2.2	1.8	2.2	1.8	-	-	-	-	-	1.6	0.8	2.4	0.6	-




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COURSE CODE & NAME: GE8152 & ENGINEERING GRAPHICS

COURSE CODE	COURSE NAME	COURSE OUTCOMES
GE8152	ENGINEERING GRAPHICS	CO1-Familiarize With The Fundamentals And Standards Of Engineering Graphics CO2-perform Freehand Sketching Of Basic Geometrical Constructions And Multiple Views Of Objects. CO3-project Orthographic Projections Of Lines And Plane Surfaces. CO4-draw Projections And Solids And Development Of Surfaces. CO5-visualize And To Project Isometric And Perspective Sections Of Simple Solids

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	2	-	2	-	-	-	-	3	-	2	2	2	-
2	3	1	2	-	2	-	-	-	-	3	-	2	2	2	-
3	3	1	2	-	2	-	-	-	-	3	-	2	2	2	-
4	3	1	2	-	2	-	-	-	-	3	-	2	2	2	-
5	3	1	2	-	2	-	-	-	-	3	-	2	2	2	-
AVERAGE	3	1	2	-	2	-	-	-	-	3	-	2	2	2	-




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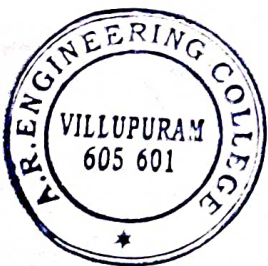
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**COURSECODE&NAME:GE8161&PROBLEMSOLVINGANDPYTHON
PROGRAMMING LABORATORY**

COURSE CODE	COURSENAME	COURSEOUTCOMES
GE8161	PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY	CO1-Write, test, and debug simple Python programs. CO2-ImplementPythonprogramswithconditionalsand loops. CO3-DevelopPythonprogramsstep-wisebydefining functions and calling them. CO4-Deploy functions to decompose a Python program. CO5-ProcesscompounddatausingPythondatastructures

MAPPINGCOURSE OUTCOMEWITHPROGRAMOUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PS - O3
1	3	3	3	3	2	-	-	-	-	-	2	2	3	3	-
2	3	3	3	3	2	-	-	-	-	-	2	2	3	-	-
3	3	3	3	3	2	-	-	-	-	-	2	-	3	-	-
4	2	2	-	2	2	-	-	-	-	-	1	-	3	-	-
5	1	2	-	-	1	-	-	-	-	-	1	-	2	-	-
AVERAGE	2.4	2.6	1.8	2.2	1.8	-	-	-	-	-	1.6	0.8	2.8	0.6	-




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KAPPIYAMPULIYUR POST,
VILLUPURAM-605 601.



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Vadakuchipalayam, Kappiyampuliyur post, Villupuram-605601, Tamilnadu.


COURSECODE&NAME:BS8161&PHYSICSANDCHEMISTRYLABORATORY

COURSE CODE	COURSENAME	COURSEOUTCOMES
BS8161	PHYSICS AND CHEMISTRY LABORATORY	CO1-The students will be outfitted with hands-on knowledge in the quantitative chemical analysis of water quality related parameters. CO2:Use graphical models to analyze laboratory data. CO3:To analyze and determine the composition of alloys. CO4:Access, process and analyze scientific information. CO5:Solve problems individually and collaboratively.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	3	1	1	-	-	-	-	-	-	-	-	-	-
2	3	3	2	1	1	-	-	-	-	-	-	-	-	-	-
3	3	2	3	1	1	-	-	-	-	-	-	-	-	-	-
4	3	3	2	1	1	-	-	-	-	-	-	-	-	-	-
5	3	2	3	1	1	-	-	-	-	-	-	-	-	-	-
AVERAGE	3	2.4	2.6	1	1	-	-	-	-	-	-	-	-	-	-




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COURSECODE&NAME:HS8251&TECHNICAL ENGLISH

COURSE CODE	COURSENAME	COURSEOUTCOMES
HS8251	TECHNICAL ENGLISH	CO1-Read technical texts and write area-specific texts effortlessly. CO2-Listen and comprehend lectures and talks in their area of specialisation successfully. CO3-Speak appropriately and effectively in varied formal and informal contexts. CO4-Write reports and winning job applications. CO5-Writing long essays reports and winning job applications by applying the principles of professional ethics and discharging ethical responsibilities.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	-	-	-	-	-	-	-	-	3	2	2	3	3	-	-
2	-	-	-	-	-	-	-	-	3	2	2	3	3	-	-
3	-	-	-	-	-	-	-	-	3	2	2	3	3	-	-
4	-	-	-	-	-	-	-	-	3	2	2	3	3	-	-
5	-	-	-	-	-	-	-	-	3	2	2	3	3	-	-
AVERAGE	-	-	-	-	-	-	-	-	3	2	2	3	3	-	-




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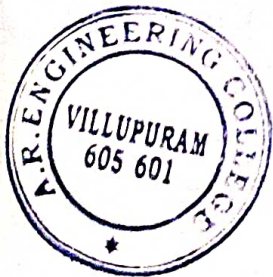
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COURSECODE&NAME:MA8251&ENGINEERINGMATHEMATICS-II

COURSE CODE	COURSENAME	COURSEOUTCOMES
MA8251	ENGINEERING MATHEMATICS-II	CO1-Eigen values and eigenvectors, diagonalization of a matrix, Symmetric matrices, Positive definite matrices and similar matrices. CO2-Gradient, divergence and curl of a vector point function and related identities. CO3-Evaluation of line, surface and volume integrals using Gauss, Stokes and Green's theorems and their verification. CO4 -Analytic functions, conformal mapping and complex integration. CO5-Laplace transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	1	1	-	-	-	-	2	-	3	-	-	-	-
2	3	3	1	1	-	-	-	-	2	-	3	-	-	-	-
3	3	3	1	1	-	-	-	-	2	-	3	-	-	-	-
4	3	3	1	1	-	-	-	-	2	-	3	-	-	-	-
5	3	3	1	1	-	-	-	-	2	-	3	-	-	-	-
AVERAGE	3	3	1	1	-	-	-	-	2	-	3	-	-	-	-




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COURSECODE&NAME:PH8252&PHYSICSFORINFORMATIONSCIENCE

COURSE CODE	COURSENAME	COURSEOUTCOMES
PH8252	PHYSICS FOR INFORMATION SCIENCE	CO1-Gainknowledgeonclassicalandquantumelectron theories, and energy band structuues, CO2-Acquireknowledgeonbasicsofsemiconductor physics and its applications in various devices, CO3-Getknowledgeonmagneticpropertiesofmaterials and their applications in data storage. CO4-Havethenecessaryunderstandingonthefunctioning of optical materials for optoelectronics CO5-Understandthebasicsofquantumstructuresand their applications in carbon electronics..

MAPPING COURSE OUTCOMEWITHPROGRAMOUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	2	1	3	1	1	-	-	-	-	2	-	-	-
2	3	1	2	1	3	1	1	-	-	-	-	2	-	-	-
3	3	1	2	1	3	1	2	-	-	-	-	2	-	-	-
4	3	2	2	2	2	1	1	-	-	-	-	2	-	-	-
5	3	2	2	2	1	1	2	-	-	-	-	2	-	-	-
AVERAGE	3	1.4	2	1.4	2.4	1	1.4	-	-	-	-	2	-	-	-




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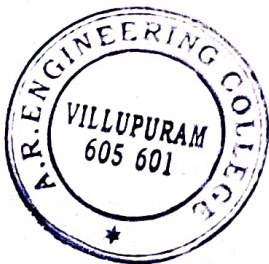
COURSE CODE & NAME: BE8255 & BASIC ELECTRICAL, ELECTRONICS AND MEASUREMENT ENGINEERING

COURSE CODE	COURSE NAME	COURSE OUTCOMES
BE8255	BASIC ELECTRICAL, ELECTRONICS AND MEASUREMENT ENGINEERING	CO1-Discuss the essential of electric circuits and analysis. CO2-Discuss the basic operation of electric machines and transformers CO3-Introduction of renewable sources and common domestic loads. CO4-Introduction to measurement and metering for electric circuits. Co5-To impart knowledge on the transducers and its measurements.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	3	1	-	-	-	-	1	-	-	-	2	-	-	-
2	2	2	1	-	-	-	-	1	-	-	-	2	-	-	-
3	2	1	1	-	-	-	-	1	-	-	-	2	-	-	-
4	2	2	1	-	-	-	-	1	-	-	-	2	-	-	-
5	2	1	1	-	-	-	-	1	-	-	-	2	-	-	-
AVERAGE	2	1.8	1	-	-	-	-	1	-	-	-	2	-	-	-

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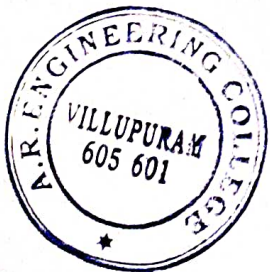
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COURSE CODE & NAME: GE8291 & ENVIRONMENTAL SCIENCE AND ENGINEERING

COURSE CODE	COURSE NAME	COURSE OUTCOMES
GE8291	ENVIRONMENTAL SCIENCE AND ENGINEERING	<p>CO1-Environmental Pollution or problems cannot be solved by mere laws. Public participation is an important aspect which serves the environmental protection. One will obtain knowledge on the following after completing the course.</p> <p>CO2-Public awareness of environmental issues at an infant stage.</p> <p>CO3-Ignorance and incomplete knowledge has led to misconceptions</p> <p>CO4-Development and improvement instead of living has led to serious environmental disasters</p> <p>CO5: To demonstrate the knowledge of sustainability practices and identify green materials, energy cycles and the role of sustainable urbanization.</p>

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	1	1	-	3	3	-	-	-	-	3	-	-	-
2	3	2	1	1	-	3	2	-	-	-	-	2	-	-	-
3	3	2	1	1	-	2	2	-	-	-	-	1	-	-	-
4	3	1	1	1	-	1	3	-	-	-	-	2	-	-	-
5	2	1	1	1	-	2	2	-	-	-	-	1	-	-	-
AVERAGE	2.8	1.8	1	1	-	2.2	2.4	-	-	-	-	1.8	-	-	-




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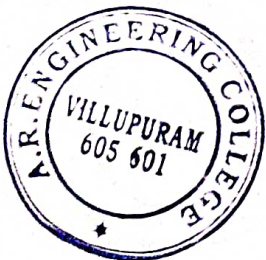
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COURSECODE&NAME:CS8251&PROGRAMMINGINC

COURSE CODE	COURSENAME	COURSEOUTCOMES
CS8261	PROGRAMMINGINC	CO1-DevelopsimpleapplicationsinCusingbasic constructs CO2-Designandimplementapplicationsusingarraysand strings CO3-DevelopandimplementapplicationsinCusing functions and pointers. CO4-DevelopapplicationsinCusingstructures. CO5-Designapplicationsusingsequentialandrandom access file processing.

MAPPINGCOURSE OUTCOMEWITHPROGRAMOUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	2	2	1	3	1	1	1	2	-	3	2	2	2	-
2	2	2	2	1	2	1	1	1	2	-	3	2	2	2	-
3	2	2	2	1	2	1	1	1	2	-	3	2	2	2	-
4	2	2	2	1	1	1	1	1	2	-	3	2	2	2	-
5	2	2	2	1	2	1	1	1	2	-	3	2	2	2	-
AVERAGE	2	2	2	1	2	1	1	1	2	-	3	2	2	2	-




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COURSECODE&NAME:GE8261&PRACTICESLABORATORYENGINEERING

COURSE CODE	COURSENAME	COURSEOUTCOMES
GE8261	PRACTICES LABORATORY ENGINEERING	CO1-Fabricatecarpentrycomponentsandpipeconnections including plumbing works. CO2-Useweldingequipmentstojointhestructures. CO3-Carry out the basic machining operations CO4-Make the models using sheet metal works CO5-Illustrateconcentrifugalpump,Airconditioner, operations of smithy, foundary and fittings

MAPPING COURSE OUTCOMEWITHPROGRAMOUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2			1	1	1					2	2	1	1
2	3	2			1	1	1					2	2	1	1
3	3	2			1	1	1					2	2	1	1
4	3	2			1	1	1					2	2	1	1
5	3	2			1	1	1					2	2	1	1
AVERAGE	3	2	-	-	1	1	1	-	-	-	-	2	2	1	1



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COURSECODE&NAME:CS8261&CPROGRAMMINGLABORATORY

COURSE CODE	COURSENAME	COURSEOUTCOMES
CS8261	CPROGRAMMING LABORATORY	<p>CO1-DevelopCprogramsforsimpleapplicationsmaking use of basic constructs, arrays and strings.</p> <p>CO2-DevelopCprogramsinvovingfunctions,recursion, pointers, and structures.</p> <p>CO3-Designapplicationsusingsequentialandrandom access file processing.</p> <p>CO4:DevelopapplicationsinCusingstructures.</p> <p>CO5-DevelopapplicationsinCusingstrings,pointers, functions.</p>

MAPPINGCOURSE OUTCOMEWITHPROGRAMOUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	2	2	1	2	1	1	1	2		3	2	2	2	-
2	2	2	2	1	2	1	1	1	2		3	2	2	2	-
3	2	2	2	1	2	1	1	1	2		3	2	2	2	-
4	2	2	2	1	2	1	1	1	2		3	2	2	2	-
5	2	2	2	1	2	1	1	1	2		3	2	2	2	-
AVERAGE	2	2	2	1	2	1	1	1	2	-	3	2	2	2	-

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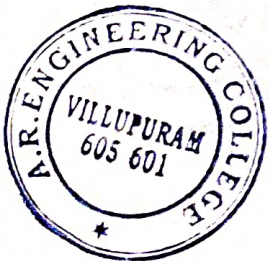
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COURSECODE&NAME:CS8351&DIGITALPRINCIPLESANDSYSTEMDESIGN

COURSE CODE	COURSENAME	COURSEOUTCOMES
CS8351	DIGITALPRINCIPLES ANDSYSTEMDESIGN	CO1:SimplifyBooleanfunctionsusingKMap CO2:DesignandAnalyzeCombinationaland SequentialCircuits CO3:ImplementdesignsusingProgrammable Logic Devices CO4:WriteHDLcodeforcombinationaland Sequential Circuits CO5:Identifythecharacteristicsofvarious memory systems and I/O communication

MAPPINGCOURSE OUTCOMEWITHPROGRAMOUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	3	3	3	1	1	1	1	3	3	2	3	3
2	3	3	3	3	2	1	1	1	1	1	1	1	1	3	2
3	3	3	3	3	1	2	1	1	1	1	2	3	1	1	1
4	3	3	3	3	1	1	1	1	1	1	1	3	1	3	1
5	3	3	3	3	2	1	1	1	1	1	1	3	2	3	1
AVERAGE	3	3	3	3	1.8	1.6	1	1	1	1	1.6	2.6	1.4	2.6	1.6




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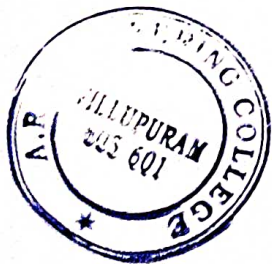
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COURSECODE&NAME:MA8351&DISCRETEMATHEMATICS

COURSE CODE	COURSENAME	COURSEOUTCOMES
MA8351	DISCRETE MATHEMATICS	CO1:Haveknowledgeoftheconceptsneededtotest the logic of a program. CO2:Haveanunderstandinginidentifyingstructures on many levels. CO3:Beawareofaclassoffunctionswhichtransform a finitesetinto another finitesetwhichrelatestoinput and output functions in computer science. CO4:Be aware of the counting principles. CO5:Beexposedtoconceptsandpropertiesof algebraicstructuresuchasgroups,ringsand fields.

MAPPINGCOURSEOUTCOMEWITHPROGRAMOUT

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1	3	2	1	-	-	-	-	-	1	-	-	-	-	-
2	1	3	2	1	-	-	-	-	-	1	-	-	-	-	-
3	1	3	2	1	-	-	-	-	-	1	-	-	-	-	-
4	1	3	2	1	-	-	-	-	-	1	-	-	-	-	-
5	1	3	2	1	-	-	-	-	-	1	-	-	-	-	-
AVERAGE	1	3	2	1	-	-	-	-	-	1	-	-	-	-	-



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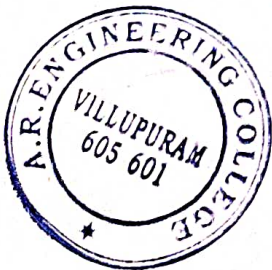
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COURSE CODE & NAME: CS8391 & DATA STRUCTURES

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8391	DATA STRUCTURES	CO1: Implement abstract data types for linear data structures. CO2: Apply the different linear and non-linear data structures to problem solutions CO4: Apply appropriate graph algorithms for graph applications. CO5: Analyze the various searching and sorting algorithms.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	2	1	2	2	1	1	-	1	1	1	2	2	2	2
2	2	2	1	2	2	1	1	-	1	1	1	2	2	2	2
3	2	2	1	2	2	1	1	-	1	1	1	2	2	2	2
4	2	2	1	2	2	1	1	-	1	1	1	2	2	2	2
5	2	2	1	2	2	1	1	-	1	1	1	2	2	2	2
AVERAGE	2	2	1	2	2	1	1	-	1	1	1	2	2	2	2



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COURSECODE&NAME:CS8392&OBJECTORIENTEDPROGRAMMING

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8392	OBJECTORIENTED PROGRAMMING	CO1: Develop Java programs using OOP principles
		CO2: Develop Java programs with the concepts inheritance and interfaces
		CO3: Build Java applications using exceptions and I/O streams
		CO4: Develop Java applications with threads and generics classes
		CO5: Develop interactive Java programs using swings

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	2	2	2	-	-	-	2	2	1	2	3	2	2
2	2	1	2	2	2	-	-	-	2	2	1	2	3	2	2
3	2	1	2	2	2	-	-	-	2	2	1	2	3	2	2
4	2	1	2	2	2	-	-	-	2	2	1	2	3	2	2
5	2	1	2	2	2	-	-	-	2	2	1	2	3	2	2
AVERAGE	2	1	2	2	2	-	-	-	2	2	1	2	3	2	2

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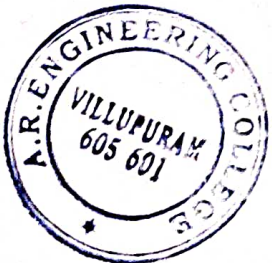
COURSECODE&NAME:EC8395&COMMUNICATIONENGINEERING

COURSE CODE	COURSENAME	COURSEOUTCOMES
EC8395	COMMUNICATION ENGINEERING	CO1:Ability to comprehend and appreciate the significance and role of this course in the present contemporary world. CO2:Apply analog and digital communication techniques. CO3:Use data and pulse communication techniques. CO4:Analyze Source and Error control coding. CO5:Understand the

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	1	-	-	-	-	-	-	1	-	-	2	-	-
2	2	1	1	-	-	-	-	-	-	1	-	-	2	-	-
3	2	1	1	-	-	-	-	-	-	1	-	-	2	-	-
4	2	1	1	-	-	-	-	-	-	1	-	-	2	-	-
5	2	1	1	-	-	-	-	-	-	1	-	-	2	-	-
AVERAGE	2	1	1	-	-	-	-	-	-	1	-	-	2	-	-

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COURSE CODE & NAME: CS8381 & DATA STRUCTURES LABORATORY

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8381	DATA STRUCTURES LABORATORY	CO1: Write functions to implement linear and non-linear data structure operations CO2: Suggest appropriate linear/non-linear data structure operations for solving a given problem CO3: Appropriately use the linear / non-linear data structure operations for a given problem CO4: Apply appropriate hash functions that result in a collision free scenario for data storage and retrieval. CO5: Critically analyze the various sorting algorithms.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	2	1	2	2	1	1	-	3	3	1	2	2	2	1
2	2	2	1	2	2	1	1	-	3	3	1	2	2	2	1
3	2	2	1	2	2	1	1	-	3	3	1	2	2	2	1
4	2	2	1	2	2	1	1	-	3	3	1	2	2	2	1
5	2	2	1	2	2	1	1	-	3	3	1	2	2	2	1
AVERAGE	2	2	1	2	2	1	1	-	1	1	1	2	2	2	2



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COURSE CODE & NAME: CS8383 & OBJECT ORIENTED PROGRAMMING LABORATORY

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8383	OBJECT ORIENTED PROGRAMMING LABORATORY	<p>CO1: Develop and implement Java programs for simple applications that make use of classes, packages and interfaces.</p> <p>CO2: Develop and implement Java programs with arraylist, exception handling and multithreading.</p> <p>CO3: Design applications using file processing, generic programming and event handling.</p> <p>CO4: Develop Java applications with threads and generic classes.</p> <p>CO5: Develop interactive Java programs using swings</p>

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	2	2	2	2	-	-	-	2	2	2	2	2	2	2
2	2	2	2	2	2	-	-	-	2	2	2	2	2	2	2
3	2	2	2	2	2	-	-	-	2	2	2	2	2	2	2
4	2	2	2	2	2	-	-	-	2	2	2	2	2	2	2
5	2	2	2	2	2	-	-	-	2	2	2	2	2	2	2
AVERAGE	2	2	2	2	2	-	-	-	2	2	2	2	2	2	2




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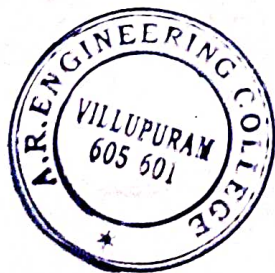
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COURSECODE& NAME:CS8382&DIGITALSYSTEMSLABORATORY

COURSE CODE	COURSENAME	COURSEOUTCOMES
CS8382	DIGITALSYSTEMS LABORATORY	CO1: Implement simplified combinational circuits using basic logic gates CO2: Implement combinational circuits using MSI devices CO3: Implement sequential circuits like registers and counters CO4: Simulate combinational and sequential circuits using HDL CO5: Simulate combinational and sequential circuits using HDL

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME-

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	2	1	2	1	-	-	-	-	-	1	2	1	1	1
2	2	2	1	2	1	-	-	-	-	-	1	2	1	1	1
3	2	2	1	2	1	-	-	-	-	-	1	2	1	1	1
4	2	2	1	2	1	-	-	-	-	-	1	2	1	1	1
5	2	2	1	2	1	-	-	-	-	-	1	2	1	1	1
AVERAGE	2	2	1	2	1	-	-	-	-	-	1	2	1	1	1




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COURSECODE&NAME:HS8381&INTERPERSONALSKILLS/LISTENING&SPEAKING

COURSE CODE	COURSENAME	COURSEOUTCOMES
HS8381	INTERPERSONAL SKILLS/LISTENING & SPEAKING	CO1: Listen and respond appropriately. CO2: Participate in group discussions. CO3: Make effective presentations. CO4: Participate confidently and appropriately in conversations both formal and informal. CO5: Listening and doing accordingly in both Presentation and discussions

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	-	-	-	-	-	-	-	-	3	2	2	3	3	-	-
2	-	-	-	-	-	-	-	-	3	2	2	3	3	-	-
3	-	-	-	-	-	-	-	-	3	2	2	3	3	-	-
4	-	-	-	-	-	-	-	-	3	2	2	3	3	-	-
5	-	-	-	-	-	-	-	-	3	2	2	3	3	-	-
AVERAGE	-	-	-	-	-	-	-	-	3	2	2	3	3	-	-



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COURSE CODE & NAME: MA8402 & PROBABILITY AND QUEUEING THEORY

COURSE CODE	COURSE NAME	COURSE OUTCOMES
MA8402	PROBABILITY AND QUEUEING THEORY	CO1: Understand the fundamental knowledge of the concepts of probability and have knowledge of standard distributions which can describe real life phenomenon. CO2: understand the basic concepts of one and two dimensional random variables and apply in engineering applications. CO3: Apply the concept of random processes in engineering disciplines. CO4: Acquire skills in analyzing queueing models. CO5: Understand and characterize phenomenon which evolve with respect to time in a probabilistic manner.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
4	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
5	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
AVERAGE	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-




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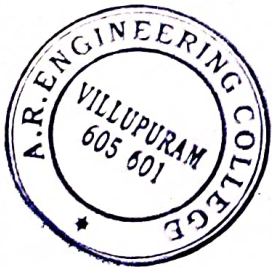
COURSE CODE & NAME: CS8491 & COMPUTER ARCHITECTURE

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8491	COMPUTER ARCHITECTURE	CO1: Understand the basic structure of computers, operations and instructions CO2: Design arithmetic and logic unit. CO3: Understand pipelined execution and design control unit. CO4: Understand parallel processing architectures CO5: Understand the various memory systems and I/O communication.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
2	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
3	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
4	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
5	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
AVERAGE	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-

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COURSE CODE & NAME: CS8492 & DATABASE MANAGEMENT SYSTEMS


COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8492	DATABASE MANAGEMENT SYSTEMS	CO1: Understand the fundamental knowledge of the concepts of probability and have knowledge of standard distributions which can describe all life phenomenon CO2: Understand the basic concepts of one and two dimensional random variables and apply in engineering applications CO3: Apply the concept of random processes in engineering disciplines CO4: Acquire skills in analyzing queueing model CO5: Understand and characterize phenomenon which evolve with respect to time in a probabilistic manner

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MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
2	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
3	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
4	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
5	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
AVERAGE	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-




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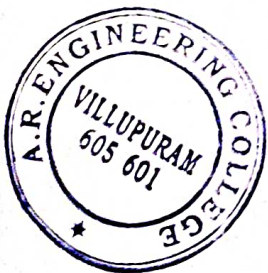
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COURSE CODE & NAME: CS8493 & OPERATING SYSTEMS

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8493	OPERATING SYSTEMS	CO1: Analyze various scheduling algorithms. CO2 : Understand deadlock, prevention and avoidance algorithms CO3: Compare and contrast various memory management schemes CO4: Understand the functionality of file systems CO5 : Perform administrative tasks on Linux Servers.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
2	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
3	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
4	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
5	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
AVERAGE	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-



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COURSE CODE & NAME: CS8494 & SOFTWARE ENGINEERING

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8494	SOFTWARE ENGINEERING	CO1: Identify the key activities in managing a software project CO2: Compare different process models. CO3: Concept of requirements engineering and Analysis Modeling. CO4: Apply systematic procedure for software design and deployment CO5: Compare and contrast the various testing and maintenance

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	1	-	-	-	-	-	-	-	-	-	2	2	-
2	3	1	1	-	-	-	-	-	-	-	-	-	2	2	-
3	3	1	1	-	-	-	-	-	-	-	-	-	2	2	-
4	3	1	1	-	-	-	-	-	-	-	-	-	2	2	-
5	3	1	1	-	-	-	-	-	-	-	-	-	2	2	-
AVERAGE	3	1	1	-	-	-	-	-	-	-	-	-	2	2	-

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COURSECODE&NAME:CS8481&DATABASEMANAGEMENTSYSTEMS LABORATORY.

COURSE CODE	COURSENAME	COURSEOUTCOMES
CS8481	DATABASE MANAGEMENT SYSTEMS LABORATORY	CO1: Usetypicaldatadefinitionsand manipulation commands CO2: DesignapplicationstotestNestedandJoin Queries CO3: Implementsimpleapplicationsthatuse Views CO4: Implementapplicationsthatrequirea Front-end Tool CO5: CriticallyanalyzetheuseofTables, Views, Functions and Procedures

MAPPING COURSE OUTCOMEWITHPROGRAMOUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	-	-	-	-	3	3	3	3	3	2	2	2
2	3	2	2	-	-	-	-	3	3	3	3	3	2	2	2
3	3	2	2	-	-	-	-	3	3	3	3	3	2	2	2
4	3	2	2	-	-	-	-	3	3	3	3	3	2	2	2
5	3	2	2	-	-	-	-	3	3	3	3	3	2	2	2
AVERAGE	3	2	2	-	-	-	-	3	3	3	3	3	2	2	2



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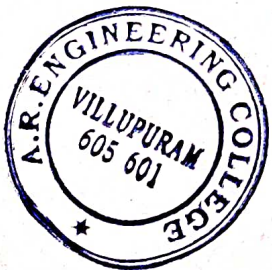
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COURSE CODE & NAME: CS8461 & OPERATING SYSTEMS LABORATORY

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8461	OPERATING SYSTEMS LABORATORY	CO1: Compare the performance of various CPU Scheduling Algorithms CO2: Implement Deadlock avoidance and Detection Algorithms CO3: Implement Semaphores CO4: Create processes and implement IPC CO5: Analyze the performance of the various Page Replacement Algorithms

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	-	-	-	-	3	3	3	3	3	2	2	2
2	3	2	2	-	-	-	-	3	3	3	3	3	2	2	2
3	3	2	2	-	-	-	-	3	3	3	3	3	2	2	2
4	3	2	2	-	-	-	-	3	3	3	3	3	2	2	2
5	3	2	2	-	-	-	-	3	3	3	3	3	2	2	2
AVERAGE	3	2	2	-	-	-	-	3	3	3	3	3	2	2	2



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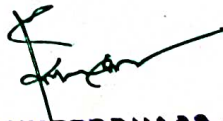
COURSE CODE & NAME: CS8451 & DESIGN AND ANALYSIS OF ALGORITHMS

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8451	DESIGN AND ANALYSIS OF ALGORITHMS	CO1: Design algorithms for various computing problems CO2: Analyze the time and space complexity of algorithms CO3: Critically analyze the different algorithm design techniques for a given problem CO4: Modify existing algorithms to improve efficiency. CO5: Analyze all the techniques in algorithms.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	-	-	-	-	3	3	3	3	3	2	1	-
2	3	2	2	-	-	-	-	3	3	3	3	3	2	1	-
3	3	2	2	-	-	-	-	3	3	3	3	3	2	1	-
4	3	2	2	-	-	-	-	3	3	3	3	3	2	1	-
5	3	2	2	-	-	-	-	3	3	3	3	3	2	1	-
AVERAGE	3	2	2	-	-	-	-	3	3	3	3	3	2	1	-




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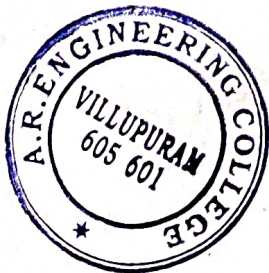
COURSE CODE & NAME: ADVANCED READING AND WRITING & HS8461

COURSE CODE	COURSE NAME	COURSE OUTCOMES
HS8461	ADVANCED READING AND WRITING	<p>CO1: Write different types of essays</p> <p>CO2: Write winning job applications</p> <p>CO3: Read and evaluate texts critically</p> <p>CO4: Display critical thinking in various professional contexts</p> <p>CO5: understand how the text positions in the readers.</p>

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	-	-	-	-	-	-	-	2	2	2	3	3	-	-	-
2	-	-	-	-	-	-	-	2	2	2	3	3	-	-	-
3	-	-	-	-	-	-	-	2	2	2	3	3	-	-	-
4	-	-	-	-	-	-	-	2	2	2	3	3	-	-	-
5	-	-	-	-	-	-	-	2	2	2	3	3	-	-	-
AVERAGE	-	-	-	-	-	-	-	2	2	2	3	3	-	-	-

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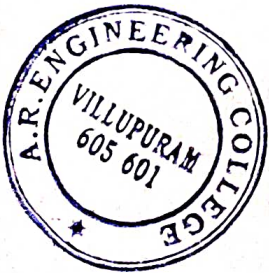
COURSECODE&NAME:MA8551&ALGEBRAANDNUMBERTHEORY

COURSE CODE	COURSENAME	COURSEOUTCOMES
MA8551	ALGEBRAANDNUMBERTHEORY	CO1: Apply the basic notions of groups, rings, fields which will then be used in problems. CO2: Explain the fundamental concepts of advanced algebra and mathematics in applied contexts. CO3: Explain the fundamental concepts of advanced algebra and mathematics in applied contexts. CO4: Demonstrate accurate and efficient use of advanced algebraic methods. CO5: Demonstrate accurate and efficient use of advanced algebraic methods.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-
2	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-
3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
4	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
5	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
AVERAGE	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-

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COURSE CODE & NAME: CS8591 & COMPUTER NETWORKS

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8591	COMPUTER NETWORKS	CO1: Understand the basic layers and its functions in computer networks, CO2: Evaluate the performance of a network. CO3: Understand the basics of how data flows from one node to another. CO4: Analyze and design routing algorithms. CO5: Understand the working of various application layer protocols.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	1	-	-	-	-	-	-	-	-	-	1	2	-
2	2	1	1	-	-	-	-	-	-	-	-	-	1	2	-
3	2	1	1	-	-	-	-	-	-	-	-	-	1	2	-
4	2	1	1	-	-	-	-	-	-	-	-	-	1	2	-
5	2	1	1	-	-	-	-	-	-	-	-	-	1	2	-
AVERAGE	2	1	1	-	-	-	-	-	-	-	-	-	1	2	-

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COURSE CODE & NAME: EC8691 & MICROPROCESSORS AND MICROCONTROLLERS

COURSE CODE	COURSE NAME	COURSE OUTCOMES
EC8691	MICROPROCESSORS AND MICROCONTROLLERS	CO1: Understand and execute programs based on 8085 CO2: Design Memory Interfacing circuits. CO3: Design and interface I/O circuits. CO4: Design and implement 8051 microcontroller ba CO5: Design and implement Interrupts Programs

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
2	1	1	1	-	-	-	-	-	-	-	-	-	2	-	-
3	1	1	1	-	-	-	-	-	-	-	-	-	2	-	-
4	3	1	1	-	-	-	-	-	-	-	-	-	2	-	-
5	3	1	1	-	-	-	-	-	-	-	-	-	2	-	-
AVERAGE	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-

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COURSE CODE & NAME: CS8501 & THEORY OF COMPUTATION

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8501	THEORY OF COMPUTATION	CO1: Construct automata, regular expression for any pattern. CO2: Write Context free grammar for any construct. CO3: Design Turing machines for any language. CO4: Propose computation solutions using Turing machines. CO5: Derive whether a problem is decidable or not.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	-	-	-	-	-	-	-	-	-	2	-	-
2	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
3	3	1	1	-	-	-	-	-	-	-	-	-	2	-	-
4	3	1	2	-	-	-	-	-	-	-	-	-	2	-	-
5	3	2	2	-	-	-	-	-	-	-	-	-	2	-	-
AVERAGE	3	2	2	-	-	-	-	-	-	-	-	-	2	-	-




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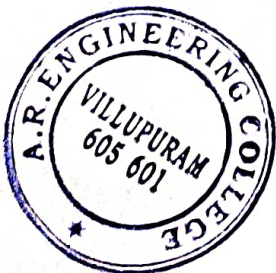
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COURSE CODE & NAME: CS8592 & OBJECT ORIENTED ANALYSIS AND DESIGN

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8592	OBJECT ORIENTED ANALYSIS AND DESIGN	CO1: Express software design with UML diagrams CO2: Design software applications using OO concepts. CO3: Identify various scenarios based on software requirements CO4: Transform UML based software design into pattern based design using design patterns CO5: Understand the various testing methodologies for OO software

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
2	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
3	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
4	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
5	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
AVERAGE	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-



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COURSE CODE & NAME: EC8681 & MICROPROCESSORS AND MICROCONTROLLERS
LABORATORY

COURSE CODE	COURSE NAME	COURSE OUTCOMES
EC8681	MICROPROCESSORS AND MICROCONTROLLERS LABORATORY	<p>CO1: Write ALP Programmes for fixed and Floating Point and Arithmetic operations</p> <p>CO2: Interfaced different I/Os with processor</p> <p>CO3: Generate waveforms using Microprocessors</p> <p>CO4: Execute Programs in 8051</p> <p>CO5: Explain the difference between Emulator and Simulator</p>

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	1	-	-	-	-	3	3	3	3	3	3	2	-
2	2	1	1	-	-	-	-	3	3	3	3	3	1	2	-
3	1	1	1	-	-	-	-	3	3	3	3	3	1	2	-
4	1	1	1	-	-	-	-	3	3	3	3	3	2	2	-
5	3	1	1	-	-	-	-	3	3	3	3	3	3	2	-
AVERAGE	2	1	1	-	-	-	-	3	3	3	3	3	2	2	-




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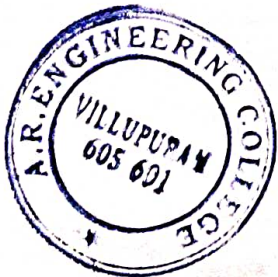
COURSE CODE & NAME: CS8582 & OBJECT ORIENTED ANALYSIS AND DESIGN LABORATORY

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8582	OBJECT ORIENTED ANALYSIS AND DESIGN LABORATORY	<p>CO1: Perform OO analysis and design for a given problem specification.</p> <p>CO2: Identify and map basic software requirements in UML mapping.</p> <p>CO3: Improve the software quality using design patterns and to explain the rationale behind applying specific design patterns</p> <p>CO4: Test the compliance of the software with the SRS.</p> <p>CO5: Implement the modified system and test it for various scenarios</p>

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	-	-	-	-	3	3	3	3	3	2	2	1
2	3	2	2	-	-	-	-	3	3	3	3	3	2	2	1
3	3	2	2	-	-	-	-	3	3	3	3	3	2	2	1
4	3	2	2	-	-	-	-	3	3	3	3	3	2	2	1
5	3	2	2	-	-	-	-	3	3	3	3	3	2	2	1
AVERAGE	3	2	2	-	-	-	-	3	3	3	3	3	2	2	1

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COURSE CODE & NAME: CS8581 & NETWORK LABORATORY

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8581	NETWORK LABORATORY	CO1: Implement various protocols using TCP and UDP CO2: Compare the performance of different transport layer protocols. CO3: Use simulation tools to analyze the performance of various network protocols. CO4: Analyze various routing algorithms. CO5: Implement error correction codes.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	-	2	3	-	3	3	3	3	3	2	1	1
2	3	2	2	-	2	3	-	3	3	3	3	3	2	1	1
3	3	2	2	-	2	3	-	3	3	3	3	3	2	1	1
4	3	2	2	-	2	3	-	3	3	3	3	3	2	1	1
5	3	2	2	-	2	3	-	3	3	3	3	3	2	1	1
AVERAGE	3	2	2	-	2	3	-	3	3	3	3	3	2	1	1




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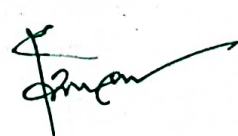
COURSECODE&NAME:CS8651&INTERNETPROGRAMMING

COURSE CODE	COURSENAME	COURSEOUTCOMES
CS8651	INTERNETPROGRAMMING	<p>CO1:ConstructabasicwebsiteusingHTMLandCascadingStyleSheets.</p> <p>CO2:BuilddynamicwebpagewithvalidationusingJavaScriptobjectsandbyap different event handling mechanisms.</p> <p>CO3. DevelopserversideprogramsusingServletsandJSP.</p> <p>CO4: ConstructsimplewebpagesinPHPandto representdatainXMLfo</p> <p>CO5:UseAJAXandwebservicesstodevelopinteractivewebapplications</p>

MAPPINGCOURSE OUTCOMEWITHPROGRAMOUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	1	1	-	-	-	-	-	-	-	-	2	2	-
2	1	1	1	1	-	-	-	-	-	-	-	-	2	2	-
3	1	1	1	1	-	-	-	-	-	-	-	-	2	2	-
4	2	1	1	1	-	-	-	-	-	-	-	-	2	2	-
5	3	1	1	1	-	-	-	-	-	-	-	-	2	2	-
AVERAGE	2	1	1	1	-	-	-	-	-	-	-	-	2	2	-




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COURSE CODE & NAME: CS8691 & ARTIFICIAL INTELLIGENCE

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8691	ARTIFICIAL INTELLIGENCE	CO1: Use appropriate search algorithms for any AI problem CO2: Represent a problem using first order and predicate logic CO3: Provide the apt agent strategy to solve a given problem CO4: Design software agents to solve a problem. CO5: Design applications for NLP that use Artificial Intelligence

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
2	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
3	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
4	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
5	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
AVERAGE	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-



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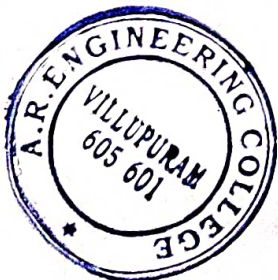
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COURSE CODE & NAME: CS8601 & MOBILE COMPUTING

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8601	MOBILE COMPUTING	CO1: Explain the basics of mobile telecommunication systems CO2: Illustrate the generation of telecommunication systems in wireless networks CO3: Determine the functionality of MAC, network layer and identify a routing protocol for a given Ad hoc network CO4: Explain the functionality of Transport and Application layers CO5: Develop a mobile application using android/blackberry/ios/Windows SDK

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
4	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
5	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
AVERAGE	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-




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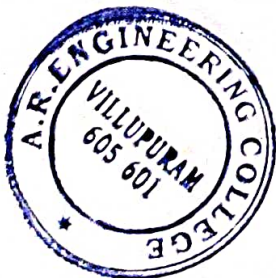
COURSE CODE & NAME: CS8602 & COMPILER DESIGN

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8602	COMPILER DESIGN	CO1: Understand the different phases of compiler. CO2: Design a lexical analyzer for a sample language. CO3: Apply different parsing algorithms to develop the parsers for a given grammar. CO4: Understand syntax-directed translation and run-time environment. CO5: Learn to implement code optimization techniques and a simple code generator.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	1	-	-	-	-	-	-	-	-	-	-	-	2
2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	2
3	2	1	1	-	-	-	-	-	-	-	-	-	-	-	3
4	2	1	1	-	-	-	-	-	-	-	-	-	-	-	2
5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	1
AVERAGE	2	1	1	-	-	-	-	-	-	-	-	-	-	-	2

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COURSE CODE & NAME: CS8603 & DISTRIBUTED SYSTEMS

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8603	DISTRIBUTED SYSTEMS	CO1: Use appropriate search algorithms for any A CO2: Understand the various synchronization issues And global state for distr CO3: Understand the Mutual Exclusion and Deadlock detection algorithms in CO4: Describe the agreement protocols and fault tolerance mechanisms in dis CO5: Describe the features of peer-to-peer and distributed shared memory sy

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
3	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
4	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
AVERAGE	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-




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COURSE CODE & NAME: CS8661 & INTERNET PROGRAMMING LABORATORY

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8661	INTERNET PROGRAMMING LABORATORY	<p>CO1: Construct Web pages using HTML/XML and stylesheets</p> <p>CO2: Build dynamic web pages with validation using Java Script objects and by applying different event handling mechanisms.</p> <p>CO3: Develop dynamic web pages using serverside scripting.</p> <p>CO4: Use PHP programming to develop web applications.</p> <p>CO5: Use PHP programming to develop web applications.</p>

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	1	-	-	-	3	3	3	3	3	2	2	2
2	3	1	2	1	-	-	-	3	3	3	3	3	2	2	2
3	3	2	2	1	-	-	-	3	3	3	3	3	2	2	2
4	3	3	2	1	-	-	-	3	3	3	3	3	2	2	2
5	3	2	2	1	-	-	-	3	3	3	3	3	2	2	2
AVERAGE	3	2	2	1	-	-	-	3	3	3	3	3	2	2	2




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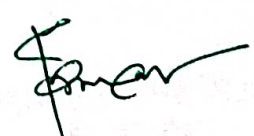
COURSE CODE & NAME: CS8662 & MOBILE APPLICATION DEVELOPMENT LABORATORY

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8662	MOBILE APPLICATION DEVELOPMENT	CO1: Develop mobile applications using GUI and Layouts. CO2: Develop mobile applications using Event Listener. CO3: Develop mobile applications using Databases. CO4: Develop mobile applications using RSS Feed, Internal/External Storage and GPS. CO5: Analyze and discover own mobile apps for simple needs

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	-	-	-	-	-	3	3	3	3	3	2	2	-
2	3	2	-	-	-	-	-	3	3	3	3	3	2	2	-
3	3	2	-	-	-	-	-	3	3	3	3	3	2	1	-
4	3	1	-	-	-	-	-	3	3	3	3	3	2	3	-
5	3	3	-	-	-	-	-	3	3	3	3	3	2	2	-
AVERAGE	3	2	-	-	-	-	-	3	3	3	3	3	2	2	-




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COURSE CODE & NAME: HS8581 & PROFESSIONAL COMMUNICATION

COURSE CODE	COURSE NAME	COURSE OUTCOMES
HS8581	PROFESSIONAL COMMUNICATION	CO1: Make effective presentations CO2: Participate confidently in Group Discussions. CO3: Attend job interviews and be successful in them. CO4: Develop adequate Soft Skills required for the workplace CO5: understanding group dynamics brainstorming the topic

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	-	-	-	-	-	-	-	3	2	2	3	3	-	-	-
2	-	-	-	-	-	-	-	3	2	2	3	3	-	-	-
3	-	-	-	-	-	-	-	3	2	2	3	3	-	-	-
4	-	-	-	-	-	-	-	3	2	2	3	3	-	-	-
5	-	-	-	-	-	-	-	3	2	2	3	3	-	-	-
AVERAGE	-	-	-	-	-	-	-	3	2	2	3	3	-	-	-




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COURSE CODE & NAME: CS8611 & MiniProject

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8611	MiniProject	<p>CO1: Identify the problem to solve and meet its requirements.</p> <p>CO2: Design the solution of the problem identified by using modern tools.</p> <p>CO3: Develop a project using advanced technologies.</p> <p>CO4: Develop analytical thinking and professional skills to prepare for final year project.</p> <p>CO5: Demonstrate the developed project and its outcome to the evaluators.</p>

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	3	3	3	3	3	3	3	3	3	2	1	1
2	3	3	3	3	3	3	3	3	3	3	3	3	2	1	1
3	3	3	3	3	3	3	3	3	3	3	3	3	2	1	1
4	3	3	3	3	3	3	3	3	3	3	3	3	2	1	1
5	3	3	3	3	3	3	3	3	3	3	3	3	2	1	1
AVERAGE	3	3	3	3	3	3	3	3	3	3	3	3	2	1	1




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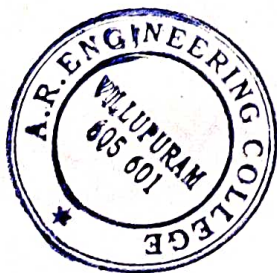
COURSE CODE & NAME: MG8591 & PRINCIPLES OF MANAGEMENT

COURSE CODE	COURSE NAME	COURSE OUTCOMES
MG8591	PRINCIPLES OF MANAGEMENT	CO1: Upon completion of the course, students will be able to have clear understanding of managerial functions like planning, organizing, staffing, leading & controlling. CO2: Has a basic knowledge on international aspect of management. CO3: Ability to understand management concept of organizing. CO4: Ability to understand management concept of directing. CO5: Ability to understand management concept of controlling.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	-	-	-	-	-	2	-	2	2	2	2	3			
2	-	-	-	-	-	2	-	2	2	2	2	3			
3	-	-	-	-	-	2	-	2	2	2	2	3			
4	-	-	-	-	-	2	-	2	2	2	1	3			
5	-	-	-	-	-	2	-	2	2	2	3	3			
AVERAGE	-	-	-	-	-	2	-	2	2	2	2	3	-	-	-

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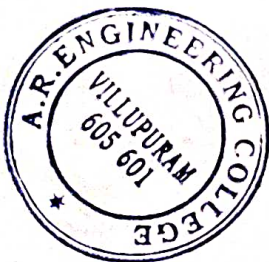
COURSE CODE & NAME: CS8792 & CRYPTOGRAPHY AND NETWORK SECURITY

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8792	CRYPTOGRAPHY AND NETWORK SECURITY	<p>CO1: Understand the fundamentals of networks security, security architecture, threats and vulnerabilities</p> <p>CO2: Apply the different cryptographic operations of symmetric cryptography</p> <p>CO3: Apply the different cryptographic operations of public key cryptography</p> <p>CO4: Apply the various Authentication schemes to simulated different applications</p> <p>CO5: Understand various Security practices and System security standards</p>

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	
1	2	1	1	-	-	-	-	-	-	-	-	2	2	-	-	
2	2	1	1	1	-	-	-	-	-	-	-	2	2	-	-	
3	3	2	2	-	-	-	-	-	-	-	-	2	3	2	2	
4	2	2	2	1	-	-	-	1	-	-	-	2	2	-	-	
5	3	2	2	1	-	-	-	-	-	-	-	2	3	1	1	
AVERAGE	2.4	1.6	1.6	1	0	0	0	0	1	0	0	0	2	2.4	0.75	0.75

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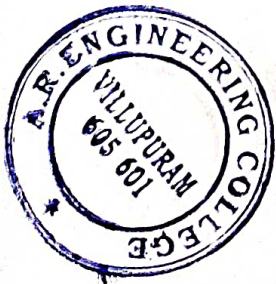
COURSECODE&NAME:CS8791&CLOUDCOMPUTING

COURSE CODE	COURSENAME	COURSEOUTCOMES
CS8791	CLOUDCOMPUTING	CO1:Articulate themain concepts, key technologies, strengths and limitations of cloud computing. CO2: Learn the key and enabling technologies that help in the development of cloud CO3: Develop the ability to understand and use the architecture of compute and storage cloud, service and delivery models. CO4: Be able to install and use current cloud technologies. CO5: Evaluate and choose the appropriate technologies, algorithms and approach es for implementation and use of cloud.

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	1	-	-	-	-	-	-	-	-	-	2	2	
2	2	1	1	-	-	-	-	-	-	-	-	-	2	2	
3	3	2	2	1	-	-	-	-	-	-	-	-	2	3	
4	2	1	1	-	-	-	-	-	-	-	-	-	2	2	
5	3	2	2	1	-	-	-	-	-	-	-	-	2	3	
AVERAGE	2.4	1.4	1.4	0.4									2	2.4	

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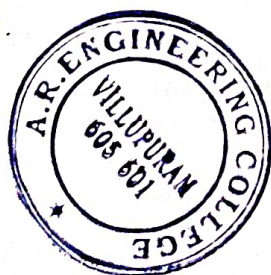
COURSECODE & NAME: CS8711 & CLOUD COMPUTING LABORATORY

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8711	CLOUD COMPUTING LABORATORY	<p>CO1: Configure various virtualization tools such as VirtualBox workstation.</p> <p>CO2: Design and deploy a web application in a PaaS environment</p> <p>CO3: Learn how to simulate a cloud environment to implement news schedulers.</p> <p>CO4: Install and use a generic cloud environment that can be used as a pr</p> <p>CO5: Manipulate large datasets in a parallel environment</p>

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	1	1	1	-	-	-	2	3	1	3	2	1	3
2	3	1	2	2	1	-	-	-	1	2	1	3	2	2	1
3	2	3	2	3	1	-	-	-	3	1	1	3	1	1	1
4	1	2	3	3	3	-	-	-	3	3	1	2	1	3	1
5	2	3	3	1	3	-	-	-	2	2	1	2	2	2	3
AVERAGE	2.2	2.2	2.2	2	1.8	-	-	-	2.2	2.2	1	2.6	1.6	1.8	2.2

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COURSE CODE & NAME: IT8761 & SECURITY LABORATORY

COURSE CODE	COURSE NAME	COURSE OUTCOMES
IT8761	SECURITY LABORATORY	<p>CO1: Develop code for classical Encryption Techniques to solve the problems.</p> <p>CO2: Build crypto systems by applying symmetric and public key encryption algorithms.</p> <p>CO3: Construct code for authentication algorithms</p> <p>CO4: Develop a signature scheme using Digital signature standard.</p> <p>CO5: Demonstrate the network security system using open source tools</p>

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3		3			3	3	3		3	3	1	3
2	3	3	3		3			3	3	3		3	3	2	1
3	3	3	3		3			3	3	3		3	2	1	1
4	3	3	3		3			3	3	3		3	1	3	1
5	3	3	3		3			3	3	3		3	1	2	3
AVERAGE	3	3	3		3			3	3	3		3	2	1.8	2.2



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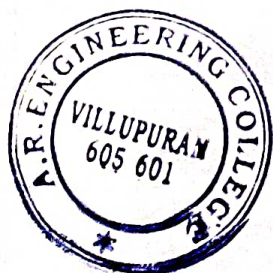
COURSE CODE & NAME: CS8079 & HUMAN COMPUTER INTERACTION

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8079	HUMAN COMPUTER INTERACTION	CO1: Design effective dialog for HCI CO2: Design effective HCI for individuals and persons with disabilities. CO3: Assess importance of user feedback. CO4: Explain the HCI implications for designing multimedia/e-commerce/learning Websites. CO5: Develop meaningful user interface

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	-	2	-	2	-	-	-	2	2	-	-	-	2	2
2	2	-	2	-	2	-	-	-	2	2	-	-	-	2	2
3	2	-	2	-	2	-	-	-	2	2	-	-	-	2	2
4	1	-	2	-	2	-	-	-	2	2	-	-	-	2	2
5	2	-	1	-	2	-	-	-	2	2	-	-	-	2	2
AVERAGE	2	-	1.8	-	2	-	-	-	2	2				2	2

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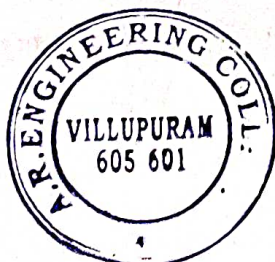
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COURSECODE&NAME:OBM752&HOSPITALMANAGEMENT

COURSE CODE	COURSENAME	COURSEOUTCOMES
OBM752	HOSPITAL MANAGEMENT	<p>CO1: Understand the role and functions of operations within the organisation.</p> <p>CO2: Analyzing the key concepts, theories and techniques for the adequate functioning of the hospital.</p> <p>CO3: Identify and demonstrate the dynamic nature of the environment in which the organization is functioning and the implications of it the competitive market.</p> <p>CO4: Applying the conceptual frameworks, theory and techniques to various inventory management aspects in the hospital.</p> <p>CO5: Evaluate the relevance of the equipments and the inventories in the critical functioning of the hospital.</p>

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	2	1	2	2	2	1	1	2	1	1	1	1	1	1
2	3	3	2	3	2	2	2	2	3	1	2	1	1	2	1
3	3	3	3	3	3	3	2	2	3	1	2	1	1	2	1
4	3	3	2	3	3	2	2	2	2	1	1	1	1	1	1
5	3	3	1	2	2	2	2	2	2	1	1	1	1	1	1
AVERAGE	2.8	2.8	1.8	2.6	2.6	2.2	1.8	1.8	2.4	1	1.4	1	1	1.4	1



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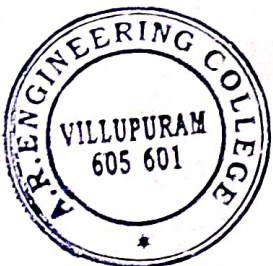
COURSECODE & NAME: CS8078 & GREEN COMPUTING

COURSE CODE	COURSE NAME	COURSE OUTCOMES
CS8078	GREEN COMPUTING	<p>CO1: Acquire knowledge to adopt green computing practices to minimize negative impacts on the environment.</p> <p>CO2: Enhance the skill in energy saving practices in their use of hardware.</p> <p>CO3: Evaluate technology tools that can reduce paper waste and carbon footprint by the stakeholders.</p> <p>CO4: Understand the ways to minimize equipment disposal requirements.</p> <p>CO5: To understand how Green Computing is adopted or deployed in enterpr</p>

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1	3	1	1	1	-	3	-	-	-	1	3	3	2	1
2	2	1	1	3	1	-	3	-	-	-	2	3	3	2	2
3	3	1	1	3	3	-	3	-	-	-	3	3	3	2	3
4	3	3	1	3	1	-	3	-	-	-	3	3	3	2	3
5	3	1	1	3	3	-	3	-	-	-	3	3	3	2	3
AVERAGE	2.4	1.8	1	2.6	1.8	-	3	-	-	-	2.4	3	3	2	2.4

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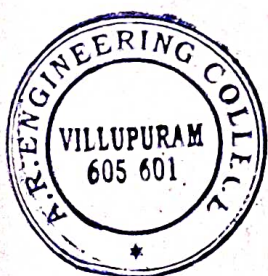
COURSE CODE & NAME: GE8076 & PROFESSIONAL ETHICS IN ENGINEERING

COURSE CODE	COURSE NAME	COURSE OUTCOMES
GE8076	PROFESSIONAL ETHICS IN ENGINEERING	CO1: Understanding basic purpose of profession, professional ethics and various moral and social issues. CO2: Awareness of professional rights and responsibilities of an Engineer, safety and risk benefit analysis of an Engineer. CO3: Acquiring knowledge of various roles of an Engineer in applying ethical principles at various professional CO4: Professional Ethical values and contemporary issues CO5: Excelling in competitive and challenging environment to contribute to industrial growth

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	-	-	-	-	-	1	-	3	3	-	-	3	-	-	-
2	-	-	-	-	-	-	2	3	2	1	-	1	-	-	-
3	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
4	-	-	-	-	-	3	1	3	2	1	-	3	-	-	-
5	-	-	-	-	-	2	2	3	1	2	-	2	-	-	-
AVERAGE	-	-	-	-	-	1.2	1	3	1.6	0.8	-	1.8	-	-	-

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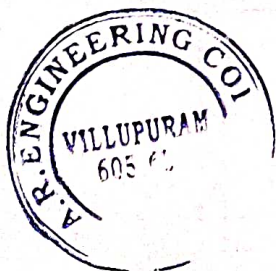
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COURSECODE&NAME:CS8811&PROJECTWORK

COURSE CODE	COURSENAME	COURSEOUTCOMES
CS8811	PROJECTWORK	<p>CO1: Develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same.</p> <p>CO2: On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.</p> <p>CO3: Gain Domain knowledge and technical skill set required for solving industry / research problems</p> <p>CO4: Provide solution architecture, module level designs, algorithms</p> <p>CO5: Implement, test and deploy the solution for the target platform and Prepared detailed technical report, demonstrate and present the work</p>

MAPPING COURSE OUTCOME WITH PROGRAM OUTCOME

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	1	2	2	2	2	2	2	2	1	1	1	1
2	3	3	3	3	2	2	2	2	2	2	2	1	2	2	2
3	3	3	3	2	2	2	2	2	2	2	2	1	2	2	2
4	3	3	3	3	2	2	2	2	2	2	2	1	2	2	2
5	3	3	3	2	2	2	2	2	2	2	2	1	2	2	2
AVERAGE	3	2.8	2.8	2.2	2	2	2	2	2	2	2	1	1.8	1.8	1.8



[Signature]

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DEPARTMENT OF COMPUTER SCIENCE ENGINEERING FINAL CO-PO-ATTAINMENT BATCH-2018-2022

S.NO	COURSE CODE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	HS8151	-	-	-	-	2	2.2	1.8	2	2	2.4	2	2.4	2.6	2.4	2.4
2	MA8151	3	2	2	2.2	-	-	-	-	-	-	2	2.4	2.6	2.4	2
3	PH8151	2.6	2.4	2.2	2	-	-	-	-	-	-	2	2.8	1.8	1.8	2
4	CY8151	3	2.6	2.8	2.4	-	-	-	-	-	-	2	2	2.2	2.6	2.8
5	GE8151	2.4	2.2	1.8	2.2	1.8	-	-	-	-	-	1.6	0.8	2.4	0.6	-
6	GE8152	3	1	2	-	2	-	-	-	-	3	-	2	2	2	-
7	GE8161	2.4	2.6	1.8	2.2	1.8	-	-	-	-	-	1.6	0.8	2.8	0.6	-
8	BS8161	3	2.4	2.6	1	1	-	-	-	-	-	-	-	-	-	-
9	HS8251	-	-	-	-	-	-	-	3	3	3	-	3	-	-	-
10	MA8251	3	3	1	1	-	-	-	-	2	-	3	-	-	-	-
11	PH8252	3	1.4	2	1.4	2.4	1	1.4	-	-	-	-	2	-	-	-
12	BE8255	2	1.8	1	-	-	-	-	1	-	-	-	2	-	-	-
13	GE8291	2.8	1.8	1	1	-	2.2	2.4	-	-	-	-	1.8	-	-	-
15	GE8261	3	2	-	-	1	1	1	-	-	-	-	2	2	1	1
16	CS8261	2	2	2	1	2	1	1	1	2	-	3	2	2	2	-
17	MA8351	1	3	2	1	-	-	-	-	-	1	-	-	-	-	-
18	CS8351	3	3	3	3	1.8	1.6	1	1	1	1	1.6	2.6	1.4	2.6	1.6
19	CS8391	2	2	1	2	2	1	1	-	1	1	1	2	2	2	2
20	CS8392	2	1	2	2	2	-	-	-	2	2	1	2	3	2	2
21	EC8395	2	1	1	-	-	-	-	-	-	1	-	-	2	-	-
22	CS8381	2	2	1	2	2	1	1	-	1	1	1	2	2	2	2
23	CS8383	2	2	2	2	2	-	-	-	2	2	2	2	2	2	2
24	CS8382	2	2	1	2	1	-	-	-	-	-	1	2	1	1	1
25	HS8381	-	-	-	-	-	-	-	-	3	2	2	3	3	-	-
26	MA8402	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
27	CS8491	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
28	CS8492	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
29	CS8451	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
30	CS8493	2	1	1	-	-	-	-	-	-	-	-	-	2	2	-
31	CS8494	3	1	1	-	-	-	-	-	-	-	-	-	2	2	-
32	CS8481	3	2	2	-	-	-	-	3	3	3	3	3	2	2	2
33	CS8461	3	2	2	-	-	-	-	3	3	3	3	3	2	1	-
34	HS8461	-	-	-	-	-	-	-	2	2	2	3	3	-	-	-
35	MA8551	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
36	CS8591	2	1	1	-	-	-	-	-	-	-	-	-	1	2	-
37	EC8691	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
38	CS8501	3	2	2	-	-	-	-	-	-	-	-	-	2	-	-
39	CS8592	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
40	EC8681	2	1	1	-	-	-	-	3	3	3	3	3	2	2	-
41	CS8582	3	2	2	-	-	-	-	3	3	3	3	3	2	2	12
42	CS8581	3	2	2	-	2	3	-	3	3	3	3	3	2	1	1
43	CS8651	2	1	1	1	-	-	-	-	-	-	-	-	2	2	-
44	CS8691	2	1	1	-	-	-	-	-	-	-	-	-	2	-	-
45	CS8601	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
46	CS8602	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-
47	CS8603	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-



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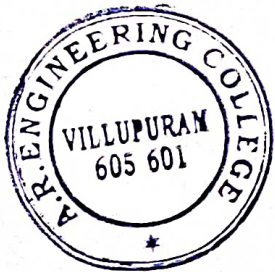


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48	CS8661	3	2	2	1	-	-	-	3	3	3	3	3	2	2	2
49	CS8662	3	2	-	-	-	-	-	3	3	3	3	3	2	2	-
50	CS8611	3	3	3	3	3	3	3	3	3	3	3	3	2	1	1
51	HS8581	-	-	-	-	-	-	-	3	2	2	3	3	-	-	-
52	MG8591	-	-	-	-	-	2	-	2	2	2	2	3	-	-	-
53	CS8792	2.4	1.6	1.6	1	-	-	-	-	-	-	-	-	2	2.4	0.75
54	CS8791	2.4	1.4	1.4	0.4	-	-	-	-	-	-	-	-	2	2.4	-
55	OBM752	2.8	2.8	1.8	2.6	-	2.2	1.8	1.8	2.4	-	1.4	-	1	1.4	-
56	CS8079	2	-	1.8	-	2	-	-	-	2	2	-	-	-	2	2
57	CS8711	2.2	2.2	2.2	2	1.8	-	-	-	2.2	2.2	1	2.6	1.6	1.8	2.2
58	IT8761	3	3	3	3	3	3	3	3	3	3	3	3	2	1.8	2.2
59	CS8078	2.4	1.8	1	2.6	1.8	-	3	-	-	-	2.4	3	3	2	2.4
60	GE6075	-	-	-	-	-	1.2	1	3	1.6	0.8	-	1.8	-	-	-
61	CS8811	3	2.8	2.8	2.2	2	2	2	2	2	2	2	1	1.8	1.8	1.8
AVERAGE		2.10	1.51	1.32	0.75	0.66	0.4	0.34	0.8	1.01	0.97	1.07	1.40	1.42	1.17	0.82

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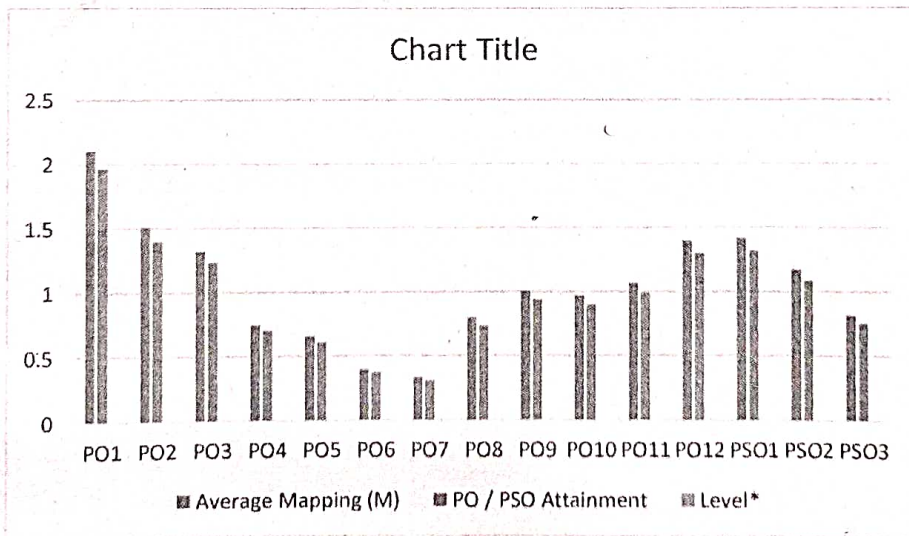
DEPARTMENT OF COMPUTER SCIENCE ENGINEERING FINAL CO-PO ATTAINMENT BATCH: 2018-2022

Direct CO Attainment Level (DA)=20%IA+80%Endsemester exam(c);	DA=3 (0.2*3+0.8*3)
Indirect CO Attainment Level=ICOA (based on Exit survey)(d));	ICOA=2
80% of DA=	2.4 (0.8*3)
20% of ICOA=	0.4 (0.2*2)
CO Attainment Level (COA)=80%DA+20%IA	COA=2.8

PPO/PSO Attainment
Level=COA x M/3

PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Average Mapping (M)	2.10	1.51	1.32	0.75	0.66	0.4	0.34	0.8	1.01	0.97	1.07	1.40	1.42	1.17	0.82
PO/PSO Attainment Level*	1.96	1.40	1.23	0.70	0.61	0.37	0.31	0.74	0.94	0.90	0.99	1.30	1.32	1.09	0.76

CO-PO AVERAGE MAPPING AND OVERALL PO/PSO ATTAINMENT GRAPH



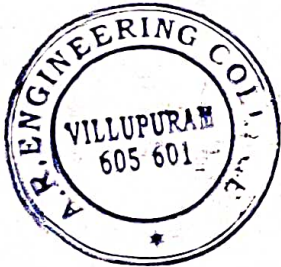
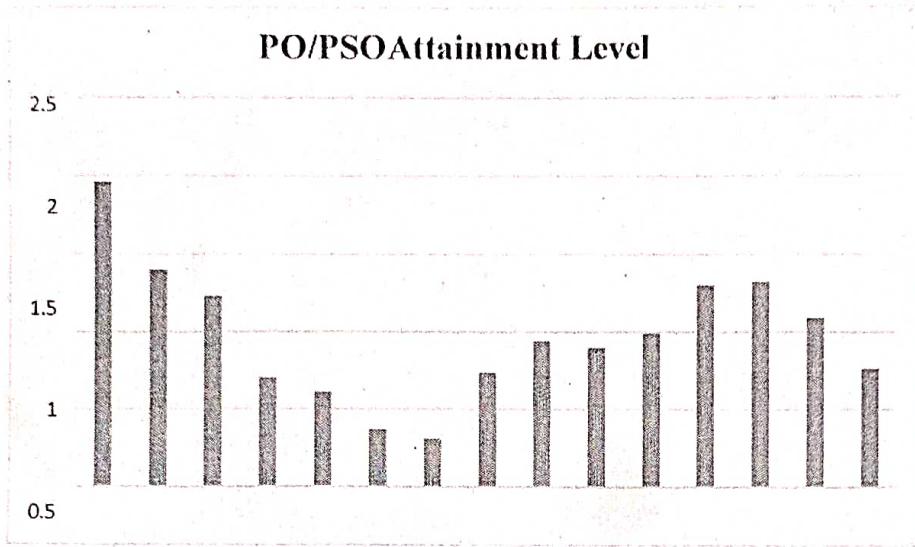
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PO-PSOATTAINMENTGRAPH



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