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# **KUPPAM ENGINEERING COLLEGE**

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KUPPAM - 517 425, Chittoor Dist., A.P. ☎: 08570 - 256966 (O), 256977 (F)

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

# **COURSE OUTCOMES**

## **FOR**

# **R15 REGULATIONS**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**KUPPAM ENGINEERING COLLEGE**

**KES NAGAR, P.B. NATHAM**

**KUPPAM-517 425**



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A52101

Year & Sem: I & I

Subject Name: Functional English

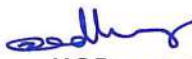
### Course Outcomes

- CO1 Compose letters and writing paragraphs
- CO2 Could analyze graphs and charts
- CO3 Compose SMS and writing E-mails
- CO4 Participate effectively in GD and debate
- CO5 Comprehend and write report according to the requirement

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1											3	3		3
CO2											2	3	1	2
CO3											2	3		3
CO4											2	3		2
CO5											3	3		3
Average											2.4	3	1	2.6

  
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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

Regulation: R 15  
Year & Sem: I & I

Subject Code: 15A54101  
Subject Name: Mathematics-I

### Course Outcomes

- CO1: Apply standard methods for solving First Order Differential Equations.
- CO2: Identify Second Order Linear Differential Equations with variable coefficients.
- CO3: Apply partial Derivatives to study Maxima and Minima of function of two and three variables.
- CO4: Find the area and Volume of given region.
- CO5: Apply the concepts of line, surface and volume integrals.

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3												
CO2	2													
CO3	2													
CO4	3	2												
CO5	3													
Average	2.6	2.5												

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05101

Year & Sem: I & I

Subject Name: **Computer Programming**


### Course Outcomes

1. Understand the concept of data types, operators and expressions in C
2. Compare and classify control statements and to understand arrays in C language
3. Acquire knowledge on usage of pointers and functions
4. Develop basic programs on structures and unions
5. Acquire knowledge on files and pre-processors

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2										3	
CO2	2	2	3										3	
CO3	3	3	2										2	
CO4	3	2	2										2	
CO5	3	2	3										2	
Average	2.8	2.2	2.4	0	0	0	0	0	0	0	0	0	2.4	

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A56101

Year & Sem: I & I

Subject Name: Engineering Physics

#### Course Outcomes

- CO1 Identify the nature of light.
- CO2 Outline the different types of crystals and ultrasonic wave.
- CO3 Explain the behavior of microscopic particles.
- CO4 Classify the semiconductors and magnetic materials.
- CO5 Describe the features of superconductors and nanomaterials.  
results.

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2												
CO2	3	1												
CO3	1	2												
CO4	3	2												
CO5	3	3												
Average	22	20												

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15  
Year & Sem: I & I

Subject Code: 15A03101  
Subject Name: Engineering Drawing

#### Course Outcomes

- CO1: Illustrate the concept of engineering drawing
- CO2: Illustrate the various scales & projection of points.
- CO3: Differentiate and contrast projection of lines and planes.
- CO4: Differentiate and contrast projection of solids & development of solids.
- CO5: Create the Isometric & Orthographic projection.

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3		2											
CO2	2		2											
CO3	2	3												
CO4		2												
CO5			3											
Average	1.4	1	1.4											

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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A52102

Year & Sem: I & I

Subject Name: English Language Communication Skills Lab

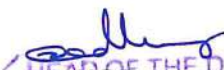
#### Course Outcomes

- CO1: Make use of pronunciation and correct accent
- CO2: Apply the stress pattern and voice modulation
- CO3: Improves participation in just a minute and roleplay
- CO4: Develop interview skills
- CO5: Illustrate fluently a Review of book or movie efficiently

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1											1	3		
CO2											2	3		1
CO3											1	3		
CO4											3	3		2
CO5												3		1
Average												3	2	1

  
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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A56102

Year & Sem: I & I

Subject Name: **Engineering Physics Lab**


### Course Outcomes

- CO1 Determine the wave lengths of various colors.
- CO2 Measure the energy gap of the semiconductor diode
- CO3 Analyze the magnetic field along the current carrying coils.
- CO4 Determine the dispersive power of the prism.
- CO5 Determine the radius of curvature of a plane convex lens by using newton's rings.

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2												
CO2	2	2												
CO3	2	2												
CO4	1	1												
CO5	2	1												
Average	2	1.6												

  
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## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05102

Year & Sem: I & I

Subject Name: Computer Programming Lab

### Course Outcomes

1. Implement and test simple C programs using arithmetic operators in C language
2. Develop and test simple C programs using control structures in C language
3. Construct some C programs on arrays, pointers and functions in C Language
4. Implement basic programs on pointers and functions in C language
5. Develop basic programs on Structures and unions in C language

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2										3	2
CO2	2	2	3										3	2
CO3	3	3	2										3	1
CO4	3	2	2										3	2
CO5	3	2	3										3	2
Average	2.8	2.2	2.4										3	1.8

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: : 15A01101

Year & Sem: I & II

Subject Name: Environmental Studies

#### Course Outcomes

- CO1 Appraise knowledge regarding environment and its components.
- CO2 Distinguish the types of biodiversity and ecosystems.
- CO3 Categorize different types of pollution and their control measures.
- CO4 Analyse global environmental problems.
- CO5 Explain about value education.

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3													
CO2							3							
CO3	2						3					1		
CO4		2												
CO5						2						3		
Average	2.5	2				2	3					2		

  
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: : 15A05201

Year & Sem: I & II

Subject Name: Data Structures

### Course Outcomes

1. Students are able to acquire knowledge about Basic need and goal of Good Data structures
2. Be aware of the key elements and Styles of Data structures
3. Students are able to have knowledge of use of shared information system in the architectural structures.
4. Able to acquire more knowledge about the Architectural Data structure design Guidance.
5. Able to acquire knowledge of analysis of various Pattern types.

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	1									3	
CO2	2	2	3	1									3	
CO3	3	3	2	1									2	
CO4	3	2	2	1									2	
CO5	3	2	3	1									2	
verag	2.8	2.2	2.4	1	0	0	0	0	0	0	0	0	2.4	

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: : 15A05202

Year & Sem: I & II

Subject Name: Data Structures Lab

### Course Outcomes

1. Implement program to sort the elements using various sorting algorithm and analyse its performance
2. Implement linear and binary search algorithms and analyse its performance
3. Develop a program to convert infix notation into postfix notation and evaluate postfix expression
4. Develop program to perform static data structures and its operations
5. Develop program to perform operations of dynamic data structures

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2										3	2
CO2	2	2	3										3	2
CO3	3	3	2										3	1
CO4	3	2	2										3	2
CO5	3	2	3										3	2
Average	2.8	2.2	2.4	0	0	0	0	0	0	0	0	0	3	1.8

  
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## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: : 15A51101

Year & Sem: I & II

Subject Name: **Engineering Chemistry**

### Course Outcomes

- CO1 Appraise the quality and utility of suitable water for industrial and domestic.
- CO2 Difference between the thermo plastic and thermo setting.
- CO3 Ability to describe the types of batteries.
- CO4 Applying the methods to prevent the corrosion.
- CO5 Distinguish the types of solid, liquid and gaseous fuel.
- CO6 Applications of cement, lubricants and Refractories.

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	1	1				1							
CO2	2		1				1							
CO3	2	1	1				1							
CO4	3	1					1							
CO5	2		1											
Average	2.4	1	1				1							

  
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## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: : 15A51102

Year & Sem: I & II

Subject Name: **Engineering Chemistry Lab**

### Course Outcomes

CO1: Appraise the quality and utility of suitable water for industrial and domestic.:

CO2 :Difference between the thermo plastic and thermo setting.

CO3: Ability to describe the types of batteries.

CO4: Applying the methods to prevent the corrosion.

CO5 :Distinguish the types of solid, liquid and gaseous fuel.

CO6 :Applications of cement, lubricants and Refractories.

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1												
CO2	2	2												
CO3	1	3												
CO4	2	1												
CO5	2	1												
Average	1.8	1.6												

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## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: : 15A52201

Year & Sem: I & II

Subject Name: English for Professional Communication

### Course Outcomes

CO1 : Participate in Argument and Discussion

CO2 : Write Essays Correctly

CO3 : Participate in Elocution with correct accent

CO4 : Comprehend advantages & disadvantages tourism

CO5 : Draft Curriculum vitae and Resume

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1											3	3		3
CO2											2	3		2
CO3											3	3	1	3
CO4											2	3		2
CO5											3	3		3
Average											2.6	3	1	2.6

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15  
Year & Sem: I & II

Subject Code: : 15A54201  
Subject Name: Mathematics-II

#### Course Outcomes

- CO1 Solve Differential Equations using Laplace Transform.
- CO2 Find Fourier Coefficients and Fourier Expansion of given function
- CO3 Determine Fourier transform, Fourier sine and Cosine Transform of a function.
- CO4 Apply Partial differential Equations to solve Engineering Problems.
- CO5 Apply Z-Transform to solve Difference Equations.

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2												
CO2	3													
CO3	1													
CO4	3	2												
CO5	2													
Average	2.4	2												

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A99201

Year & Sem: I & II

Subject Name: **Engineering & IT Workshop**

### Course Outcomes

1. Study and practice on machine tools and their operations
2. Practice on manufacturing of components using workshop trades including carpentry
3. Practice on manufacturing of component using workshop trades includes foundry and welding
4. Identify various hardware components in computer system
5. Install operating system in computer machine

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3		2		2									
CO2	2	1												
CO3	2	1	1											
CO4	3	2	1		1	1						1	2	2
CO5	3	2	1		1	1						2	2	2
Average	2.60	1.50	1.25		1.33	1.00						1.50	2.00	2.00

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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Batch:

Year & Sem: II & I

Subject Code: 15A05301

Academic Year:

Subject Name: Database Management Systems

#### Course Outcomes

- CO1: Understand the general sql concepts such as functions&procedures,triggers etc
- CO2: . Discuss Structured query language for database manipulation
- CO3: Describe about entity relationship model and Normalization types
- CO4: Demonstrate the Query to process and optimize with proper example
- CO5: Explain about transaction management,concurrency control and recovery system

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2													
CO2	2	2	2	2									1	1
CO3	2	1	1	1									1	1
CO4	2	2	2	1									2	2
CO5	2	2	2	2									2	2
Average	2.2	1.4	1.4	1.2									1.2	1.2

  
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(Recognised by UGC(F) & 12(b))

KUPPAM - 517 425, Chittoor Dist., A.P. ☎ : 08570 - 256966 (O), 256977 (F)



## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15  
Year & Sem: II & I

Subject Code: 15A05302  
Subject Name: Discrete Mathematics

#### Course Outcomes

1. Explain the concept of Mathematics logic & Its applications.
2. Analyze the introduction to the Set theory
3. Estimate & Justify of the algebraic structure, Lattices and Boolean algebra
4. Classify & apply to the introduction to Graph theory and trees
5. Determine the fundamental principles of counting. The principle of inclusion and exclusion generating functions

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3		1	1									
CO2	1	3	2	1	1									
CO3	1	3	2	1	1									
CO4		3	2	1	1									
CO5		2	1	1	1									
Average	1.33	2.8	1.8	1	1									

Program Co-ordinator

Subject in-charge  
HEAD OF THE DEPT  
HUMANITIES AND SCIENCES  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05303

Year & Sem: II & I

Subject Name: Database Management Systems Laboratory

#### Course Outcomes

- CO1: Create database for any real world applications
- CO2: Demonstrate PL/SQL program to solve simple problems
- CO3: Write PL/SQL programs with the help of procedures and functions
- CO4: Identify the constraints
- CO5: Analyze for data inconsistency

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3		2		3						1		3	3
CO2	3	2			3								2	1
CO3	2	3			2								3	2
CO4	3		2		1	2					1		2	3
CO5			2		3								1	2
Average	2.2	1	1.2		2.2	0.4					0.4		2.4	2.4

Program Co-ordinator

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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A52301

Year & Sem: II & I

Subject Name: Managerial Economics and Financial Analysis


#### Course Outcomes

1. Determine future sales of a product mix by various techniques .
2. Assess the cost behaviour for managerial decision making of a enterprise.
3. Classify the policies of government of india through post liberalization
4. Outline steps methods, sources of capital by business undertaking.
5. Apply the principles of accounting in the managerial part.

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1							2				3			
CO2									1		2			
CO3						2	1							
CO4							2				3			
CO5								1			3			
Average						2	1.7	1	1		2.75			

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15  
Year & Sem: II & I

Subject Code: 15A54301  
Subject Name: Mathematics-III

#### Course Outcomes

1. Explain the concepts of Matrices & Its applications
2. Analyse the various methods for solution of algebraic & transcendental equations
3. Estimate & Justify the different methods of Interpolation
4. Classify & apply the concept of Curve fitting and analysing the methods of Numerical differentiation & Integration
5. Determine the concept of Numerical solution of ODE's by various methods

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	3	1										
CO2	2	3	2	1	1									
CO3	2	2	1	1	1									
CO4	2	2	2	2	2									
CO5	2	2	2	2	2									
Average	2	2.2	2	1.4	1.5									

  
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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15  
Year & Sem: II & I

Subject Code: 15A99301  
Subject Name: **Basic Electrical and Electronics Engineering**

### Course Outcomes

- CO1 Get knowledge on Voltage, Current, networks and basic laws
- CO2 Apply network theorems and two port networks for a given circuit
- CO3 Determine the performance of DC Motors DC Generators, induction. motors and transformers.
- CO4 Apply different semiconductor devices for various applications.
- CO5 Use different oscillators and op-amps in different applications.

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	1												
CO2	2													
CO3	2													
CO4	3													
CO5	3	2												
Average	2.6	1.5												

*[Signature]*  
Program Co-ordinator

*[Signature]*  
Subject in-charge  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15  
Year & Sem: II & I

Subject Code: 15A99302  
Subject Name: Basic Electrical and Electronics Laboratory

#### Course Outcomes

- CO1 Apply verification methods of network theorems in Port networks
- CO2 Test DC motors and draw their characteristics
- CO3 Identify OC, SC, test for single phase and transformers
- CO4 Conduct experiment on P-N junction diode, Zener Diode, BJT, Rectifier
- CO5 Apply verification method of logic gates

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1												
CO2	2	2												
CO3	1	3												
CO4	2	1												
CO5	2	1												
Average	1.8	1.6												

*P. Venkatesh*  
Program Co-ordinator

*K. Mohan*  
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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Batch:

Year & Sem: II & I

Subject Code: 15A04306

Academic Year:

Subject Name: **Digital Logic Design**

### Course Outcomes

CO1 Understand the different switching algebra theorems and apply them for logic functi

CO2 Identity, formulate and solve engineering problems

CO3 Define combinational circuits

CO4 Derive the state machine analysis and demonstrate simple projects  
with a few flip-flops

CO5 Design various logic gates.

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	2	2										2	
CO2			3	1	2									2
CO3			2		2								1	
CO4		1		2	3									
CO5			2	3	1								2	1
Average	<b>1</b>	<b>1.5</b>	<b>2</b>	<b>2</b>	<b>2</b>								<b>1.6</b>	<b>2</b>

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A04407

Year & Sem: II & II


Subject Name: Microprocessors & Interfacing

#### Course Outcomes

1. Recall the term microprocessor, Instruction set and addressing mode of 8085 and 8086
2. Predict the importance of assembly language program and modular programming towards 8086
3. Carryout the physical memory organization in 8086 and compare the maximum mode
4. Examine the programmable peripheral devices and their interfaces
5. Discriminate the microcontroller intel 8051 and compare different interfacing examples like 8255, seven segment displays with 8051

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	2	1											1
CO2		2	3		1								2	3
CO3			3	2	1	1							3	3
CO4	1		2		1	3						2	2	3
CO5	1	3	1										1	3
Average	1	2.3	2	2	1	2						2	2	3

  
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## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A04408

Year & Sem: II & II

Subject Name: Microprocessors & Interfacing Laboratory

### Course Outcomes

1. Recall the term Microprocessor, Instruction set, addressing modes of 8085 & 8086
2. Predict the importance of assembly language program and modular programming towards 8086
3. Carryout the physical memory organization in 8086 and compare the Maximum mode
4. Examine the programmable peripheral devices and its interfacing
5. Discriminate the micro controller intel 8051 and compare different interfacing examples like 8255, seven segment dispels with 8051

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1												
CO2		1			2									
CO3		3		2										
CO4				3										
CO5			3	2								2		
Average	2	1.7	3	2.3	2							2		

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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05401

Year & Sem: II & II

Subject Name: Software Engineering

#### Course Outcomes

1. Understand the overview of software, various software process model and agile development idea
2. Understand the various requirement models
3. Identify and apply the various design concept of software
4. Demonstrate the different user interface design, web application design
5. Analyse and identify various software testing strategies

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	2		1								3	
CO2	2	3		1									3	
CO3	1	3	1	2	1								3	
CO4		3	2	1										3
CO5		2	1	3	1									3
Average	1.6	2.8	1.5	1.75	1								3	3

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05402

Year & Sem: II & II

Subject Name: **Computer Organization**


### Course Outcomes

1. Ability to use different instruction sets and addressing mode
2. Define and develop computer arithmetic operations
3. Ability to define memory organization
4. Ability to identify input and output organization
5. Ability to plan pipeline technique and ability to plan multiprocessors

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	1								1	1		
CO2	2	1	1											
CO3	2	1	1										2	1
CO4	3	1	1								2	2	1	1
CO5	1	1	1								1	1	1	2
Average	2.00	1.00	1.00								1.50	1.50	1.33	1.33

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Batch:

Year & Sem: II & II

Subject Code: : 15A05403

Academic Year:

Subject Name: Object Oriented Programming using Java

#### Course Outcomes

1. Acquire knowledge of syntax, semantics and features of Java Programming Language
2. Illustrate Classes, Objects, Methods and Constructors
3. Interpret Inheritance, packages, interfaces and Exception Handling
4. Discuss about Multi-threaded and Applet programs
5. Demonstrate GUI Applications and perform event handling

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2		2						2	2	1	1
CO2	3	3	2		2						2	2	1	1
CO3	3	3	2	2	2						2	2	2	2
CO4	3	2	1	1							1	1	1	1
CO5	3	1	1		1						1	1	1	1
Average	3.00	2.40	1.60	1.50	1.75						1.60	1.60	1.20	1.20

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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: : 15A05404

Year & Sem: II & II

Subject Name: Formal Languages and Automata Theory

#### Course Outcomes

1. Construct finite automata with epsilon transitions and to convert one machine to other.
2. Construct regular expression from finite automata.
3. Build knowledge related to CFG, ambiguity, simplification.
4. Find the equivalence of PDA's and CFG.
5. Solve the problems related to TM, conversion of RE to TM.

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	2	3										3	1
CO2	1	2	3										3	1
CO3	3	2	1										3	1
CO4	2	3	1										2	1
CO5	2	3	1										2	1
Average	1.8	2.4	1.8										2.6	1

  
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## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Batch:

Year & Sem: II & II

Subject Code: 15A05405

Academic Year:

Subject Name: Java Programming Laboratory

### Course Outcomes

1. Learn an object oriented way of solving problems
2. Write programs in java to solve the problem
3. Familiarize with language environment
4. Implement various concepts related to language
5. Program using C++ features such as composition of objects

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	1	2						2	2	2	
CO2	3	3	2	1	2						2	2	2	2
CO3	3	2	1	1	2						2	2	2	2
CO4	2	2	1	1	2						2	2	3	2
CO5	1	1			1						1	1	2	1
Average	2.40	2.20	1.75	1.00	1.80						1.80	1.80	2.20	1.75

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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A54401

Year & Sem: II & II

Subject Name: Probability and Statistics

#### Course Outcomes

1. Explain the Concepts of Random Variables & Distributions
2. Test for Test of Hypothesis With Large Samples
3. Test for Test of Hypothesis With Small Samples
4. Determine the Statistical Quality Control Charts
5. Apply the Queuing theory Models

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	2		1	1									
CO2	2	3	2	1	1									
CO3	1	3	2	1	1									
CO4		3	2	1	1									
CO5	2	2	2	1	1									
Average	1.5	2.6	2	1	1									

*R. Venkatesh*  
Program Co-ordinator

*[Signature]*  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05501

Year & Sem: III & I

Subject Name: Operating Systems

#### Course Outcomes

CO1: Undertand the various operating system components services and environment

CO2: Outline various process management and communication.

CO3: Apply various memory management techniques in design of operating system.


CO4: Define problems in dead lock and understand the functionalities of file system.

CO5: Acquiring knowledge about operating system administration.

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	1		1					1		2	2
CO2	3	2	1	2		1					1	1	2	2
CO3	3	2	2	2		1					1		2	2
CO4	3	3	3	2	1	1					1		3	3
CO5	3	3	3	3	1	1					2		3	3
Average	3	2.4	2	2	1	1					1.2	1	2.4	2.4

  
Program Co-ordinator

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05502

Year & Sem: III & I

Subject Name: Computer Networks

#### Course Outcomes

- 1.Explain the networks concepts in data communication
- 2.Apply the concept of error detection and correction methods.
- 3.Analyse the concept of internetworking devices, routing techniques.
- 4.Analyse and apply various network security techniques.
5. Analyse and apply various network security techni.ques

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3												2	
CO2			3		3								3	
CO3			3										3	
CO4		3											2	
CO5		3											2	
Average	3	3	3		3								2.4	

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15  
Year & Sem: III & I  
Academic Year:

Batch:  
Subject Code: 15A05503  
Subject Name: Object Oriented Analysis and Design

#### Course Outcomes

1. Identify solutions to the complex problem in software using object oriented approach
2. Understand the concept of classes, objects and their relationship.
3. Identify the notations of unified modelling language
4. Analysis and design methods with clear emphasis on UML for the particular application
5. Develop a new application software using OOAD technique.

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	1	1							1	2	2	2
CO2	2	3	2	2	2						1	2	2	2
CO3	1	3	2	1	2				1		2	2	2	2
CO4	2	2	2	2	2	1			2		3	2	2	2
CO5	2	3	3	3	2	1			1	1	3	2	2	2
Average	1.8	2.4	2	1.8	2	1			1.33	1	2	2	2	2

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05504

Year & Sem: III & I

Subject Name: Principles of Programming Languages

#### Course Outcomes

1. Understand the fundamental principles underlying various programming Language
2. Master analysing semantics issues associated with function implementation
3. Be familiar with design issues of object oriented and functional language
4. Be familiar with implementation of object Oriented language
5. Understand functional language and logical language

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	1										1	2
CO2	3		1										2	1
CO3	3	2	3										3	2
CO4	2	1											2	2
CO5	3	2	1										3	1
Average	2.6	1.2	1.2										2.2	1.6

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## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05505

Year & Sem: III & I

Subject Name: Software Testing

### Course Outcomes

1. Describe the basic testing procedures
2. Distinguish truncation and data flow testing
3. Illustrate domain testing techniques
4. Compute path products and reduce graph using reduction procedure
5. Apply node reduction algorithms to solve problems

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3												2	
CO2		2	3											2
CO3			3										2	
CO4	1			3										2
CO5	1				3									3
Average	1.7	2	3	3	3								2	2.3

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05506

Year & Sem: III & I

Subject Name: Introduction to Big Data

#### Course Outcomes

1. Understand the basic knowledge, needs and goal of Big Data
2. Identify the key elements and distributed file systems of HDFS
3. Analyse the user requirements of Map Reduce Programming in HDFS Architecture
4. Design the Map Reduce Job in Map Reduce Programming
5. Analyse the various aspects of case studies about Map Reduce Programming

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2				2									
CO2	2	1			1									
CO3	3	1	1		1									
CO4	2	1	1											
CO5	2	2	2	1	1						2	1	2	1
Average	2.2	1.25	1.3	1	1.25						2	1	2	1

  
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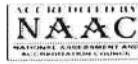
  
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## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05509

Year & Sem: III & I

Subject Name: **Object Oriented Analysis and Design &  
Software Testing Laboratory**


### Course Outcomes

1. Analyse the user requirements and model them using appropriate diagrams
2. Design an Object Oriented model and implement it using UML tool
3. Apply different testing and defect tracking techniques
4. Analyse quality of software at thread levels by identifying faults of omission and faults omission and faults of commission
5. Plan and monitor the development of software systematically using software specifier

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	1	2						2	2	2	2
CO2	3	2	1	1	1						1	2	1	1
CO3	3	1	1								1	1	1	1
CO4	2	1			1						1	1	1	1
CO5	1	1	1		1						1	1	1	
Average	2.40	1.60	1.25	1.00	1.25						1.20	1.40	1.20	1.25

  
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## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15  
Year & Sem: III & I

Subject Code: 15A05510  
Subject Name: **Operating Systems Laboratory**

### Course Outcomes

1. Understanding of the design issues associated with operating System
2. Apply various Process management concepts including CPU scheduling, Synchronization deadlocks
3. Experiment with the concepts of memory Management including Virtual memory and paging
4. Design and apply different page replacement Algorithms in Memory
5. Develop the code to detect cycle in wait for graph and converting address to physical Address

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3		1										3	
CO2	3	2	2											3
CO3	1		3										3	
CO4			3										3	2
CO5			3										3	
Average	2.3	2	2.4										3	2.5

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15  
Year & Sem: III & I

Subject Code: 15A99501  
Subject Name: Social Values & Ethics (Audit Course)

### Course Outcomes

- CO1: Analyse the values at the level of family and society
- CO2: Practice respect for human rights and democratic principles.
- CO3: The students would get acquainted with the importance and impact of major present environmental issues
- CO4: Recognised the impact of individual and structural discrimination on the basis of class, race, culture gender & disability.
- CO5: Understand the importance of physical education and yoga .

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1						2		3						
CO2								3						
CO3			2			2	3							
CO4			2			2	3							
CO5						2			1					
Average			2			2	3	3	1					

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Program Co-ordinator

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## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05601

Year & Sem: III & II

Subject Name: **Compiler Design**

### Course Outcomes

1. Outline about works of a compiler
2. Use the tools for design a compiler effectively and efficiently
3. Elaborate syntax directed translation and intermediate code generation
4. Identify run time storage organization
5. Illustrate code generation process and optimization of code

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	1		2								2	
CO2	2	2			3								2	2
CO3	2	2	3										2	2
CO4	2	2	3										2	3
CO5	3	3	2		2								2	2
Average	2.2	2.2	2.25		2.3								2	2.25

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## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05602

Year & Sem: III & II

Subject Name: Data Warehousing & Mining

### Course Outcomes

1. Describe the basic concepts of data warehouse and data Mining
2. Differentiate pre-processing techniques for data cleansing and data mining functionalities
3. Demonstrate performance of Frequent Item sets and Association Rules
4. Describe different Classification and Clustering algorithms
5. Compare mining different types of real time databases.

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3													
CO2	1	3	2											
CO3	1	2	1	2										
CO4	3	2												
CO5	1	3												
Average	1.8	2.5	1.5	2										

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## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05603

Year & Sem: III & II

Subject Name: Design Patterns

### Course Outcomes

- 1.Acquires knowledge about underlying object oriented principles of design patterns.
- 2.Analyse and provide solution to real world software design problems.
- 3.Understand the implementation of structural patterns to real world software design problems
4. Analyse how the application of a pattern affects the system quality and its tradeoffs.
- 5.Understand the context in which pattern can be applied and the consequences of combining patterns on the overall quality of a system

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3													
CO2	2	1	2			1							1	1
CO3	2	1				1							1	
CO4	1	1		1									1	
CO5	1					1	1						1	
Average	1.8	1	2	1		1	1						1	1

  
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05604

Year & Sem: III & II

Subject Name: Design and Analysis of Algorithms

### Course Outcomes

1. Analyze the complexity of the algorithms by use techniques of divide and conquer
2. Design and Analyze the complexity of the algorithms by use techniques of Greedy Method and Dynamic programming
3. Design and Analyze the complexity of the algorithms by use techniques of Basic Traversal and Search Techniques and Back tracking
4. Identify and analyze criteria and specifications appropriate to new problems, and choose the appropriate algorithmic design technique for their solution.
5. Able to prove that a certain problem is Np-complete

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2											2	
CO2	1	2	3									1	3	
CO3	1	2	3									1	3	
CO4	1	3	1									2	3	
CO5				3								2	2	
Average	1.4	2.2	4	3								1.5	2.6	

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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05605

Year & Sem: III & II

Subject Name: Web and Internet Technologies

#### Course Outcomes

1. Installation of web browser and designing HTML pages
2. Develop server based program using JSP, Servlet and JDBC
3. Implementation of PHP program
4. Apply various XML techniques in real time examples
5. Develop a new application software using OOAD technique

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	3						2				2	3
CO2	1		3						2				2	3
CO3	3	1	2						1				2	3
CO4		3	1						2				2	3
CO5		3	1						2				2	3
Average	2	2	2						1.8				2	3

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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15  
Year & Sem: III & II

Subject Code: 15A05606  
Subject Name: Artificial Intelligence

#### Course Outcomes

1. Understand the artificial intelligence (AI) and various algorithm for a problem solving and estimate its time and space complexities
2. Apply basic principles of AI in solutions that require various logical reasoning
3. Describe and list the key aspects of planning in artificial intelligence
4. Demonstrate the Agent's uncertain knowledge by applying probabilistic Reasoning and Bayesian networks
5. Design the learning agents by observation, decision trees, statistical and reinforcement learning methods

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	1	1							1	2	2	2
CO2	2	3	1	1							1	2	2	2
CO3	2	2	3	1							1	2	3	3
CO4	2	2	2	3	2	1					2	2	3	3
CO5	2	2	2	3	2	1					2	2	3	3
Average	2	2.2	1.8	1.8	2	1					1.4	2	2.6	2.6

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05609

Year & Sem: III & II

Subject Name: Web and Internet Technologies Laboratory


### Course Outcomes

1. Create dynamic and interactive web sites
2. Gain knowledge of client side scripting using java script and DHTML
3. Demonstrate XML and parsing using XML data
4. Implement server side program using java Servlet and JSP
5. Implement server side programming using PHP

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	1	2									2	3	2
CO2	2	1	3									2	3	2
CO3	1	3	2									2	3	2
CO4	3	2	2									2	3	2
CO5												2	3	2
Average	2.25	1.5	2.3									2	3	2

  
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## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05610

Year & Sem: III & II

Subject Name: Data Warehousing & Mining Laboratory

### Course Outcomes

1. Extract knowledge using data mining technique
2. Perform data preprocessing tasks and association rule mining on data sets
3. Enlist various algorithms used in data analysis of data mining techniques
4. Perform classification, clustering and regression on data sets
5. Design a data mart or data warehouse for an organization

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	1	1						2	1		
CO2	3	2	2	1	2	1					2	1		
CO3	2	2	2	2	2						2	1		
CO4	2	2	2	1	3	1					2	1		
CO5	1	1	1								2	1		
Average	2.2	2	2	1.25	2	1					2	1		

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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A52602

Advanced English Language Communication

Year & Sem: III & II

Subject Name:

Skills (AELCS) Laboratory (Audit Course)

#### Course Outcomes

- CO1 Accomplish sound vocabulary and its use contextually
- CO2 Write reports or resume fairly
- CO3 Improvise presentation skills
- CO4 Take part in discussion and debate effectively
- CO5 Enhances speaking abilities.

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1								1	3				
CO2								2	3				
CO3								1	3				
CO4								2	3				
CO5								1	3				
Average								1.4	3				

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15  
Year & Sem: IV & I

Subject Code: 15A05701  
Subject Name: Grid & Cloud Computing

#### Course Outcomes

- CO1: Elaborate Distributed computing technologies
- CO2: Analyze the Grid services for solving large scale scientific problems
- CO3: Apply the concept of virtualization for rendering various services from the cloud
- CO4: Explain Grid computing tools and Hadoop
- CO5: Interpret the security issues in the Grid and cloud environment

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	1	1										2	
CO2	2	3	2	1									2	
CO3	3			1									1	
CO4	2		2		3						1		3	
CO5	2		2	2									2	
Average	2.4	0.8	1.4	0.8	0.6						0.2		2	

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05702

Year & Sem: IV & I

Subject Name: Information Security


### Course Outcomes

- CO1 Understand various encipher technique in the networks
- CO2 Applying various number theory in cryptography
- CO3 Implementation of Hash functions and Digital Signature to protect network communication
- CO4 Configure Secure E – mail and S / MIME
- CO5 Demonstrate security policy and protocol in computer networks

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	2		2					1	1	2	2
CO2	1	2	1	1		1							2	1
CO3	2	1	2	2		1					1	1		
CO4	2	2			2	1					2	2	1	1
CO5	2	2	2	2	1	1					3	3	2	2
Average	1.8	1.8	1.8	1.75	1.5	1.2					1.75	1.75	1.75	1.5

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15  
Year & Sem: IV & I

Subject Code: 15A05703  
Subject Name: Mobile Application Development

#### Course Outcomes

1. Understand & install android IDE
2. Implementation basic application widgets using android.
3. Implement basic widget lifecycle, Edit text control and application choosing through UI
4. Implement basic application which contains different layouts play audio and video clips
5. Implement basic application which shows menus action bar and drop audio and video clips

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	1		2	1						1	3	1
CO2	3	1	3		1	1						1	3	3
CO3	1	3	2									2	3	2
CO4	3	2	2									2	3	2
CO5	3	2	2									2	3	2
Average	2.5	1.8	2.2		1.5	1						2	3	2

  
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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code:15A05706

Year & Sem: IV & I

Subject Name:Machine Learning

### Course Outcomes

- CO1: Understand the machine learning and deep learning Concepts
- CO2: Evaluate the hypothesis and implement Bayesian learning algorithms
- CO3: Execute the dimensionality reductions and apply the clustering algorithm
- CO4: Get knowledge about linear discrimination and implement the multilayer perception
- CO5: Evaluate kernal methods and design the graphical model

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	1	3	2				1	2			3	3
CO2	3	3	2	2	2				1	2			3	3
CO3	3	2	2	3	2				1	2			2	2
CO4		3	2	2	2				1				3	3
CO5	3	3	2	3	2				1	2			3	1
Average	3	2.8	1.8	2.6	2				1	2			2.8	2.4

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05707

Year & Sem: IV & I

Subject Name: Software Project Management

#### Course Outcomes

- CO1: Describe and determine the purpose and importance of project management from the perspectives of planning, tracking and completion of project.
- CO2: Compare and differentiate organization structures and project structures
- CO3: Implement a project to manage project schedule, expenses and resources with the application of suitable project management tools
- CO4: Describe the process automation, process management and its discriminants.
- CO5: Review the economics for the next generation software and case study.

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	1	2	3	3			1	3	2	3	1	2	3
CO2		2	2	1	1				1	2			2	2
CO3	1	2	1	2	2								1	3
CO4	1	1	2	1	1			1	2	1	1	1	2	1
CO5	1	1	2	2	1			1		2	1	2	1	
Average	0.8	1.4	1.8	1.8	1.6			0.6	1.2	1.4	1	0.8	1.6	1.8

  
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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15  
Year & Sem: IV & I

Subject Code: 15A05710  
Subject Name: Grid & Cloud Computing Laboratory

### Course Outcomes

- CO1: Develop a program to construct grid resource
- CO2: Create a web service by using globus toolkit
- CO3: Illustrate the services of Amazon Elastic Cloud
- CO4: Outline the services of Hadoop
- CO5: Summarize services of Google apps engine

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	1	1							1		2	
CO2	2	3			3						1		2	
CO3	3	2											2	
CO4	2	2			1								2	1
CO5	2	1		1	1								1	2
Average	2.2	2	0.2	0.4	1						0.4		1.8	0.6

  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05711

Year & Sem: IV & I

Subject Name: Mobile Application Development Laboratory

#### Course Outcomes

CO1: To understand android operation system installation. and difficult IDE's

CO2: To develop simple Android application using simple components

CO3: To work with different layouts and bridges

CO4: To implement menus and data base connection with application

CO5: To create apk file

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1				3								3	
CO2			2		3								3	
CO3					3								3	
CO4			2		3								3	
CO5					3								3	
Average	1		1		3								3	

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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15  
Year & Sem: IV & I

Subject Code: 15A52601  
Subject Name: Management Science


#### Course Outcomes

- CO1: To understand the concept of management and organisation structure.
- CO2: To obtain frameworks and tools to effectively analyze and approach various organizational.
- CO3: Explain the roles and responsibilities of Human resource professional.
- CO4: To describe factors that influence materials flow. To plan and control manufacturing systems.
- CO5: To differentiate strategic decisions that present ethical challenges and make appropriate recommendations for ethical decision-making.

#### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1						2		1						
CO2		1			2	1		2						
CO3						2		3				2		
CO4											3	1		
CO5					2	2						1		
Average		1			2	1.75		2			3	1.33		

  
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Batch:

Year & Sem: IV & II

Subject Code: 15A05801

Academic Year:

Subject Name: Mobile Computing


### Course Outcomes

1. Learn fundamentals of WLANS and wireless internet
2. Identify the issues of MANET and analyse the performance of MAC protocol
3. Analyse the performance of routing, transport layer and security protocols in MANET
4. Clarify the challenges in providing QoS in MANET
5. Design protocol for MANET

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1		1							1	2	1	1
CO2	3	1		1							1	1	1	
CO3	3	2		2							1	1	1	
CO4	2	1		1							1	1	1	
CO5	1	1	1	1									1	1
Average	2.2	1.2	1	1.2							1	1.25	1	1

  
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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05805

Year & Sem: IV & II

Subject Name: **Enabling Technologies for Data science & Analytics: IOT**

### Course Outcomes

1. Describe the basic concepts of IoT and Domain-Specific IoTs
2. Differentiate M2M and IoT, able to understand IoT system management with NETCONF-YANG
3. Understand the building blocks of Internet of Things and application areas of IoT
4. Describe the core concepts of Hadoop and 802.15.4 standards
5. Realize the importance of ZigBee Technology in IoT

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	1	3	2					2	2	3	3
CO2	3	3	2	1	2	2					2	2	2	2
CO3	3	2	1	1	1	2	1				1	1	1	1
CO4	2	1	2	2	1	1	1				1	2	2	1
CO5	1	1	1										1	1
Average	2.40	2.00	1.60	1.25	1.75	1.75	1.00				1.50	1.75	1.80	1.60

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05807

Year & Sem: IV & II

Subject Name: Comprehensive viva-voce


### Course Outcomes

1. To comprehend and correlate the understanding of core courses in undergraduate curriculum of Computer Science and Engineering
2. Demonstrate knowledge in the subject in undergraduate curriculum of CSE
3. Present his views cogently and precisely

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2									2	2	2	1	1
CO2	2	1	1		1					3	3	1	2	
CO3	3	1	1		2					3	3	2	2	
CO4														
CO5														
Average	2.33	1.00	1.00		1.50					2.67	2.67	1.67	1.67	1.00

  
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## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05808

Year & Sem: IV & II

Subject Name: Technical Seminar

### Course Outcomes

1. Deal in confidence and think more positive about chosen topic
2. consider ways of grabbing listener's attention, holding their interest and concluding the topic strongly
3. Use body language and tone of voice to enhance their presentation
4. Use visual aids effectively and practice the learning by self study
5. Deliver an enthusiastic and well-prepared presentation

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	1	3		1		2	3	3	2	3	
CO2	3	1	1		1	1			2	3	2	2	1	
CO3						2		1	1	3	3	2	1	
CO4								1	2	2	3	3		
CO5								2		2	3	2	1	
Average	3.00	1.50	1.00	1.00	2.00	1.50	1.00	1.33	1.75	2.60	2.80	2.20	1.50	

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## Course Outcomes and CO-PO and PSO Mapping Correlation

Regulation: R 15

Subject Code: 15A05809

Year & Sem: IV & II

Subject Name: Project Work

### Course Outcomes

1. Discover potential research area in the field of Computer Science & IT
2. Conduct a survey of several literature in the required field of study
3. Compare and contrast the several existing methodology and solution for further research
4. Demonstrate an ability to work in teams and manage to conduct the research study
5. Formulate and propose a plan for creating a solution for the identified
6. To report and present the finding of the study conducted in the preferred domain

### CO\_PO and PSO mapping Correlation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	1						2	1	3	2	3	2
CO2	3	1	1		1				2	2	3	1	1	1
CO3	3	2	2	2	2				3	3	3	2	2	2
CO4	3	2	2	1	2				3	3	3	2	2	1
CO5	2	2	2	1	2	1	1	2	3	2	2	1	1	1
CO6	1			2				1	2	3	3	2	3	2
Average	2.33	1.6	1.6	1.5	1.75	1	1	1.5	2.5	2.33	2.83	1.67	2	1.5

  
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