

SRI BHARATHI

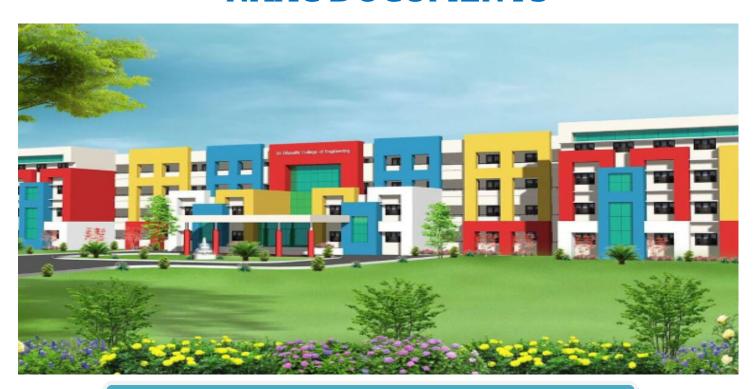
ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)

Kaikkurichi, Pudukkottai -622 303

www.sbec.edu.in

NAAC DOCUMENTS



Quality Indicator Frame Work

Criterion – 2

Teaching-Learning and Evaluation

Submitted by

IQAC
Internal Quality Assurance Cell

Sri Bharathi Engineering College for Women



(Approved by AICTE, New Delhi and affiliated to Anna University, Chennai) Kaikkurichi, Pudukkottai, Tamil Nadu — 622 303, India

| Criteria 2 | Teaching-Learning and Evaluation | 350 |
|------------|----------------------------------|-----|
|------------|----------------------------------|-----|

Key Indicator-2.6 Student Performances and Learning Outcome(90)

2.6.1 Programme Outcomes (POs) and Course Outcomes (COs) for all programmes offered by the institution are stated and displayed on website

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING R2017



(Approved by AICTE, Affiliated to Anna University, Chennai, India) Kaikkurichi, Pudukkottai – 622 303

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

I SEMESTER

Dr. S.THILAGAVATHI M.E., Ph. D

PRINCIPAL

(Approved by AICTE, Affiliated to Anna University, Chennai, India) Kaikkurichi, Pudukkottai - 622 303

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING **REGULATION 2017**

| COURSE OUTCOMES | (CO) & CO-PO MAPPING |
|------------------------|----------------------|
|------------------------|----------------------|

| Course Code | Course Name | | Course Outcome(CO) Students will be able to | | | | | |
|----------------|--------------|---|--|--|--|--|--|--|
| | | C101.1 | Develop vocabulary of a general kind by developing their reading skills. | | | | | |
| | COMMUNICATIV | C101.2 Explain their opinions in English and Participate effectively in informal conversations; introduce themselves and their friends. | | | | | | |
| HS8151 | EENGLISH | C101.3 | Comprehend conversations and short talks delivered in English. | | | | | |
| | | C101.4 | Write short essays of a general kind and personal letters and emails in English. | | | | | |
| | | C101.5 | Develop their speaking skills and speak fluently in real contexts. | | | | | |
| | | C101.6 | Discuss about the general kind in magazines and Newspapers. | | | | | |

CO-PO MAPPING

| CO | | _ | | | | | PRO | OGRA | M OUT | COME | S | | | PSO | |
|--------|-----|-----|----------|-----|-----|-----|-----|------|-------|------|------|------|-------|-------|-------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C101.1 | - | - | - | - | - | 2 | 2 | 2 | 2 | 2 | _ | 2 | - | - | - |
| C101.2 | - | - | - | - | - | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | - |
| C101.3 | - | - | - | _ | _ | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | - |
| C101.4 | - | - | <u>-</u> | - | - | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | - |
| C101.5 | - | - | - | - | - | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | - |
| C101.6 | - | _ | - | - | - | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | |
| C101 | - | - | - | - | - | 2 | 2 | 2 | 2 | 2 | 1 | 2 | - | - | - |

*3-High Correlation; 2-Medium Correlation; 1-Low Correlation; '-' - No Correlation

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COLLEGE FOR WOMEN Kaikkurchi - 622 303, Pudukkottai Dt.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------------------------|--------|---|
| | | C102.1 | Apply the limit definition and rules of differentiation to differentiate functions |
| | | C102.2 | Apply differentiation to solve maxima and minima problems. |
| MA8151 | ENGINEERING MATHEMATICS - I | C102.3 | Evaluate integrals both by using Riemann sums and by using the Fundamental Theorem of Calculus |
| , | | C102.4 | Apply integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables |
| | | C102.5 | Evaluate integrals using techniques of integration, such as substitution, partial fractions and integration by parts |
| | | C102.6 | Apply various techniques in solving differential equations. |

CO-PO MAPPING

| 60 | | | | | | | PROC | GRAM | OÙTC | OMES | | | | PSO | |
|--------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|-------|-------|-------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C102.1 | 3 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | - | 2 | - |
| C102.2 | 3 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | - | 2 | - |
| C102.3 | 3 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | - | 2 | - |
| C102.4 | 3 | 2 | 2 | 2 | 1 | - | - | - | - | 2 | - | 2 | - | 2 | - |
| C102.5 | 3 | 2 | 2 | 2 | 1 | 1 | - | - | - | 2 | - | 2 | - | 2 | - |
| C102.6 | 3 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | - | 2 | - |
| C102 | 3 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | - | 2 | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

| COURSE OUTCOMES | (CO) & CO-PO MAPPING |
|------------------------|----------------------|
|------------------------|----------------------|

| Course Code | Course Name | Course Outcome(CO) Students will be able to | | | | | | |
|----------------|------------------------|---|---|--|--|--|--|--|
| | | C103.1 | Explain the basics of properties of matter and its applications. | | | | | |
| | | C103.2 | Describe the characteristics of laser light and their application in semiconductor laser. | | | | | |
| PH8151 | ENGINEERING PHYSICS | C103.3 | Discuss the principle behind the propagation of light through an optical fiber and its application in sensors | | | | | |
| | | C103.4 | Summarize the different modes of heat transfer. | | | | | |
| | | C103.5 | Relate the quantum concepts in electron microscopes. | | | | | |
| | | C103.6 | Describe the unit cell characteristics and the growth of crystals. | | | | | |

CO-PO MAPPING

| CO | | | | |] | PROG | RAM (| OUTCO | OMES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|-------|-------|------|------|------|------|-------|-------|-------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C103.1 | 2 | 2 | 1 | 1 | - | - | 1 | - | - | 1 | - | 1 | 2 | - | - |
| C103.2 | 2 | 2 | 1 | 1 | - | - | 1 | - | - | 1 | - | 1 | 2 | - | - |
| C103.3 | 2 | 2 | 1 | 1 | - | - | 1 | - | - | 1 | - | 1 | 2 | - | - |
| C103.4 | 2 | 2 | 1 | 1 | - | - | 1 | - | - | 1 . | - | 1 | 2 | - | - |
| C103.5 | 2 | 2 | 1 | 1 | | - | 1 | - | - | 1 | _ | 1 | 2 | - | - |
| C103.6 | 2 | 2 | 1 | 1 | - | - | 1 | - | - | 1 | _ | 1 | 2 | - | - |
| C103 | 2 | 2 | 1 | 1 | - | - | 1 | - | - | 1 | - | 1 | 2 | - | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to | | | | | | |
|----------------|-------------|--------|---|--|--|--|--|--|--|
| | | C104.1 | Summarize the water related problems in boilers and their treatment techniques | | | | | | |
| | | C104.2 | Discuss the applications of adsorption in the field of water and air pollution abatement | | | | | | |
| CY8151 | ENGINEERING | C104.3 | Discuss the types of catalysis and the mechanism of enzyme catalysis | | | | | | |
| | CHEMISTRY | C104.4 | Apply phase rule in the alloying and the behavior of one component and two component systems using phase diagram | | | | | | |
| | | C104.5 | Explain various types of fuels, their manufacturing processes and calculation of calorific theoretically | | | | | | |
| | | C104.6 | Summarize the principles and generation of energy in batteries ,nuclear reactors, solar cells, wind mills and fuelcells | | | | | | |

CO-PO MAPPING

| CO | | PROGRAM OUTCOMES PSO | | | | | | | | | | | | | |
|--------|-----|----------------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|-------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C104.1 | 3 | 2 | 1 | 1 | | - | 1 | - | - | 1 | - | 1 | 1 | - | - |
| C104.2 | 3 | 2 | 1 | 1 | - | - | 1 | - | - | 1 | - | 1 | 1 | - | - |
| C104.3 | 3 | 2 | 1 | 1 | - | - | 1 | - | - | 1 | - | 1 | 1 | - | - |
| C104.4 | 3 | 2 | 1 | 1 | - | - | 1 | - | - | 1 | - | 1 | 1 | - | - |
| C104.5 | 3 | 2 | 1 | 1 | - | - | 1 | - | - | 1 | - | 1 | 1 | - | - |
| C104.6 | 3 | 2 | 1 | 1 | - | - | 1 | - | - | 1 | _ | 1 | 1 | - | - |
| C104 | 3 | 2 | 1 | 1 | - | - | 1 | - | - | 1 | - | 1 | 1 | - | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | Course Outcome(CO) Students will be able to | | | | | | | |
|----------------|------------------------|---|--|--|--|--|--|--|--|
| | | C105.1 Explain the basics of fundamentals of co | | | | | | | |
| | | C105.2 | Describe the basics of algorithmic problem solving | | | | | | |
| GE8151 | PROBLEM SOLVING AND | C105.3 | Solve problems using Python conditionals and loops | | | | | | |
| GE0131 | PYTHON PROGRAMMING | C105.4 | Define Python functions and use function calls to solve problems | | | | | | |
| | | C105.5 | Apply Python data structures - lists, tuples, dictionaries to represent complex data | | | | | | |
| | | C105.6 | Explain the importance of Read and write data from/to files in Python programs | | | | | | |

CO-PO MAPPING

| CO | | | | | | | PR | OGRA | M OU | TCOME | ES | | | PSO | |
|--------|-----|-----|-----|-----|-----|-----|-----|------|----------|-------|------|------|-------|-------|-------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C105.1 | 2 | 2 | 1 | 1 | 1 | - | - | - | - | 1 | - | 1 | 1 | - | 1 |
| C105.2 | 3 | 2 | 2 | 1 | 1 | - | - | - | - | 1 | - | 1 | 1 | - | 1 |
| C105.3 | 2 | 2 | 2 | 1 | 1 | - | - | - | - | 1 | - | 1 | 1 | - | 1 |
| C105.4 | 2 | 2 | 2 | 1 | 1 | - | • | - | - | 1 | - | 1 | 1 | - | 1 |
| C105.5 | 3 | 2 | 2 | .1 | 1 | - | - | - | · - | . 1 | - | 1 | 1 | - | 1 |
| C105.6 | 2 | 2 | 1 | 1 | 1 | - | - | - | - | 1 | - | 1 | 1 | - | 1 |
| C105 | 2 | 2 | 2 | 1 | 1 | - | - | _ | <u>-</u> | 1 | - | 1 | 1 | - | 1 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING **REGULATION 2017** COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|-------------------------|--------|---|
| | | C106.1 | Familiarize with the fundamentals and standards of Engineering graphics |
| | | C106.2 | Perform freehand sketching of basic geometrical constructions and multiple views of objects |
| GE8152 | ENGINEERING GRAPHICS | C106.3 | Project orthographic projections of lines and plane surfaces |
| | | C106.4 | Draw projections and solids and development of surfaces |
| | | C106.5 | Visualize and to project isometric sections of simple solids. |
| | | C106.6 | Visualize and to project perspective sections of simple solids. |

CO-PO MAPPING

| 60 | | | | | | | PRO | GRAN | M OUT | COME | S | | | PSO | |
|--------|-----|-----|-----|-----|-----|-----|-----|------|-------|------|------|------|-------|-------|-------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C106.1 | 3 | 2 | 1 | 1 | - | 1 | 1 | - | 1 | 1 | 1 | - | 1 | - | - |
| C106.2 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | - | 1 | 1 | 1 | - | 1 | - | - |
| C106.3 | 3 | 2 | 1 | 1 | - | 1 | 1 | - | 1 | 1 | 1 | - | 1 | - | - |
| C106.4 | 3 | 2 | 1 | 1 | - | 1 | 1 | - | 1 | 1 | 1 | - | 1 | - | - |
| C106.5 | 3 | 2 | 1 | 1 | - | 1 | 1 | _ | 1 | 1 | 1 | - | 1 | - | - |
| C106.6 | 3 | 2 | 1 | 1 | | 1 | 1 | - | 1 | 1 | 1 | - | 1 | - | - |
| C106 | 3 | 2 | 1 | 1 | - | 1 | 1 | - | 1 | 1 | 1 | - | 1 | - | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|-------------------------------|--------|---|
| | | C107.1 | Develop algorithmic solutions to simple computational problems |
| | PROBLEM SOLVING AND | C107.2 | Design and execute simple Python programs. |
| GE8161 | PYTHON PROGRAMMING LABORATORY | C107.3 | Solve programs in Python using conditionals and loops for solving problems. |
| | | C107.4 | Apply functions to decompose a Python program. |
| | | C107.5 | Analyze compound data using Python data structures |
| | | C107.6 | Utilize Python packages in developing software applications. |

CO-PO MAPPING

| CO | | | | | | | PRO | GRAN | OUT | COMES | S | | | PSO | |
|--------|-----|-----|-----|-----|-----|-----|-----|------|-----|-------|------|------|-------|-------|-------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C107.1 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 2 | - | 2 |
| C107.2 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 2 | - | 2 |
| C107.3 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 2 | - | 2 |
| C107.4 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 2 | - | 2 |
| C107.5 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 2 | - | 2 |
| C107.6 | 3 | 2 | 2 | 1 | 1 | - | 1 | - | 1 | 1 | - | .1 | 2 | - | 2 |
| C107 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 2 | - | 2 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------------------|--------|---|
| | | C108.1 | Determine the Modulus of elasticity of materials and Coefficient of VisCOity of liquids |
| | | C108.2 | Determine the Thermal Conductivity of bad conductor using Lee's disc method |
| BS8161 | PHYSICS AND CHEMISTRY | C108.3 | Determination of wavelength, and particle size using Laser and Determination of acceptance angle in an optical fiber. |
| | LABORATORY | C108.4 | Calculate water quality parameters such as hardness, alkalinity of the given water sample. |
| | | C108.5 | Estimate the amount of the given acids using pH titrations. |
| , | | C108.6 | Determine the amount of iron content in the given substance using potentiometric titration and Determine the amount of chloride content in the given water sample |

CO-PO MAPPING

| | | | | | | | PRO | GRAM | OUT | COMES | | | | PSO | |
|--------|-----|-----|-----|-----|-----|-----|-----|------|-----|-------|------|------|----------|----------|----------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C108.1 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 2 | 1 | - |
| C108.2 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 2 | 1 | - |
| C108.3 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 2 | 1 | - |
| C108.4 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 2 | 1 | - |
| C108.5 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 2 | 1 | - |
| C108.6 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 2 | 1 | - |
| C108 | 3 | 2 | 2 | 1 | 1 | - | - | - | 1 | 1 | - | 1 | 2 | 1 | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

II SEMESTER

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|----------------------|--------|--|
| | | C109.1 | Apply strategies in reading and comprehending engineering and technology text. |
| | | C109.2 | Use convincing job applications. |
| | | C109.3 | Apply speaking skill to make technical presentations. |
| HS8251 | TECHNICAL ENGLISH | C109.4 | Use the formats for effective report writing. |
| | | C109.5 | Apply speaking skill to participate in group discussions. |
| | | C109.6 | Apply the active listening skills to comprehend lectures and technical talks. |

CO-PO MAPPING

| CO | | | | PROG | RAM (| OUTCO | OMES | | | | | | | PSO | |
|--------|-----|-----|-----|------|-------|-------|------|-----|-----|------|------|------|-------|-------|-------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C109.1 | - | - | - | - | - | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | - |
| C109.2 | - | - | - | - | - | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | - |
| C109.3 | - | - | - | - | - | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | - |
| C109.4 | - | - | - | - | - | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | - |
| C109.5 | ı | 1 | 1 | 1 | - | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | - |
| C109.6 | | 1 | 1 | - | | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | - |
| C109 | | - | - | - | - | 2 | 2 | 2 | 2 | 2 | - | 2 | - | - | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|------------------------------|--------|---|
| | | C110.1 | Explain about the Eigen values and eigenvectors, diagonalization of a matrix, Symmetric matrices, Positive definite matrices and similar matrices. |
| | | C110.2 | Apply Gradient, divergence and curl of a vector point function and related identities. |
| M A 9251 | ENGINEERING MATHEMATICS H | C110.3 | Evaluation of line, surface and volume integrals using Gauss, Stokes and Green's theorems and their verification. |
| MA8251 | MATHEMATICS- II | C110.4 | Evaluate the problems based on Analytic functions, conformal mapping and complex integration. |
| | | C110.5 | Explain about the Laplace transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients. |
| | | | Evaluate the linear second order differential equations with constant coefficients. |

CO-PO MAPPING

| [| CO | | | | | | | PROC | GRAM | OUTO | COMES | | | | PSO | |
|---|--------|-----|-----|-----|-----|-----|-----|------|------|------|-------|------|------|-------|-------|-------|
| - | СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| | C110.1 | 3 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | . 1 | 1 | - |
| | C110.2 | 3 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | 1 | 1 | - |
| | C110.3 | 3 | 2 | 2 | 2 | 1 | - | - | - | - | 2 | - | 2 | 1 | 1 | - |
| | C110.4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | - | | 2 | - | 2 | 1 | 1 | - |
| | C110.5 | 3 | 2 | 2 | 2 | ı | 1 | ı | 1 | - | 2 | - | 2 | 1 | 1 | - |
| | C110.6 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | - | 2 | - | 2 | 1 | 1 | - |
| | C110 | 3 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | 1 | 1 | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|---------------------|--------|---|
| | | C111.1 | Gain knowledge on classical and quantum electron theories, and energy band structures. |
| | | C111.2 | Acquire knowledge on basics of semiconductor physics and its applications in various devices. |
| | PHYSICS FOR | C111.3 | Get knowledge on magnetic properties. |
| PH8252 | INFORMATION SCIENCE | C111.4 | Establish knowledge on dielectric properties of materials. |
| | | C111.5 | Explain the necessary understanding on the functioning of optical materials for optoelectronics. |
| | | C111.6 | Comprehend the basics of quantum structures and their applications in spintronics and carbon electronics. |

CO-PO MAPPING

| COs | | | | | | P | ROGR | AM O | UTCO | MES | | | PSO | | |
|--------|-----|-----|-----|-----|----------|-----|------|------|------|------|------|------|-------|-------|-------|
| COS | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C111.1 | 2 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | 2 | - | - |
| C111.2 | 2 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | 2 | - | - |
| C111.3 | 2 | 2 | 2 | 2 | <u>-</u> | - | - | - | - | 2 | - | 2 | 2 | - | - |
| C111.4 | 2 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | 2 | - | - |
| C111.5 | 2 | 2 | 2 | . 2 | - | - | - | - | - | 2 | - · | 2 | 2 | - | - |
| C111.6 | 2 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | 2 | - | - |
| C111 | 2 | 2 | 2 | 2 | - | - | - | - | - | 2 | • | 2 | 2 | - | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING **REGULATION 2017** COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|---|--------|---|
| | | C112.1 | Discuss the essentials of electric circuits and analysis. |
| | | C112.2 | Explain the basic operation of electric machines and transformers |
| | BASIC ELECTRICAL, | C112.3 | Elucidate the basic operation of transformers. |
| BE8255 | ELECTRONICS AND MEASUREMENT ENGINEERING | C112.4 | Describe about the introduction of renewable sources and common domestic loads. |
| | ENGINEERING | C112.5 | Summarize the fundamentals of electronic circuit constructions. |
| | | C112.6 | Illustrate the introduction to measurement and metering for electric circuits. |

CO-PO MAPPING

| CO | PROGRAM OUTCOMES | | | | | | | | | | | | | PSO | | |
|--------|------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|-------|--|
| COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 | |
| C112.1 | 2 | 2 | 1 | 1 | - | 1 | - | - | - | 1 | - | 1 | 2 | - | 1 | |
| C112.2 | 2 | 2 | 1 | 1 | - | 1 | - | - | - | 1 | - | 1 | 2 | - | 1 | |
| C112.3 | 2 | 2 | 1 | 1 | - | 1 | - | - | - | 1 | - | 1 | 2 | - | 1 | |
| C112.4 | 2 | 2 | 1 | 1 | - | 1 | - | - | - | 1 | - | 1 | 2 | - | 1 | |
| C112.5 | 2 | 2 | 1 | 1 | - | 1 | - | - | - | 1 | - | 1 | 2 | - | 1 | |
| C112.6 | 2 | 2 | 1 | 1 | - | 1 | - | - | - | 1 | - | 1 | 2 | - | 1 | |
| C112 | 2 | 2 | 1 | 1 | - | 1 | - | - | - | 1 | - | 1 | 2 | - | 1 | |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|---|--------|--|
| | (| C113.1 | Summarize the values, threats, conservation of biodiversity and ecosystems. |
| | | C113.2 | Describe the sources, effects, control measures of different types of pollution, and solid waste management. |
| GE8291 | ENVIRONMENTAL SCIENCE AND ENGINEERING | C113.3 | Associate the effects of exploitation of Natural resources on environment. |
| | | C113.4 | Summarize the water conservation methods and various environmental acts for environmental sustainability. |
| | | C113.5 | Explain the effect of Human population and role of IT in environment and human health. |
| | | C113.6 | Discuss scientific, technological, economic and social solutions to environmental problems. |

CO-PO MAPPING

| СО | | | | | I | PROGI | RAM O | UTCO | MES | | | | PSO | | |
|--------|-----|-----|-----|-----|-----|-------|-------|------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C113.1 | 2 | 2 | - | - | 2 | 2 | 1 | 1 | - | - | - | 1 | - | - | - |
| C113.2 | 2 | 2 | - | - | 2 | 2 | 1 | 1 | - | - | - | 1 | - | - | - |
| C113.3 | 2 | 2 | - | - | 2 | 2 | 1 | 1 | - | - | - | 1 | - | - | - |
| C113.4 | 2 | 2 | 1 | - | 2 | 2 | 1 | 1 | - | - | - | 1 | - | - | - |
| C113.5 | 2 | 2 | 1 | - | 2 | 2 | 1 | 1 | - | - | - | 1 | - | - | - |
| C113.6 | 2 | 2 | - | 1 | 2 | 2 | 1 | 1 | - | - | - | 1 | - | - | - |
| C113 | 2 | 2 | - | - | 2 | 2 | 1 | 1 | - | - | - | 1. | - | - | - |

*3-High Correlation; 2-Medium Correlation; 1-Low Correlation; '-' - No Correlation

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|-------------|--------|---|
| | | C114.1 | Describe the constructs of C Language. |
| | | C114.2 | Develop C Programs using basic programming constructs |
| CS8251 | PROGRAMMING | C114.3 | Develop C programs using arrays and strings |
| | IN C | C114.4 | Develop modular applications in C using functions |
| | | C114.5 | Develop applications in C using pointers and structures |
| | | C114.6 | Summarize the input/output and file handling in C |

CO-PO MAPPING

| СО | | | | | | PROC | GRAM | OUTO | COMES | 5 | | | | PSO | - |
|--------|-----|-----|-----|-----|-----|------|------|------|-------|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C114.1 | 2 | 2 | 1 | 1 | - | 1 | - | - | 1 | 1 | - | - | 1 | - | - |
| C114.2 | 2 | 2 | 1 | 1 | - | 1 | - | - | 1 | 1 | - | - | 1 | - | - |
| C114.3 | 3 | 2 | 2 | 1 | - | 1 | | | 1 | 1 | - | - | 1 | - | - |
| C114.4 | 2 | 2 | 1 | 1 | - | 1 | - | - | 1 | 1 | - | - | 1 | - | - |
| C114.5 | 2 | 2 | 1 | 1 | - | 1 | - | - | 1 | 1 | - | - | 1 | - | - |
| C114.6 | 3 | 2 | 2 | 1 | - | 1 | - | - | 1 | 1 | - | - | 1 | - | _ |
| C114 | 3 | 2 | 2 | 1 | - | 1 | - | - | 1 | 1 | | - | 1 | - | - |

*3-High Correlation; 2-Medium Correlation; 1-Low Correlation; '-' - No Correlation

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------------------|--------|--|
| | | C115.1 | Fabricate carpentry components and pipe connections including plumbing works. |
| | | C115.2 | Use welding equipments to join the structures |
| GE8261 | ENGINEERING PRACTICES | C115.3 | Carry out the basic machining operations |
| | LABORATORY | C115.4 | Make the models using sheet metal works |
| | | C115.5 | Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundary and fittings |
| | | C115.6 | Carry out basic home electrical works and appliances |

CO-PO MAPPING

| СО | | | | | P | ROGR | AM O | UTCO | MES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|------|------|-----|------|------|------|-------|-------|-------|
| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C115.1 | 3 | 2 | 2 | 2 | - | 2 | - | 1 | 1 | 1 | - | 1 | 2 | 2 | 1 |
| C115.2 | 3 | 2 | 2 | 2 | - | 2 | - | 1 | 1 | 1 | - | 1 | 2 | 2 | 1 |
| C115.3 | 3 | 2 | 2 | 2 | 1 | 2 | - | 1 | - | 1 | - | 1 | 2 | - 2 | 1 |
| C115.4 | 3 | 2 | 2 | 2 | - | 2 | - | 1 | - | 1 | - | 1 | 2 | 2 | 1 |
| C115.5 | 3 | 2 | 2 | 2 | - | 2 | - | 1 | 1 | - | - | 1 | 2 | 2 | 1 |
| C115.6 | 3 | 2 | 2 | 2 | _ | 2 | 1 | 1 | 1 | - | - | 1 | 2 | 2 | 1 |
| C115 | 3 | 2 | 2 | 2 | - | 2 | - | 1 | 1 | 1 | - | 1 | 2 | 2 | 1 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|---------------|--------|---|
| | | C116.1 | Demonstrate knowledge on C programming constructs |
| | C PROGRAMMING | C116.2 | Develop programs in C using basic constructs. |
| CS8261 | LABORATORY | C116.3 | Develop programs in C using arrays. |
| | | C116.4 | Develop applications in C using strings, pointers, functions. |
| | | C116.5 | Develop applications in C using structures. |
| | | C116.6 | Develop applications in C using file processing. |

CO-PO MAPPING

| СО | | | | | PSO | | | | | | | | | | |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C116.1 | 3 | 2 | 2 | - | 1 | - | - | 1 | 1 | 1 | 1 | 1 | 2 | 1 | - |
| C116.2 | 3 | 2 | 2 | - | 1 | - | - | - | 1 | 1 | 1 | 1 | 2 | _ 1 | - |
| C116.3 | 3 | 2 | 2 | - | 1 | - | - | 1 | 1 | 1 | 1 | 1 | 2 | 1 | - |
| C116.4 | 3 | 2 | 2 | - | 1 | - | - | 1 | 1 | 1 | 1 | 1 | 2 | 1 | - |
| C116.5 | 3 | 2 | 2 | - | 1 | - | - | 1 | 1 | 1 | 1 | 1 | 2 | 1 | - |
| C116.6 | 3 | 2 | 2 | - | 1 | - | - | İ | 1 | 1 | 1 | 1 | 2 | 1 | - |
| C116 | 3 | 2 | 2 | - | 1 | | - | 1 | 1 | 1 | 1 | 1 | 2 | 1 | - |

*3-High Correlation; 2-Medium Correlation; 1-Low Correlation; '-' - No Correlatio

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

III SEMESTER

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING **REGULATION 2017**

COURSE OUTCOMES (CO) & CO-PO MAPPING

| | COUNDEO | CICOMIL | B (CO) & CO-I O MAITING | | | | | | |
|----------------|-------------|---|---|--|--|--|--|--|--|
| Course Code | Course Name | Course Outcome(CO) Students will be able to | | | | | | | |
| | | C201.1 | Explain the concepts needed to test the logic of a program. | | | | | | |
| | | C201.2 | Describe the identifying structures on many levels. | | | | | | |
| MA8351 | DISCRETE | C201.3 | Explain the importance of class functions which transform a finite set into another finite set which relates to input and output functions in computer science. | | | | | | |
| | MATHEMATICS | C201.4 | Apply counting principles. | | | | | | |
| | | C201.5 | Explain concepts and properties of algebraic structures such as groups | | | | | | |
| | | C201.6 | Describe the concepts and significance of lattices and Boolean algebra which are widely used in computer science and engineering. | | | | | | |

CO-PO MAPPING

| ĊO | | | | PSO | | | | | | | | | | | |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C201.1 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | - |
| C201.2 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | - | 1 | - |
| C201.3 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | - |
| C201.4 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | |
| C201.5 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | - | 1 | - |
| C201.6 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | | 1 | 1 | - |
| C201 | 2 | 2 | 2 | 1 | - | - | - | • | - | - | - | - | 1 | , 1 | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|---------------------------|--------|---|
| | | C202.1 | Simplify Boolean functions using KMap. |
| | | C202.2 | Design and Analyze Combinational and Sequential Circuits Design and Analyze Combinational and |
| CS8351 | DIGITAL PRINCIPLES AND | | Combinational and Sequential Circuits. |
| | SYSTEM DESIGN | C202.3 | Explain the importance of Flip flops and latches. |
| | | C202.4 | Apply Programmable Logic Devices. |
| | | C202.5 | Write HDL code for combinational and Sequential Circuits |
| | | C202.6 | Analyse various error detection and correction logics |

CO-PO MAPPING

| СО | | | | PSO | | | | | | | | | | | |
|--------|-----|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|-------|
| | PO1 | PO 1 | PO2 | PO3 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C202.1 | 3 | 2 | 2 | - | - | - | - | - | - | - | - | - | 2 | 1 | - |
| C202.2 | 3 | 2 | 2 | - | - | - | - | - | - | - | - | - | 2 | 1 | - |
| C202.3 | 3 | 2 | 2 | - | - | - | - | - | - | - | - | - | 1 | 1 | - |
| C202.4 | 3 | 2 | 2 | - | - | - | - | - | - | - | - | - | 1 | 1 | - |
| C202.5 | 2 | 1 | 1 | - | - | - | 1 | - | _ | - | - | - | 2 | 1 | - |
| C202.6 | 1 | 1 | 1 | - | | - | - | - | - | - | - | - | 1 | 1 | - |
| C202 | 2.5 | 1.7 | 1.7 | - | - | - | - | - | - | - | - | - | 1.5 | 1 | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------------|--------|--|
| | | C203.1 | Construct the abstract data types for linear data structures. |
| | DATA | C203.2 | Apply the stack and queue operations to develop various applications |
| CS8391 | DATA STRUCTURES | C203.3 | Define linear and non-linear data structures. |
| | | C203.4 | Apply the different linear and non-linear data structures to problem solutions |
| | | C203.5 | Describe various searching techniques |
| | | C203.6 | Analyze the various sorting algorithms. |

CO-PO MAPPING

| СО | | | | | PSO | | | | | | | | | | |
|--------|-----|------|------|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|-------|
| | PO1 | PO 2 | PO 3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C203.1 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 3 | 2 | 1 |
| C203.2 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 2 | 2 | 1 |
| C203.3 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 2 | 2 | 1 |
| C203.4 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 3 | 2 | 1 |
| C203.5 | 2 | 1 | 1 | 1 | - | - | - | - | - | - ' | - | - | 3 | 2 | 1 |
| C203.6 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 2 | 1 | 1 |
| C203 | 2.7 | 1.7 | 1.7 | 1 | - | - | - | - | - | - | - | • | 2.5 | 1.8 | 1 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------------|--------|--|
| | | C204.1 | Design Java programs using OOP principles |
| | | C204.2 | Develop Java programs with the concepts inheritance |
| CS8392 | OBJECT ORIENTED | C204.3 | Construct Java programs using interfaces |
| | PROGRAMMING | C204.4 | Build Java applications using exceptions and I/O streams |
| | | C204.5 | Develop Java applications with threads and generics classes. |
| | | C204.6 | Develop interactive Java programs using swings |

CO-PO MAPPING

| | | | | | | | | - | | | | | | | |
|--------|-----|------|------|-----|-----|-----|------|-------|------|------|------|------|-------|-------|-------|
| СО | | | | | | PRO | OGRA | M OU' | TCOM | ES | | | | PSO | |
| CO | PO1 | PO 2 | PO 3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C204.1 | 2 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | 2 | 2 | 1 |
| C204.2 | 2 | 2 | 2 | 2 | 1 | - | - | - | _ | - | - | - | 2 | 2 | 1 |
| C204.3 | 2 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | 2 | 2 | 2 |
| C204.4 | 3 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | 2 | 2 | 2 |
| C204.5 | 3 | 2 | 2 | 2 | 2 | | - | - | - | - | - | - | 2 | 2 | 2 |
| C204.6 | 2 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | 1 | 1 | 1 |
| C204 | 2.3 | 2 | 2 | 2 | 2.5 | - | - | - | - | - | - | - | 1.8 | 1.8 | 1.5 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|---------------|--------|---|
| | | C205.1 | Explain the uses of different analog modulation techniques |
| | COMMUNICATION | C205.2 | Classify the Comprehend and appreciate the significance and role of this course in the present contemporary world |
| EC8395 | ENGINEERING | C205.3 | Apply analog and digital communication techniques. |
| | | C205.4 | Apply various digital communication techniques |
| | | C205.5 | Explain data and pulse communication techniques. |
| | | C205.6 | Analyze Source and Error control coding |

CO-PO MAPPING

| CO | PROGRAM OUTCOMES | | | | | | | | | | | | | | PSO | | | |
|--------|------------------|------|------|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|-------|--|--|--|
| | PO1 | PO 2 | PO 3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 | | | |
| C205.1 | 2 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | 1 | 2 | - | | | |
| C205.2 | 3 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | 1 | 2 | - | | | |
| C205.3 | 3 | 3 | 2 | 2 | 2 | - | - | - | - | - | - | - | 1 | 2 | - | | | |
| C205.4 | 3 | 3 | 3 | 3 | 3 | - | - | - | - | - | - | - | - 1 | 2 | - | | | |
| C205.5 | 3 | 3 | 3 | 2 | 2 | - | - | - | - | - | - | - | 1 | 2 | | | | |
| C205.6 | 2 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | 1 | 2 | - | | | |
| C205 | 2.7 | 2.5 | 2.3 | 2.2 | 2.2 | - | - | - | - | - | - | - | 1 | 2 | - | | | |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------------------|--------|---|
| | | C206.1 | Write functions to implement linear and non-linear data structure operations |
| | | C206.2 | Apply appropriate linear data structure operations for solving a given problem |
| CS8381 | DATA | C206.3 | Apply appropriate non-linear data structure operations for solving a given problem. |
| | STRUCTURES LABORATORY | C206.4 | Design the different types of trees to solve problems |
| | | C206.5 | Apply traversal algorithms using graphs |
| | | C206.6 | Describe hash functions that result in a collision free scenario for data storage and retrieval |

CO-PO MAPPING

| СО | | | | | | PRC | GRAN | M OUT | COM | ES | | | PSO | | | |
|--------|-----|------|------|-----|-----|----------|------|-------|-----|------|------|------|-------|-------|-------|--|
| | PO1 | PO 2 | PO 3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 | |
| C206.1 | 2 | 2 | 2 | - | - | <u>-</u> | 1 | - | 1 | 1 | - | - | 2 | 2 | 1 | |
| C206.2 | 3 | 2 | 2 | - | - | - | 1 | - | 1 | 1 | - | - | 2 | 2 | 1 | |
| C206.3 | 3 | 2 | 2 | - | - | - | 1 | - | 1 | 1 | - | - | 2 | 2 | 1 | |
| C206.4 | 3 | 2 | 2 | - | - | - | 1 | - | 1 | 1 | - | - | 2 | 2 | 1 | |
| C206.5 | 3 | 2 | 2 | - | - | - | 1 | - | 1 | 1 | - | - | 2 | 2 | 1 | |
| C206.6 | 3 | 2 | 1 | - | - | - | 1 | | 1 | 1 | - | - | 1 | 1 | 1 | |
| C206 | 2.8 | 2 | 1.8 | - | - | - | 1 | - | 1 | 1 | - | - | 1.8 | 1.8 | 1 | |

*3-High Correlation; 2-Medium Correlation; 1-Low Correlation; '-' - No Correlation

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

| COURSE | OUTCOMES | (CO) & | CO-PO | MAPPING |
|---------------|-----------------|--------|-------|----------------|
|---------------|-----------------|--------|-------|----------------|

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|-----------------------------|--------|--|
| | | C207.1 | Develop and implement Java programs for simple applications that make use of classes and objects |
| | | C207.2 | Construct Java programs for simple applications that make use of packages and interfaces. |
| CS8383 | OBJECT ORIENTED PROGRAMMING | C207.3 | Develop and implement Java programs using array list |
| | LABORATORY | C207.4 | Construct exception handling and multithreading using Java programs. |
| | | C207.5 | Design applications using file processing |
| | | C207.6 | Analyze generic programming and event handling. |

CO-PO MAPPING

| СО | | | | | PR | OGRA | AM OU | JTCON | MES | | | | PSO | | | | |
|--------|-----|------|------|-----|-----|------|-------|-------|-----|------|------|------|-------|-------|-------|--|--|
| | PO1 | PO 2 | PO 3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 | | |
| C207.1 | 3 | 2 | 2 | 1 | 1 | - | 1 | - | 1 | 1 | - | - | 2 | 2 | 1 | | |
| C207.2 | 3 | 2 | 2 | 1 | 1 | - | 1 | - | 1 | 1 | - | - | 2 | 2 | 1 | | |
| C207.3 | 3 | 2 | 2 | 1 | 1 | - | 1 | - | - 1 | 1 | - | - | 2 | 2 | 1 | | |
| C207.4 | 3 | 2 | 2 | 1 | 1 | - | 1 | | 1 | 1 | - | - | 2 | 2 | 1 | | |
| C207.5 | 3 | 2 | 2 | 1 | 1 | - | 1 | - | 1 | 1 | - | - | 2 | 2 | 1 | | |
| C207.6 | 3 | 2 | 2 | 2 | . 1 | - | 1 | - | 1 | 1 | - | - | 2 | 2 | 1 | | |
| C207 | 3 | 2 | 2 | 1.2 | 1 | - | 1 | - | 1 | 1 | 1 | • | 2 | 2 | 1 | | |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|-----------------------|--------|--|
| | | C208.1 | Illustrate simplified combinational circuits using basic logic gates |
| G59292 | DIGITAL | C208.2 | Design circuits using Half/Full Adder and Subtractor. |
| CS8382 | SYSTEMS LABORATORY | C208.3 | Apply combinational circuits using MSI devices |
| | | C208.4 | Describe the importance of sequential circuits like registers |
| | | C208.5 | Design and implementation of synchronous and asynchronous counters |
| | | C208.6 | Compare combinational and sequential circuits using HDL. |

CO-PO MAPPING

| СО | | | | | | PROG | RAM | OUTC | OMES | | | | | PSO | |
|--------|-----|------|------|-----|-----|----------|-----|------|------|------|------|------|-------|-------|-------|
| | PO1 | PO 2 | PO 3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C208.1 | 3 | 2 | 2 | 2 | - | - | - | - | 1 | 1 | - | - | 1 | - | - |
| C208.2 | 3 | 2 | 2 | 2 | - | - | - | - | 1 | 1 | - | - | 1 | - | - |
| C208.3 | 3 | 2 | 2 | 2 | - | - | - | - | 1 | 1 | 1 | - | 1 | - | - |
| C208.4 | 3 | 2 | 2 | 2 | - | 1 | - | - | 1 | 1 | - | - | 1 | - | - |
| C208.5 | 3 | 2 | 2 | 2 | - | - | - | - | 1 | 1 | - * | - | 1 | - | - |
| C208.6 | 3 | 2 | 2 | 2 | - | - | - | - | 1 | 1 | - | - | 1 | - | - |
| C208 | 3 | 2 | 2 | 2 | | - | - | - | 1 | 1 | - | - | 1 | - | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|-----------------------------------|--------|---|
| | | C209.1 | Prepare for the appropriately skills to Listen and respond. |
| | | C209.2 | Participate in group discussions |
| HS8381 | INTERPERSONAL SKILLS/LISTENING | C209.3 | Develop communication skills. |
| | &SPEAKING | C209.4 | Participate confidently and appropriately in conversations both formal and informal |
| | | C209.5 | Prepare for the general and academic listening skills |
| | | C209.6 | Summarize effective presentations |

CO-PO MAPPING

| СО | | | | | PSO | | | | | | | | | | |
|--------|-----|------|------|-----|-----|----------|-----|-----|-----|------|------|------|-------|-------|-------|
| CO | PO1 | PO 2 | PO 3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C209.1 | 2 | 2 | 1 | 1 | 1 | - | 1 | 1 | - | - | - | - | . 2 | 1 | - |
| C209.2 | 3 | 2 | 2 | 2 | 2 | - | 1 | 1 | - | - | - | - | 3. | 2 | - |
| C209.3 | 3 | 2 | 2 | 2 | 2 | - | 1 | 1 | - | - | - | - | 3 | 2 | - |
| C209.4 | 3 | 2 | 2 | 2 | 2 | - | 1 | 1 | - | - | - | - | 3 | 2 | - |
| C209.5 | 3 | 3 | 2 | 2 | 2 | - | 1 | 1 | - | - | - | _ ′ | 2 | 1 | - |
| C209.6 | 3 | 3 | 3 | 2 | 1 | - | 1 . | 1 | - | - | - | - | 1 | 1 | - |
| C209 | 2.8 | 2.2 | 2 | 1.7 | 1.5 | <u>.</u> | 1 | 1 | - | - | - | - | 2.3 | 1.5 | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

IV SEMESTER

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|---------------------------|--------|---|
| | | C210.1 | Describe fundamental knowledge of the concepts of probability. |
| | | C210.2 | Explain the importance of standard distributions which can describe real life phenomenon. |
| MA8402 | MA8402 PROBABILITY | C210.3 | Apply the concepts of one and two dimensional random variables in engineering applications. |
| | AND QUEUEING THEORY | C210.4 | Apply the concept of random processes in engineering disciplines. |
| | | C210.5 | Analyze queueing models. |
| * | | C210.6 | Explain the characterize phenomenon which evolve with respect to time in a probabilistic manner |

CO-PO MAPPING

| СО | | PROGRAM OUTCOMES | | | | | | | | | | | | | PSO | | | |
|--------|-----|------------------|------|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|-------|--|--|--|
| | PO1 | PO 2 | PO 3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 | | | |
| C210.1 | 3 | 2 | 2 | 2 | - | - | - | - | - | - | - | - | 2 | 2 | _ | | | |
| C210.2 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | _ | 2 | 2 | - | | | |
| C210.3 | 3 | 2 | 2 | 2 | - | - | - | - | - | - | - | - | 2 | 2 | - | | | |
| C210.4 | 3 | 2 | 2 | 2 | - | - | - | - | - | - | - | - | 2 | 2 | - | | | |
| C210.5 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | - | 2 | 2 | - | | | |
| C210.6 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | - | 1 | 1 | - | | | |
| C210 | 2.5 | 2 | 2 | 2 | - | - | - | - | - | - | - | • _ | 1.8 | 1.8 | - | | | |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING **REGULATION 2017** COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------|--------|---|
| | | C211.1 | Explain the basics structure of computers, operations and instructions. |
| CC0401 | COMPUTER | C211.2 | Design arithmetic and logic unit. |
| CS8491 | ARCHITECTURE | C211.3 | Apply pipelined execution and design control unit |
| | | C211.4 | Analyze parallel processing architectures. |
| | | C211.5 | Explain how Graphics processing units are implemented. |
| | | C211.6 | Describe various memory systems and I/O communication |

CO-PO MAPPING

| СО | | PROGRAM OUTCOMES | | | | | | | | | | | | | PSO | | | |
|--------|-----|------------------|------|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|-------|--|--|--|
| CO | PO1 | PO 2 | PO 3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 | | | |
| C211.1 | 2 | 2 | 2 | 1 | - | - | - | 1 | 1 - | - | - | - | 2 | 2 | - | | | |
| C211.2 | 3 | 2 | 2 | 1 | - | - | - | 1 | 1 | - | - | - | 2 | 2 | - | | | |
| C211.3 | 2 | 2 | 2 | 1 | - | - | - | 1 | 1 | - | - | - | 2 | 2 | - | | | |
| C211.4 | 2 | 2 | 2 | 1 | - | - | - | 1 | 1 | - | - | - | 2 | 2 | | | | |
| C211.5 | 2 | 2 | 2 | 1 | - | - | - | 1 | 1 | - | - | - | 2 | 2 | - | | | |
| C211.6 | 2 | 1 | 1- | 1 | - | - | - | 1 | 1 | - | - | - | 1 | 1 | - | | | |
| C211 | 2.2 | 1.8 | 1.8 | 1 | - | - | - | 1 | 1 | • | - | - | 1.8 | 1.8 | - | | | |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|-----------------------------------|--------|---|
| | | C212.1 | Classify the modern and futuristic database applications based on size and complexity |
| | DATARASE | C212.2 | Design ER model to Relational model to perform database design effectively |
| CS8492 | DATABASE MANAGEMENT SYSTEMS | C212.3 | Write queries using normalization criteria and optimize queries |
| * | SISTEMS | C212.4 | Compare and contrast various indexing strategies in different database systems |
| | | C212.5 | Appraise how advanced databases differ from traditional databases. |
| | | C212.6 | Describe various XML concepts |

CO-PO MAPPING

| СО | | | | | PR | OGRA | M OU | TCOM | IES | | | | | PSO | |
|--------|-----|---------|------|-----|------------------|------|----------|------|-----|----------|-------|----------|---|-----|---|
| | PO1 | PO 2 | PO 3 | PO4 | TION FUN PUN PUN | | PO1 0 | PO1 | PO1 | PSO 1 | PSO 2 | PSO 3 | | | |
| C212.1 | 2 | 2 | 2 | 1 | - | - | - | 2 | 2 | - | - | - | 1 | 2 | 1 |
| C212.2 | 3 | 2 | 2 | 1 | - | - | - | 2 | 2 | - | - | - | 1 | 2 | 1 |
| C212.3 | 2 | 2 | 2 | 1 | - | - | - | 2 | 2 | - | - | - | 1 | 2 | 1 |
| C212.4 | 2 | 2 | 2 | 1 | - | - | - | 2 | 2 | - | - | - | 1 | 2 | 1 |
| C212.5 | 2 | 2 | 2 | 1 | - | - | - | 2 | 2 | - | - | - | 1 | 2 | 1 |
| C212.6 | 2 | 2 | 2 | 1 | - | - | - | 2 | 2 | - | - | - | 1 | 2 | 1 |
| C212 | 2.2 | 2 | 2 | 1 | - | - | - | 2 | 2 | - | - | - | 1 | 2 | 1 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

| COURSE OUTCOMES | (CO) & CO-PO MAPPING |
|-----------------|---------------------------|
| | (CC) CC I C I III II II I |

| Course Code | Course Name | Course Outcome(CO) Students will be able to | | | | | | | |
|----------------|---------------------|--|--|--|--|--|--|--|--|
| | | C213.1 | Design algorithms for various computing problems. | | | | | | |
| | | C213.2 Analyze the time and space complexity of algorithms | | | | | | | |
| CS8451 | DESIGN AND ANALYSIS | C213.3 | Explain various techniques to solve different problems. | | | | | | |
| | OF ALGORITHMS | C213.4 | Analyze and apply different dynamic programming techniques | | | | | | |
| | | C213.5 | Analyze the different algorithm electric and design techniques for a given problem | | | | | | |
| | | C213.6 | Compare existing algorithms and to improve efficiency. | | | | | | |

CO-PO MAPPING

| СО | PROGRAM OUTCOMES | | | | | | | | | | | PSO | | | |
|--------|------------------|------|------|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|-------|
| | PO1 | PO 2 | PO 3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C213.1 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 1 | 2 | 1 |
| C213.2 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 1 | 2 | 1 |
| C213.3 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 1 | 2 | 1 |
| C213.4 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 1 | 2 | 1 |
| C213.5 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | | 1 | 2 | 1 |
| C213.6 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 1 | 2 | 1 |
| C213 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 1 | 2 | 1 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | Course Outcome(CO) Students will be able to | | | | | | | |
|--------------------------|-------------|---|---|--|--|--|--|--|--|
| | | C214.1 | Analyze various scheduling algorithms. | | | | | | |
| CS8493 OPERATING SYSTEMS | C214.2 | Explain deadlock, prevention and avoidance algorithms | | | | | | | |
| | C214.3 | Compare and contrast various memory management schemes. | | | | | | | |
| | | C214.4 | Describe the functionality of file systems | | | | | | |
| | | C214.5 | Illustrate administrative tasks on Linux Servers. | | | | | | |
| | | C214.6 Compare iOS and Android Operating System | | | | | | | |

CO-PO MAPPING

| СО | PROGRAM OUTCOMES | | | | | | | | | | | | PSO | | |
|--------|------------------|------|------|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|-------|
| | PO1 | PO 2 | PO 3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C214.1 | 2 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | 1 | 2 | 1 |
| C214.2 | 3 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | 1 | 2 | 1 |
| C214.3 | 2 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | 1 | 2 | 1 |
| C214.4 | 2 | 2 | 2 | 1 | 1 - | - | - | - | 1 | - | - | - | 1 | 2 | 1 |
| C214.5 | 3 | 3 | 2 | 2 | 1 | - | - | - | - | - | 1 | - | 1 | 2 | 1 |
| C214.6 | 2 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | 1 | 1 | 1 |
| C214 | 2.3 | 2.2 | 1.5 | 1.3 | 1 | - | - | - | - | - | - | - | 1 | 1.8 | 1 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|-------------------------|--------|---|
| | | C215.1 | Identify the key activities in managing a software project. |
| | | C215.2 | Compare different process models |
| CS8494 | SOFTWARE ENGINEERING | C215.3 | Explain the Concepts of requirements engineering and Analysis Modeling. |
| | | C215.4 | Apply systematic procedure for software design and deployment. |
| | | C215.5 | Compare and contrast the various testing and maintenance. |
| | | C215.6 | Explain the importance of project schedule, estimate project COt and effort required. |

CO-PO MAPPING

| СО | | | | | PR | ROGRA | AM OU | JTCON | MES | | | | PSO | | |
|--------|-----|------|------|-----|-----|-------|-------|-------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO 2 | PO 3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C215.1 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 2 | 2 | 1 |
| C215.2 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 2 | 2 | 1 |
| C215.3 | 3 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 2 | 2 | 1 |
| C215.4 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 2 | 2 | 2 |
| C215.5 | 3 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 2 | 2 | 1 |
| C215.6 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | 1 |
| C215 | 2.5 | 1.8 | 1.2 | 1 | - | - | - | - | - | - | - | - | 1.8 | 1.8 | 1.2 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | Course Outcome(CO) Students will be able to | | | | | | |
|----------------|------------------------|---|---|--|--|--|--|--|
| | | C216.1 | Make Use of typical data definitions and manipulation commands. | | | | | |
| , | | C216.2 | Design applications to test Nested and Join Queries | | | | | |
| CS8481 | DATABASE MANAGEMENT | C216.3 | Design simple applications that use Views | | | | | |
| | SYSTEMS LABORATORY | C216.4 | Develop applications using procedures and functions | | | | | |

Construct applications that require a Front-end Tool

Analyze the use of Tables, Views, Functions and

C216.5

C216.6

CO-PO MAPPING

| СО | | | | | 1 | PROG | RAM (| OUTC | OMES | | | PSO | | | |
|--------|-----|------|------|-----|-----|------|-------|------|------|------|------|------|-------|-------|-------|
| CO | PO1 | PO 2 | PO 3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C216.1 | 3 | 2 | 2 | 1 | - | - | 1 | - | 1 | 1 | - | - | 1 | 2 | 1 |
| C216.2 | 3 | 2 | 2 | 1 | - | - | 1 | - | 1 | 1 | - | - | 1 | 2 | 1 |
| C216.3 | 3 | 2 | 1 | 1 | - | - | 1 | - | 1 | 1 | - | - | 2 | 1 | 1 |
| C216.4 | 2 | 2 | 1 | 1 | - | - | 1 | - | 1 | 1 | - | - | 1 | 1 | 1 |
| C216.5 | 3 | 2 | 2 | 1 | - | - | 1 | - | 1 | 1 | - | - | 2 | 2 | 2 |
| C216.6 | 3 | 2 | 2 | 1 | - | - | 1 | - | 1 | 1 | - | - | 1 | 1 | 1 |
| C216 | 2.8 | 2 | 1.7 | 1.0 | - | - | 1.0 | - | 1.0 | 1.0 | - | - | 1.3 | 1.5 | 1.2 |

Procedures

*3-High Correlation; 2-Medium Correlation; 1-Low Correlation; '-' - No Correlation

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to | | | | |
|----------------|-----------------------|---|---|--|--|--|--|
| | OPERATING | C217.1 | Compare the performance of various CPU Scheduling Algorithms. | | | | |
| | | C217.2 | Demonstrate Deadlock avoidance and Detection Algorithms. | | | | |
| CS8461 | SYSTEMS LABORATORY | C217.3 | Apply Semaphores in various problems | | | | |
| | | C217.4 | Create processes and implement IPC | | | | |
| | | C217.5 Analyze the performance of the various Page Replacement Algorithms | | | | | |
| | | | Apply File Organization and File Allocation Strategies | | | | |

CO-PO MAPPING

| СО | | | | | P | ROGR | RAM O | UTCC | OMES | | | | | PSO | |
|--------|-----|------|------|-----|-----|------|-------|------|------|------|------|------|-------|-------|-------|
| | PO1 | PO 2 | PO 3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C217.1 | 3 | 2 | 2 | 1 | - | _ | 1 | - | 1 | 1 | - | - | 2 | 2 | 1 |
| C217.2 | 3 | 2 | 2 | 1 | - | - | 1 | - | 1 | 1 | - | - | 3 | 2 | 1 |
| C217.3 | 3 | 2 | 2 | 1 | - | - | 1 | - | 1 | 1 | - | - | 3 | 2 | 1 |
| C217.4 | 3 | 2 | 2 | 1 | - | - | 1 | - | 1 | 1 | - | - | 3 | 2 | 1 |
| C217.5 | 3 | 2 | 2 | 1 | - | - | 1 | - | 1 | 1 | - | - | 3 | 2 | 1 |
| C217.6 | 3 | 2 | 2 | 1 | - | - | 1 | - | 1 | 1 | - | - | 2 | 2 | 1 |
| C217 | 3 | 2 | 2 | 1 | - | - | 1.0 | - | 1.0 | 1.0 | - | - | 2.7 | 2 | 1 |

*3-High Correlation; 2-Medium Correlation; 1-Low Correlation; '-' - No Correlation

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | Course Outcome(CO) Students will be able to | | | | | | |
|----------------|-------------------------|---|--|--|--|--|--|--|
| | | C218.1 Discuss the concept of PCM systems | | | | | | |
| | | C218.2 | Describe the various waveform coding schemes andtheir performance | | | | | |
| HS8461 | ADVANCED READING AND | C218.3 | Match and implement base band transmission schemes | | | | | |
| | WRITING | C218.4 | Select and implement band pass signaling schemes | | | | | |
| | | C218.5 | Demonstrate the spectral characteristics of band passsignaling schemes and their noise performance | | | | | |
| | | C218.6 | Design error control coding schemes | | | | | |

CO PO MAPPING

| CO | | | | | PI | ROGR | AM O | UTCO | MES | | | | | PSO | |
|--------|-----|-----|-----|-----|----------|------|------|------|-----|------|------|------|-------|-------|-------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C218.1 | - | - | - | - | - | - | 3 | - | 3 | 3 | - | 2 | 1 | 1 | - |
| C218.2 | - | - | - | - | - | - | 3 | - | 2 | 2 | - | 2 | 1 | 1 | - |
| C218.3 | - | - | - | 1 | 1 | - | 3 | - | 3 | 3 | 1 | 2 | 1 | 1 | - |
| C218.4 | - | - | - | 1 | - | - | 3 | - | 2 | 2 | - | 3 | 1 | 1 | - |
| C218.5 | - | - | - | 1 | <i>(</i> | - | 3 | - | 3 | 3 | 1, | 2 | 2 | 2 | - |
| C218.6 | - | - | - | 1 | ı | - | 3 | - | 2 | 2 | - | 2 | 1 | 1 | - |
| C218 | - | - | - | - | - | - | 3 | - | 2.5 | 2.5 | - | 2.2 | 1.2 | 1.2 | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

V SEMESTER

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to | | | |
|----------------|--------------------|--------|--|--|--|--|
| | ALGEBRA AND NUMBER | C301.1 | Apply the basic notions of groups, rings, fields which will then be used to solve related problems. | | | |
| | | C301.2 | Explain the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts. | | | |
| MA8551 | | C301.3 | Demonstrate accurate and efficient use of advanced algebraic techniques | | | |
| | THEORY | C301.4 | Demonstrate their mastery by solving non - trivial problems related to the concepts, and by proving simple theorems about the, statements proven by the text | | | |
| | | | Apply integrated approach to number theory and abstract algebra, | | | |
| | | | Explain a firm basis for further reading and study in the subject | | | |

CO PO MAPPING

| СО | | | | | PR | OGRA | M OU | TCOM | 1ES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|------|------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C301.1 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | - |
| C301.2 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | - |
| C301.3 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | - |
| C301.4 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | - |
| C301.5 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | 1 | 1 | 1 | - |
| C301.6 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | 1 | 1 | 1 | - |
| C301 | 1.8 | 1.8 | 1.0 | 1.0 | - | - | - | - | - | - | - | - | 1 | 1 | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

| COURSE OUTCOMES | (CO) & CO-F | O MAPPING |
|------------------------|-------------|-----------|
|------------------------|-------------|-----------|

| Course Code | Course Name | Course Outcome(CO) Students will be able to | | | | | | |
|----------------|----------------------|---|--|--|--|--|--|--|
| | | C302.1 | Apply the basic notions of groups, rings, fields which will then be used to solve related problems. | | | | | |
| | | C302.2 | Explain the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts. | | | | | |
| CS8591 | COMPUTER NETWORKS | C302.3 | Demonstrate accurate and efficient use of advanced algebraic techniques | | | | | |
| | | C302.4 | Demonstrate their mastery by solving non - trivial problems related to the concepts, and by proving simple theorems about the, statements proven by the text | | | | | |
| | | C302.5 | Apply integrated approach to number theory and abstract algebra, | | | | | |
| | | C302.6 | Explain a firm basis for further reading and study in the subject | | | | | |

CO PO MAPPING

| - | | | | | P | ROGF | RAM C | OUTCO | OMES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|-------|-------|------|------|------|------|-------|-------|-------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C302.1 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 2 | 2 |
| C302.2 | 2 | 2 | 1 | 1 | - | | - | - | - | - | - | - | 1 | 2 | 2 |
| C302.3 | 2 | 2 | 1 | 1 | - | - | - | - | 1 | - | - | - | 1 | 2 | 2 |
| C302.4 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 1 | - | 1 | 2 | 2 |
| C302.5 | 2 | 2 | . 1 | 1 | - | - | - | - | - | - | - | - | 1 | 2 | 2 |
| C302.6 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | • | - | 1 | 1 | 1 |
| C302 | 2.2 | 1.8 | 1.2 | 1.0 | - | - | - | - | - | - | - | - | 1.0 | 1.8 | 1.8 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|----------------------|--------|---|
| | | C303.1 | Explain the Architecture of 8086 microprocessor. |
| | MICROPROCESS | C303.2 | Design aspects of I/O and Memory Interfacing circuits. |
| EC8691 | ORS AND MICROCONTROL | C303.3 | Illustrate microprocessors with supporting chips |
| | LERS | C303.4 | Describe the Architecture of 8051 microcontroller. |
| | | C303.5 | Design a microcontroller based system |
| | | C303.6 | Design and implement 8051 microcontroller based systems |

CO PO MAPPING

| 60 | | | | | | | PR | OGRA | M OU | TCOM | ES | | | PSO | |
|--------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|-------|-------|-------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C303.1 | 2 | 2 | 1 | - | 1 | - | - | - | - | - | - | - | 1. | 2 | - |
| C303.2 | 2 | 2 | 1 | - | 1 | - | - | - | - | - | - | - | 1 | 2 - | - |
| C303.3 | 2 | 2 | 1 | - | 1 | - | - | - | - | _ | - | - | 1 | 2 | - |
| C303.4 | 3 | 3 | 2 | - | 1 | - | - | - | - | - | - | - | 1 | 2 | - |
| C303.5 | 2 | 2 | 1 | - | 1 | - | - | - | - | - | - | - | 1 | 2 | - |
| C303.6 | 2 | 1 | 1 | - | 1 | - | | - | - | - | - | - | 1 | 1 | - |
| C303 | 2.2 | 2.0 | 1.2 | - | 1 | - | - | - | - | - | - | - | 1 | 2 | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|-------------|--------|--|
| | | C304.1 | Construct automata, regular expression for any pattern |
| C50501 | THEORY OF | C304.2 | Write Context free grammar for any construct. |
| CS8501 | COMPUTATION | C304.3 | Design Turing machines for any language. |
| | | C304.4 | Illustrate computation solutions using Turing machines |
| | | C304.5 | Discuss whether a problem is decidable or not |
| | | C304.6 | Analyze un decidable problems and NP class problems |

CO PO MAPPING

| СО | | | | | PRO | OGRA | M OU | TCOM | IES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|------|------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C304.1 | 3 | 2 | 2 | 1 | - | - | - | - | | - | - | - | 1 | 2 | - |
| C304.2 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 1 | 2 | - |
| C304.3 | 3 | 2 | 2 . | 1 | 1 | - | - | - | - | - | - | - | 1 | 2 | - |
| C304.4 | 3 | 2. | 2 | 1 | - | - | - | - | - | - | | - | 1 | 2 | - |
| C304.5 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 2 | - |
| C304.6 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | - |
| C304 | 2.7 | 1.7 | 1.7 | 1.0 | - | - | - | - | - | - | - | - | 1.0 | 1.8 | - |

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| COURSE OUTCOMES | (CO) & | & CO-PO | MAPPING |
|-----------------|--------|---------|---------|
|-----------------|--------|---------|---------|

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|-----------------|------------------------|--------|---|
| | | C305.1 | Explain software design with UML diagrams. |
| GG0 5 02 | OBJECT ORIENTED | C305.2 | Design software applications using OO concepts |
| CS8592 | ANALYSIS AND DESIGN | C305.3 | Identify various scenarios based on software requirements |
| | | C305.4 | Compare UML based software design to pattern based design using design patterns |
| | | C305.5 | Describe various testing methodologies for OO software |
| | | C305.6 | Design and Test the software against its requirements specification |

CO PO MAPPING

| СО | | | | | PRO | OGRA | M OU | ТСОМ | IES | | | | PSO | | | |
|--------|-----|-----|-----|-----|-----|------|------|------|-----|------|------|------|-------|-------|-------|--|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 | |
| C305.1 | 3 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 2 | - | |
| C305.2 | 3 | 2 | 2 | - 1 | - | - | - | - | - | - | - | - | 2 | 1 | - | |
| C305.3 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | - | |
| C305.4 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | - | |
| C305.5 | 2 | 1 | 1 | 1 | - | - | - | - | 1 | | - | - | 1 | 1 | - | |
| C305.6 | 1 | 1 | 1 | 1 | - | - | - | - | - | 1 | - | 1 | 1 | 1 | - | |
| C305 | 2.3 | 1.3 | 1.3 | 1.0 | - | _ | - | - | - | - | - | - | 1.2 | 1.2 | - | |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------------------------|--------|--|
| | | C306.1 | Explain the different bio potential and its propagation. |
| | BASIC OF BIO | C306.2 | Describe the different electrode placement for various physiological recording |
| OMD551 | MEDICAL INSTRUMENTAT ION | C306.3 | Design bio amplifier for various physiological recording |
| | | C306.4 | Apply various technique for electrical physiogical measurements |
| | | C306.5 | Apply various technique for non electrical physiogical measurements |
| | | C306.6 | Compare different biochemical measurements |

CO PO MAPPING

| СО | | | | | Pl | ROGR | AM O | UTCO | MES | | | | PSO | | |
|--------|-----|-----|-----|-----|-----|------|------|------|-----|------|----------|------|-------|-------|-------|
| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C306.1 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 2 | - |
| C306.2 | 2 | 2 | 1 | 1 | - | - | - | | - | - | - | - | 1 | 1 | - |
| C306.3 | 3 | 2 | 1 | 1 | - | - | - | - | | - | - | - | 1 | 1 | - |
| C306.4 | 3 | 2 | 1 | 1 | • | | - | | | 1 | - | - | 2 | 1. | - |
| C306.5 | 3 | 2 | 1 | 1 | • | 1 | - | - | | - | - | - | 2 | 1 | - |
| C306.6 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | | - | 1 | 2 | - |
| C306 | 2.5 | 1.8 | 1 | 1 | - | - | - | - | - | - | <u>-</u> | - | 1.3 | 1.3 | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------------------------|--------|---|
| | | C307.1 | Write ALP Programmes for fixed and Floating Point and Arithmetic operations · Interface different I/Os with processor |
| | | C307.2 | Construct waveforms using Microprocessors |
| EC8681 | MICROPROCESSORS AND | C307.3 | Apply Programs in 8051 |
| | MICROCONTROLLERS LABORATORY | C307.4 | Explain the difference between simulator and Emulator |
| | | C307.5 | Compare different I/Os with Microprocessors |
| | | C307.6 | Explain the importance of MASM |

CO PO MAPPING

| СО | | | | | | PROG | RAM | OUTC | OMES | S | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|-----|------|------|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C307.1 | 2 | 1 | 1. | 1 | 1 | - | - | - | 1 | 2 | - | - | 1 | - | 1 |
| C307.2 | 3 | 2 | 2 | 2 | 1 | • | - | - | 1 | 2 | - | - | 1 | - | 1 |
| C307.3 | 3 | 2 | 2 | 2 | 1 | - | - | - | 1 | 2 | - | - | 1 | - | 1 |
| C307.4 | 2 | 1 | 1 | 1 | 1 | - | - | - | 1 | 2 | - | - | 1 | - | 1 |
| C307.5 | 3 | 2 | 2 | 2 | 1 | - | - | - | 1 | 2 | - | - | 1 | - | 1 |
| C307.6 | 3 | 2 | 2 | 2 | 1 | - | - | - | 1 | 2 | - | - | 1 | - | 1 |
| C307 | 2.7 | 1.7 | 1.7 | 1.7 | 1.0 | - | - | - | 1.0 | 2.0 | - | - | 1 | - | 1 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|------------------------|--------|---|
| | | C308.1 | Practice OO analysis and design for a given problem specification |
| | OBJECT ORIENTED | C308.2 | Identify and map basic software requirements in UML mapping. |
| CS8582 | ANALYSIS AND DESIGN | C308.3 | Improve the software quality using design patterns |
| | LABORATORY | C308.4 | Explain the rationale behind applying specific design patterns |
| | | C308.5 | Explore Convert the compliance of the software with the SRS |
| | | C308.6 | Design by applying appropriate design patterns |

CO PO MAPPING

| СО | | | | | PROC | GRAM | OUT | COME | S | | | | PSO | | | |
|--------|-----|-----|-----|-----|------|------|-----|------|-----|------|------|------|-------|-------|-------|--|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 | |
| C308.1 | 2 | 2 | 1 | 1 | - | - | - | - | 1 | 1 | - | - | 2 | 1 | 1 | |
| C308.2 | 2 | 2 | 1 | 1 | - | - | - | - | 1 | 1 | - | - | 2 | 1 | 1 | |
| C308.3 | 2 | 2 | 1 | 1 | | - | - | - | 1 | 1 | - | - | 2 | 1 | 1 | |
| C308.4 | 2 | 2 | 1 | 1 | - | - | - | - | 1 | 1 | - | - | 1 | 1 | 2 | |
| C308.5 | 3 | 2 | 1 | 1 | - | - | - | 1 | 1 | 1 | - | - | 1 | 1 | 2 | |
| C308.6 | 2 | 1 | 1 | 1 | - | - | - | - | 1 | 1 | - | - | 1 | 1 | 1 | |
| C308 | 2.2 | 1.8 | 1.0 | 1.0 | - | - | - | - | 1.0 | 1.0 | | - | 1.5 | 1.0 | 1.3 | |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING **REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING**

| Course Code | Course Name | | Course Outcome(CO) Students will be able to | | | | | |
|----------------|------------------------|---|--|--|--|--|--|--|
| | | C309.1 | Implement various protocols using TCP and UDP | | | | | |
| CS8581 | NETWORKS LABORATORY | C309.2 Compare the performance of different transport layer protocols | | | | | | |
| | | C309.3 | Use simulation tools to analyze the performance of various network protocols | | | | | |
| | | C309.4 | Analyze various routing algorithms. | | | | | |
| | | C309.5 | Implement error correction codes. | | | | | |
| | | C309.6 | Illustrate simulation tools to analyze the performance of various network protocols. | | | | | |

CO PO MAPPING

| СО | | | | | PR | OGRA | AM OU | U TCO | MES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|-------|--------------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C309.1 | 3 | 2 | 2 | - | 2 | - | - | - | 1 | 1 | - | - | 2 | 1 | 1 |
| C309.2 | 3 | 1 | 1 | - | 1 | - | - | - | 1 | 1 | - | - | 2 | 1 | 1 |
| C309.3 | 3 | 2 | 2 | - | 1 | - | - | - | 1 | 1 | - | - | 2 | 1 | 1 |
| C309.4 | 3 | 2 | 2 | - | 2 | - | - | - , | 1 | 1 | - | - | 2 | 1 | 1 |
| C309.5 | 3 | 2 | 2 | - | 1 | - | - | - | 1 | 1 | - | - | 2 | 1 | 1 |
| C309.6 | 3 | 2 | 2 | - | 2 | - | - | - | 1 | 1 | - | - | 2 | 1 | 1 |
| C309 | 3.0 | 1.8 | 1.8 | - | 1.5 | - | - | - | 1.0 | 1.0 | - | | 2.0 | 1.0 | 1.0 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

VI SEMESTER

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SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING **REGULATION 2017** COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|-------------------------|--------|---|
| | | C310.1 | Construct a basic website using HTML and Cascading Style Sheets. |
| | | C310.2 | Build dynamic web page with ith validation using Java objects and by applying different event handling mech execute |
| CS8651 | INTERNET PROGRAMMING | C310.3 | Develop server side programs using Servlets and JSP. |
| | | C310.4 | Construct simple web pages in PHP and to represent data in XML format. ·. |
| | | | Use AJAX and web services to develop interactive web applications |
| | | C310.6 | Explain about java |

CO PO MAPPING

| GO | | | | | F | PROG | RAM (| OUTC | OMES | 3 | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|-------|------|------|------|------|------|-------|-------|-------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C310.1 | 2 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | 2 | 2. | 2 |
| C310.2 | 3 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | 3 | 3 | 2 |
| C310.3 | 2 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | 2 | 2 | 2 |
| C310.4 | 3 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | 3 | 3 | 2 |
| C310.5 | 3 | 2 | 2 | 2 | 2 | - | - | 1 | - | 1 | - | _ | 3 | 3 | 2 |
| C310.6 | 2 | 2 | 2 | 1 | 1 | 1 | - | - | - | 1 | - | - | 2 | 2 | 2 |
| C310 | 2.5 | 2 | 2 | 1.5 | 1.5 | - | - | - | - | - | - | - | 2.5 | 2.5 | 2 |

*3-High Correlation; 2-Medium Correlation; 1-Low Correlation; '-' - No Correlation

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|----------------------------|--------|--|
| | | C311.1 | Illustrate appropriate search algorithms for any AI problem |
| | | C311.2 | Apply first order and predicate logic for various applications |
| CS8691 | ARTIFICIAL INTELLIGENCE | C311.3 | Provide the apt agent strategy to solve a given problem |
| | INTERBIGENCE | C311.4 | Develop software agents to solve a problem. |
| | | C311.5 | Design applications for NLP that use Artificial Intelligence. |
| | | C311.6 | Analyze the various applications of AI |

CO PO MAPPING

| | | | | P | ROGI | RAM (| OUTC | OMES | 6 | | | | PSO | | | |
|--------|-----|-----|-----|-----|------|-------|------|------|-----|------|------|------|-------|-------|-------|--|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 | |
| C311.1 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | 1 | |
| C311.2 | 3 | 2 | . 2 | 1 | - | - | - | - | - | - | - | - | 2 | 2 | 1 | |
| C311.3 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | - 1 | |
| C311.4 | 2 | 2 | 1 | 1 | | - | - | - | - | - | - | - | 1 | 1 | 2 | |
| C311.5 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | 2 | |
| C311.6 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | 1 | |
| C311 | 2.2 | 1.8 | 1.2 | 1.0 | - | - | - | - | - | - | - | - | 1.2 | 1.2 | 1.3 | |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|-------------|--------|--|
| | | C312.1 | Recall the basics of mobile telecommunication systems |
| | | C312.2 | Illustrate the generations of telecommunication systems in wireless networks |
| CS8601 | MOBILE | C312.3 | Determine the functionality of MAC, network layer and Identify a routing protocol for a given Ad hoc network |
| C58001 | COMPUTING | C312.4 | Describe the functionality of Transport and Application layers |
| | | C312.5 | Develop a mobile application using android/blackberry/ ios/ Windows SDK |
| | | C312.6 | Explain about different mobile platforms and application development |

CO PO MAPPING

| СО | | | | | P | ROGE | RAM (| OUTCO | OMES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|-------|-------|------|------|------|------|-------|-------|-------|
| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C312.1 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | | - | 2 | 3 | 1 |
| C312.2 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 2 | 2 | 1 |
| C312.3 | 2 | 2 | 1 | 1 | • | - | - | - | - | - | - | - | 2 | 2 | 2 |
| C312.4 | 3 | 2 | 2 | 1 | • | 1 | - | | - | - | - | - | 2 | 3 | 1 |
| C312.5 | . 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 2 | 3 | 2 |
| C312.6 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 2 | 1 |
| C312 | 2.3 | 2.0 | 1.5 | 1.2 | - | - | - | - | - | - | - | - | 1.8 | 2.5 | 1.3 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------------|--------|--|
| | | C313.1 | Explain different phases of compiler. |
| | | C313.2 | Design a lexical analyzer for a sample language. |
| | | C313.3 | Apply different parsing algorithms to develop the parsers for a given grammar. |
| CS8602 | COMPILER DESIGN | C313.4 | Analyze syntax-directed translation and run- time environment |
| | | C313.5 | Construct code optimization techniques and a simple code generator. |
| | | C313.6 | Design and implement a scanner and a parser using LEX and YACC tools. |

CO PO MAPPING

| 60 | | | | | F | PROG | RAM (| OUTC | OMES | 5 | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|-------|------|------|------|------|------|-------|-------|-------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C313.1 | 2 | 1 | 1 | - | - | - | - | - | - | 1 | | 1 | 2 | 1 | 1 |
| C313.2 | 3 | 2 | 2 | - | - | - | - | - | - | 1 | - | 1 | 3 | 2 | 2 |
| C313.3 | 3 | 2 | 2 | - | - | - | - | - | - | 1 | - | 1 | 3 | 2 | 2 |
| C313.4 | 2 | 2 | 1 | - | | - | - | - | - | 1 | - | 1 | 2 | 1 | 1 |
| C313.5 | 3 | 2 | 2 | - | - | - | - | - | - | 2 | - | 1 | 3 | 2 | 2 |
| C313.6 | 3 | 2 | 2 | - | - | - | - | - | - | 1 | - | 1 | 3 | 2 | 2 |
| C313 | 2.7 | 1.8 | 1.7 | - | - | - | | - | - | 1.2 | - | 1.0 | 2.7 | 1.7 | 1.7 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|------------------------|--------|---|
| | | C314.1 | Explain the foundations and issues of distributed systems |
| | | C314.2 | Analyze the various synchronization issues and global state for distributed systems |
| CS8603 | DISTRIBUTED SYSTEMS | C314.3 | Compare Mutual Exclusion and Deadlock detection algorithms in distributed systems |
| | | C314.4 | Illustrate the agreement protocols and fault tolerance mechanisms in distributed systems. |
| | | C314.5 | Discuss the features of peer-to-peer and distributed shared memory systems |
| | | C314.6 | Describe the characteristics of peer-to-peer and distributed shared memory systems |

CO PO MAPPING

| СО | | | | | PR | OGRA | M OU | JTCO | MES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|------|------|-----|------|------|------|-------|-------|-------|
| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C314.1 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | 1 |
| C314.2 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | 1 |
| C314.3 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 2 | 1 | 2 |
| C314.4 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | 1 |
| C314.5 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | 1 |
| C314.6 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | 1 |
| C314 | 1.8 | 1.0 | 1.0 | 1.0 | - | - | - | - | - | - | - | - | 1.2 | 1.0 | 1.2 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------------------|--------|--|
| | | C315.1 | Explain the importance of Intellectual Property Rights, Which plays a vital role in advanced Technical and scientific disciplines. |
| | | C315.2 | Discuss the imparting IPR protections and regulations for further advancement and latest developments. |
| GE8075 | INTELLECTUAL PROPERTY | C315.3 | Evaluate the disseminate knowledge on patents, patent regime in India and abroad and registration aspects. |
| | RIGHTS | C315.4 | Describe the protect innovation in the form of intellectual property rights. |
| | | C315.5 | Calculate the research scholarship, and a spirit of inquiry, thereby generating new knowledge. |
| | | C315.6 | Provide and recognize an overview of the statutory, procedural and case law underlining these processes and their interplay with litigation. |

CO PO MAPPING

| СО | | | | | P | ROGE | RAM C | OUTCO | OMES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|-------|-------|------|------|------|------|-------|-------|-------|
| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C315.1 | - | - | - | - | - | - | - | 2 | - | 2 | - | 1 | - | - | - |
| C315.2 | - | - | 1 | - | - | - | - | 2 | - | 2 | - | 1 | - | - | - |
| C315.3 | - | - | - | - | - | - | - | 2 | - | 2 | - | 1 | - | - | - |
| C315.4 | - | - | - | - | - | - | - | 2 | - | 2 | - | 1 | - | - | - |
| C315.5 | - | - | - | - | - | - | - | 2 | - | 2 | - | 1 | - | - | - |
| C315.6 | - | - | - | - | - | - | - | 2 | - | 2 | - | 1 | - | - | - |
| C315 | - | - | - | - | - | - | - | 2 | - | 2 | - | 1 | - | - | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|---------------------------------------|--------|---|
| | | C316.1 | Construct Web pages using HTML/XML and stylesheets. |
| | | C316.2 | Build dynamic webpages with validation using Java Script objects and by applying different event handling mechanisms. |
| CS8661 | INTERNET PROGRAMMING LABORATORY | C316.3 | Develop dynamic web pages using server side scripting |
| | | C316.4 | Use PHP programming to develop web applications. |
| | | C316.5 | Construct web applications using AJAX and web services. |
| | | C316.6 | Design Client Server applications. |

CO PO MAPPING

| СО | | | | | PF | ROGR | AM O | UTCO | MES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|------|------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C316.1 | 3 | 2 | 2 | - | 2 | - | 2 | - | 1 | 1 | - | - | 1 | 2 | 2 |
| C316.2 | 3 | 2 | 2 | - | 2 | - | 2 | - | 1 | 1 | - | - | 2 | 2 | 2, |
| C316.3 | 3 | 2 | 2 | - | 2 | - | 2 | - | 1 | 1 | - | - | 2 | 1 | 1 |
| C316.4 | 3 . | 2 | 2 | - | 2 | • | 2 | 1 | 1 | 1 | - | - | 2 | 2 | 2 |
| C316.5 | 3 | 2 | 2 | - | 2 | - | 2 | 1 | 1 | 1 | - | - | 2 | 1 | 1 |
| C316.6 | 2 | 2 | 2 | 1 | 2 | - | 2 | - | 1 | 1 | - | - | 1 | 1 | 1 |
| C316 | 2.8 | 2.0 | 2.0 | - | 2.0 | - | 2.0 | - | 1.0 | 1.0 | - | - | 1.7 | 1.5 | 1.5 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------------------------------|--------|--|
| | | C317.1 | Construct mobile applications using GUI and Layouts. |
| CS8662 | MOBILE APPLICATION DEVELOPMENT | C317.2 | Develop mobile applications using Event Listener. |
| | LABORATORY | C317.3 | Design mobile applications using Databases. |
| | | C317.4 | Develop mobile applications using RSS Feed, Internal / External Storage, SMS, Multi threading and GPS. |
| | | C317.5 | Analyze and discover own mobile app for simple needs. |
| | | C317.6 | Explain the capabilities and limitations of mobile devices. |

CO PO MAPPING

| СО | | | | | PRO | OGRA | M OU' | TCOM | IES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|-------|------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C317.1 | 3 | 2 | 1 | - | - | - | 1 | - | 1 | 1 | - | - | 3 | 2 | 1 |
| C317.2 | 2 | 1 | 2 | - | - | - | 1 | - | 1 | 1 | - | - | 2 | 2 | 1 |
| C317.3 | 3 | 2 | 2 | - | - | 1 | 1 | - | 1 | 1 | - | - | 3 | 2 | 1 |
| C317.4 | 3 | 2 | 2 | - | - | - | 1 | - | 1 | 1 | - | - | 3 | 2 | 2 |
| C317.5 | 3 | 2 | 2 | - | - | | 1 | - | 1 | 1 | - | - | 3 | 2 | 2 |
| C317.6 | 3 | 2 | 2 | - | - | - | 1 | - | 1 | 1 | - | - | 3 | 2 | 2 |
| C317 | 2.8 | 1.8 | 1.8 | - | - | - | 1.0 | - | 1.0 | 1.0 | - | | 2.8 | 2.0 | 1.5 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------|--------|---|
| | | C318.1 | Develop their own innovative prototype of ideas. |
| | | C318.2 | Practice acquired knowledge within the chosen area of technology for project development. |
| CS8611 | MINI PROJECT | C318.3 | Identify, discuss and justify the technical aspects of the chosen project with a comprehensive and systematic approach. |
| | | C318.4 | Reproduce, improve and refine technical aspects for engineering projects. |
| | | C318.5 | Practice work as an individual or in a team in development of technical projects. |
| | | C318.6 | Construct report effectively project related activities and findings. |

CO PO MAPPING

| СО | | | | | PR | OGRA | M OU | TCON | MES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|------|------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C318.1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 |
| C318.2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 1 |
| C318.3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | - 1 | 1 | 1 | 2 | 1 |
| C318.4 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 |
| C318.5 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| C318.6 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 |
| C318 | 2.8 | 2.3 | 2.3 | 2.3 | 2.2 | 2.2 | 2.2 | 2.0 | 1.8 | 1.3 | 1.2 | 1.2 | 1.0 | 1.7 | 1.2 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|---------------|--------|---|
| | | C319.1 | Develop vocabulary and language skills relevant to engineering as a profession |
| | | C319.2 | Analyze, interpret and effectively summarize a variety of textual content |
| HS8581 | PROFESSIONAL | C319.3 | Discuss a given technical/non-technical topic in a group setting and arrive at Generalizations/consensus. |
| | COMMUNICATION | C319.4 | Relate telephone/Skype and panel interviews. |
| | | C319.5 | Create effective technical presentations |
| | | C319.6 | Develop adequate Soft Skills required for the workplace |

CO PO MAPPING

| СО | | | | | PF | ROGR | AM O | UTCO | MES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|------|------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C319.1 | - | - | - | - | - | - | 3 | 2 | 2 | - | 2 | - | 1 | 2 | - |
| C319.2 | - | - | - | - | - | | 3 | 2 | 2 | - | 2 | - | 2 | 2 | - |
| C319.3 | - | - | - | - | - | - | 3 | 2 | 2 | 1 | 2 | - | 2 | 2 | - |
| C319.4 | - | - | - | - | - | - | 3 | 2 | 2 | - | 2 | - | 2 | 2 | - |
| C319.5 | - | - | - | | - | - | 3 | 2 | 2 | - | 2 | - | 2 | 2 | - |
| C318.6 | - | - | - | - | - | - | 3 | 1 | 1 | - | 1 | - | 1 | 2 | - |
| C319 | - | - | - | - | - | - | 3 | 2.2 | 2 | - | 2.7 | - | 1.7 | 2 | - |

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Kaikkurichi, Pudukkottai – 622 303

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

VII SEMESTER

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | Course Outcome(CO) Students will be able to | | | | | | |
|----------------|---------------|---|---|--|--|--|--|--|
| | | C401.1 | Recall managerial functions like organization culture and environment | | | | | |
| | | C401.2 | Analyze Evolution of Management and the types of Business organization | | | | | |
| MG8591 | PRINCIPLES OF | C401.3 | Apply Managerial functions of planning and decision making steps. | | | | | |
| | MANAGEMENT | C401.4 | Analyze the organization structure and departmentalization, staffing | | | | | |
| | | C401.5 | Explain the concept of motivational techniques ,job satisfaction and leadership | | | | | |
| | / | C401.6 | Describe about the use of computers and IT in Management control | | | | | |

CO PO MAPPING

| СО | | | | | P | ROGR | AM O | UTCO | MES | | | | PSO | | |
|--------|-----|-----|-----|-----|-----|------|------|------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C401.1 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | - | - |
| C401.2 | 2 | 1 | 1 | 1 | _ | - | - | - | - | - | - | - | 1 | - | - |
| C401.3 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | - | - |
| C401.4 | 3 | 2 | 2 | 1 | - | - | - | - | | - | - | - | 1 | - | - |
| C401.5 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 1 | - | 1 | - | - |
| C401.6 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 1 | - | - |
| C401 | 2.3 | 1.5 | 1.5 | 1.0 | - | - | - | - | - | - | - | - | 1 | - | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | Course Outcome(CO) Students will be able to | | | | | |
|----------------|---|---|--|--|--|--|--|
| , | (| C402.1 | Recall the fundamentals of networks security, security architecture, threats and vulnerabilities | | | | |
| CS8792 | CDVPTOCD A DUV | C402.2 | Elaborate the different cryptographic operations of symmetric cryptographic algorithms | | | | |
| | CRYPTOGRAPHY AND NETWORK SECURITY | C402.3 | Apply the different cryptographic operations of public key cryptography | | | | |
| | | C402.4 | Explain about The Asymmetric Key Ciphers | | | | |
| | | C402.5 | Apply the various Authentication schemes to simulate different applications. | | | | |
| | | C402.6 | Describe various Security practices and System security standards | | | | |

CO PO MAPPING

| GO | | | | | PR | OGRA | AM OU | J TCO I | MES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|-------|----------------|-----|------|------|------|-------|-------|-------|
| СО | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C402.1 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 3 | 2 | - |
| C402.2 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 3 | 2 | - |
| C402.3 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 2 | 2 | - |
| C402.4 | 3 | 2 | 2 | 1 | - | 1 | - | - | - | - | - | - | 2 | 2 | - |
| C402.5 | 3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 2 | 2 | - |
| C402.6 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 2 | 2 | - |
| C402 | 2.3 | 1.7 | 1.5 | 1.0 | - | - | - | - | - | - | - | - | 2.3 | 2 | - |

*3-High Correlation; 2-Medium Correlation; 1-Low Correlation; '-' - No Correlation

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to | | | |
|----------------|--------------------|--|--|--|--|--|
| | | C403.1 | Articulate the main concepts, key technologies, strengths and limitations of cloud computing. | | | |
| | | C403.2 Describe about the key and enabling t that help in the development of cloud | | | | |
| CS8791 | CLOUD COMPUTING | C403.3 | Develop the ability to use the architecture of cloud to compute and storage cloud service and delivery models. | | | |
| | | C403.4 | Explain the core issues of cloud computing such as resource management and security. | | | |
| | | C403.5 | Illustrate the installation process and use current cloud technologies. | | | |
| | | C403.6 | Evaluate and choose the appropriate technologies, algorithms and approaches for implementation and use of cloud. | | | |

CO PO MAPPING

| СО | | | | | PR | OGRA | M OU | TCON | 1ES | | | | | PSO | |
|--------|-----|-----|-----|-----|-----|------|------|------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C403.1 | 2 | 1 | 1 | 1 | - | - | - | - | 1 | 1. | - | - | 2 | 1 | 1 |
| C403.2 | 2 | 1 | 1 | 1 | - | - | - | - | 1 | 1 | - | 1 | 2 | 1 | 1 |
| C403.3 | 2 | 1 | 1 | 1 | 1 | - | - | - | 1 | 1 | - | - | 2 | 1 | 1 |
| C403.4 | 3 | 2 | 2 | 1 | - | - | - | - | 1 | 1 | - | - | 3 | 2 | 2 |
| C403.5 | 2 | 1 | 1 | 1 | - | - | - | - | 1 | 1 | - | - | 2 | 1 | 1 |
| C403.6 | 1 | 1 | 1 | 1 | - | - | - | - | 1 | 1 | 1 | - | 2 | 1 | 1 |
| C403 | 2 | 1.2 | 1.2 | 1_ | - | - | - | - | 1.0 | 1.0 | - | - | 2.2 | 1.2 | 1.2 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING **REGULATION 2017**

| COURSE OUTCOMES | (CO | & CO-PO | MAPPING |
|------------------------|-----|---------|----------------|
|------------------------|-----|---------|----------------|

| Course Code | Course Name | Course Outcome(CO) Students will be able to | | | | | | |
|----------------|------------------------|--|--|--|--|--|--|--|
| | | C404.1 | Explain the human body electro- physiological parameters and recording of bio-potentials | | | | | |
| | MEDICAL ELECTRONICS | C404.2 Comprehend the non-electrical physical parameters and their measurement – be temperature, blood pressure, pulse, blood flow meter etc | | | | | | |
| OEC374 | | C404.3 | Explain the importance of the various assist devices used in the hospitals viz. pacemakers, defibrillators, dialyzers and ventilators | | | | | |
| | | C404.4 | Comprehend physical medicine methods eg. ultrasonic, shortwave, microwave surgical diathermies, and bio-telemetry principles and methods | | | | | |
| | | C404.5 | Discuss recent trends in medical instrumentation | | | | | |
| | | C404.6 | Describe about equipment used for physical medicine and the various recently developed diagnostic and therapeutic techniques. | | | | | |

CO PO MAPPING

| СО | | | | | PRO | GRA | M OUT | ГСОМ | ES | | | | PSO | | |
|--------|-----|-----|-----|-----|-----|-----|-------|------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C404.1 | 2 | 2 | 2 | 1 | 1 | - | - | - | - | - | - | - | 2 | 1 | 2 |
| C404.2 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | 1 | - | 2 | 1 | 1 |
| C404.3 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | 2 | 1 | 2 |
| C404.4 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | 2 | 1 | 2 |
| C404.5 | 1 | 1 | 1 | 1 | 1 | - | - | 1 | - | - | - | - | 2 | 1 | 2 |
| C404.6 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | 2 | 1 | 1 |
| C404 | 1.2 | 1.2 | 1.2 | 1.0 | 1.0 | - | - | - | - | - | - | - | 2.0 | 1.0 | 1.7 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------------|--------|--|
| | | C405.1 | Explain the concept of IoT. |
| | | C405.2 | Analyze various protocols for IoT. |
| CS8081 | INTERNET OF THINGS | C405.3 | Design a PoC of an IoT system using Raspberry Pi/Arduino |
| | | C405.4 | Apply data analytics and use cloud offerings related to IoT. |
| | | C405.5 | Describe about python web application development. |
| | | C405.6 | Analyze applications of IoT in real time scenario |

CO PO MAPPING

| СО | | | | | PRO | GRAM | OUT | COMI | ES | | | | PSO | | |
|--------|-----|-----|-----|-----|-----|------|-----|------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C405.1 | 2 | 2 | 2 | 1 | - | - | - | - | 1 | 1 | - | - | 1 | - | - |
| C405.2 | 2 | 2 | 2 | 1 | - | - | - | - | 1 | 1 | - | - | 1 | - | - |
| C405.3 | 2 | 2 | 2 | 1 | - | - | - | - | 1 | 1 | - | - | 1 | - | - |
| C405.4 | 3 | 2 | 1 | 1 | - | - | - | - | 1 | 1 | - | - | 1 | - | - |
| C405.5 | 3 | 2 | 2 | 1 | - | - | 1 | - | 1 | 1 | - | - | 1 | - | - |
| C405.6 | 1 | 2 | 2 | 1 | - | - | - | - | 1 | 1 | - | - | 1 | - | - |
| C405 | 2.2 | 2 | 1.8 | 1 | - | - | - | 1 | 1.0 | 1.0 | - | - | 1 | - | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|------------------------|--------|---|
| | GE8074 HUMAN RIGHTS | C406.1 | Explain the basic knowledge of human rights. |
| | | C406.2 | Describe about natural, moral and legal rights |
| GE8074 | | C406.3 | Analyse the concept of Human Rights Magana carta |
| | | C406.4 | Explain the perspectives of UN Laws |
| | | | Analyse the concept of Human Rights of Disadvantaged People |
| | | C406.6 | Apply the implementation of Human Rights |

CO PO MAPPING

| СО | | | | | PI | ROGR | AM O | UTCO | MES | | | | PSO | | |
|--------|-----|-----|-----|-----|-----|------|------|------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C406.1 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| C406.2 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| C406.3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| C406.4 | 2 | 2 | 1 | - | - | 1 | - | - | - | | - | - | - | - | - |
| C406.5 | 2 | 2 | 1 | - | 1 | - | - | - | - | - | - | - | - | - | - |
| C406.6 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| C406 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | - | Course Outcome(CO) Students will be able to |
|----------------|-------------------------|--------|---|
| | | C407.1 | Illustrate the configuration of various virtualization tools such as Virtual Box, VMware workstation. |
| GG0=11 | CLOUD | C407.2 | Design and deploy a web application in a PaaS environment. |
| CS8711 | COMPUTING LABORATORY | C407.3 | Demonstrate simulation of a cloud environment to implement new schedulers. |
| | | C407.4 | Explain the importance of a generic cloud environment that can be used as a private cloud. |
| | | C407.5 | Describe about large data sets Manipulation in a parallel environment. |
| | | C407.6 | Explain the procedure of Installation of Hadoop single node cluster and run simple applications like word count |

CO PO MAPPING

| СО | | | | | P | ROGR | AM O | UTCO | MES | | | | PSO | | | | |
|--------|-----|-----|-----|-----|-----|------|------|------|-----|------|------|------|-------|-------|-------|--|--|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 | | |
| C407.1 | 3 | 2 | 2 | - | - | - | 2 | - | 1 | 1 | - | - | 1 | 1 | 1 | | |
| C407.2 | 3 | 2 | 2 | - | - | - | 2 | - | 1 | 1 | - | | 1 | 1 | 1 | | |
| C407.3 | 3 | 2 | 2 | - | | - | 2 | - | 1 | 1 | - | - | 2 | 2 | 1 | | |
| C407.4 | 3 | 2 | 2 | - | - | - | 2 | - | 1 | 1 | - | - | 2 | 2 | 1 | | |
| C407.5 | 2 | 2 | 2 | - | - | - | 2 | - | 1 | 1 | - | - | 2 | 1 | 2 | | |
| C407.6 | 3 | 2 | 2 | - | - | - | 2 | - | 1 | 1 - | - | - | 1 | 1 | 1 | | |
| C407 | 2.8 | 2.0 | 2.0 | - | - | - | 2 | - | 1.0 | 1.0 | - | _ | 1.5 | 1.3 | 1.2 | | |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING **REGULATION 2017** COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|-------------|--------|---|
| | | C408.1 | Develop code for classical Encryption Techniques to solve the problems |
| 170774 | SECURITY | C408.2 | Build cryptosystems by applying symmetric and public key encryption algorithms. |
| IT8761 | LABORATORY | C408.3 | Construct code for authentication algorithms. |
| | | C408.4 | Develop a signature scheme using Digital signature standard |
| | | C408.5 | Demonstrate the network security system using open source tools |
| | | C408.6 | Explain Automated Attack and Penetration Tools Exploring N-Stalker |

CO PO MAPPING

| СО | | | | | PRO | GRA | M OU | ГСОМ | ES | | | | PSO | | | |
|--------|-----|-----|-----|-----|-----|-----|------|------|-----|------|------|------|-------|-------|-------|--|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 | |
| C4081 | 3 | 2 | 2 | 1 | - | _ | - | - | 1 | 1 | - | - | 2 | 2 | 1 | |
| C408.2 | 3 | 2 | 2 | 1 | - | - | - | - | 1 | 1 | - | - | 2 | 2 | 1 | |
| C408.3 | 3 | 2 | 2 | 1 | - | - | - | - | 1 | 1 | - | - | 2 | 2 | 1 | |
| C408.4 | 3 | 2 | 2 | 1 | - | - | - | - | 1 | 1 | - | - | 2 | 2 | 1 | |
| C408.5 | 2 | 1 | 1 | 1 | - | - | - | - | 1 | 1 | _ | - | 2 | 2 | 1 | |
| C408.6 | 1 | 1 | 1 | 1 | - | - | - | - | 1 | 1 | - | - | 1 | 1 . | 1 | |
| C408 | 2.5 | 1.7 | 1.7 | 1.0 | - | - | - | - | 1.0 | 1.0 | - | - | 1.8 | 1.8 | 1.0 | |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

VIII SEMESTER

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017 COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------------------|--------|---|
| | | C409.1 | Make use of an open source search engine framework and explore its capabilities |
| | | C409.2 | Apply appropriate method of classification or clustering. |
| CS8080 | INFORMATION RETRIEVAL | C409.3 | Design and implement innovative features in a search engine. |
| CSGGG | TECHNIQUES | C409.4 | Design and implement a recommender system. |
| | | C409.5 | Explain about the concepts of Collaborative Filtering |
| | | C409.6 | Apply the algorithm for Neural Network Model |

CO PO MAPPING

| СО | | | | | PRO | GRAM | OUT | СОМІ | ES | | | | PSO | | | |
|--------|-----|-----|-----|-----|-----|------|-----|------|-----|------|------|------|-------|-------|-------|--|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 | |
| C409.1 | 2 | 1 | 1 | 1 | - | | - | - | - | - | - | - | 1 | - | - | |
| C409.2 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | |
| C409.3 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | _ | - | |
| C409.4 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | |
| C409.5 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | |
| C409.6 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | |
| C409 | 1.8 | 1.0 | 1.0 | 1.0 | - | - | - | - | - | - | - | - | 1.0 | - | - | |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------------------|--------|---|
| | | C410.1 | Explain about Introduction to Yoga and meditation |
| GE8076 | PROFESSIONAL | C410.2 | Apply ethics in society, |
| | ETHICS IN ENGINEERING | C410.3 | Discuss the ethical issues related to engineering and realize the responsibilities and rights in the society. |
| | | C410.4 | Elaborate the Weapons Development – Engineers as Managers |
| | | C410.5 | Examine the concept of Risk Benefit Analysis and Reducing Risk. |
| | | C410.6 | Describe about Senses of 'Engineering Ethics' |

CO PO MAPPING

| СО | | | | | PR | OGRA | M OU | TCON | 1ES | | | | PSO | | |
|--------|-----|-----|-----|-----|-----|------|------|------|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C410.1 | 2 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | 1 | 1 | 1 |
| C410.2 | 2 | 1 | 1 | -1 | 1 | - | - | - | - | - | - | - | 2 | 1 | 1 |
| C410.3 | 3 | 2 | 1 | 1 | 1 | - | - | 1 | - | - | - | - | 2 | 2 | 1 |
| C410.4 | 3 | 3 | 2 | 2 | 2 | - | - | - | - | - | - | - | 2 | 2 | 1 |
| C410.5 | 2 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | 2 | 1 | 1 |
| C410.6 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | - | - | 1 | 1 | 1 |
| C410 | 2.2 | 1.7 | 1.2 | 1.2 | 1.2 | - | - | - | - | - | - | - | 1.5 | 1.5 | 1.0 |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|--------------|--------|--|
| | | C411.1 | Identify technically and economically feasible problems of social relevance |
| | | C411.2 | Construct the project team with assigned responsibilities |
| | | C411.3 | Identify and survey the relevant literature for getting exposed to related solutions |
| CS8811 | PROJECT WORK | C411.4 | Analyse, design and develop adaptable and reusable solutions of minimal complexity by using modern tools |
| | | C411.5 | Describe the solutions to trace against the user requirements |
| | | C411.6 | Deploy and support the solutions for better manageability of the solutions and provide scope for improvability |

CO PO MAPPING

| СО | | | - | | PRO | GRAN | 1 OUT | COM | ES | | | | PSO | | | |
|--------|-----|-----|-----|-----|-----|------|-------|-----|-----|------|------|------|-------|-------|-------|--|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 | |
| C411.1 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 - | 1 | 1 | 1 | 1 | |
| C411.2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | .2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | |
| C411.3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| C411.4 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | |
| C411.5 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| C411.6 | 2 | 2 . | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| C411 | 2.8 | 2.3 | 2.3 | 2.3 | 2.2 | 2.2 | 1.7 | 1.7 | 1.3 | 1.3 | 1.3 | 1.0 | 1.0 | 1.0 | 1.0 | |

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING REGULATION 2017

COURSE OUTCOMES (CO) & CO-PO MAPPING

| Course Code | Course Name | | Course Outcome(CO) Students will be able to |
|----------------|-----------------------|--------|---|
| | | C412.1 | Examine the Software Project Planning and Evaluation techniques |
| | | C412.2 | Classify projects at each stage of the software development life cycle (SDLC) |
| | SOFTWARE | C412.3 | Explain about the activity planning and risk management principles |
| IT8075 | PROJECT MANAGEMENT | C412.4 | Investigate to manage software projects and control software deliverables |
| | | C412.5 | Illustrate skills to manage the various phases involved in project management and people management |
| | | C412.6 | Demonstrate successful software projects that support organization's strategic goals |

CO PO MAPPING

| COs | PROGRAM OUTCOMES | | | | | | | | | | | | PSOs | | |
|--------|------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|-------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
| C412.1 | 3 | 2 | 1 | 1 | 1 | 1 | - | 1 | 1 | 3 | 2 | 2 | 1 | 1 | 1 |
| C412.2 | 3 | 3 | . 2 | 1 | 1 | 1 | - | 1 | 2 | 3 | 2 | 2 | 2 | 1 | 2 |
| C412.3 | 3 | 3 | 2 | 1 | 1 | 1 | - | 1 | 2 | 3 | 2 | 2 | 2 | 1 | 2 |
| C412.4 | 3 | 3 | 3 | 3 | 1 | 1 | - | 1 | 2 | 3 | 2 | 2 | 1 | 1 | 1 |
| C412.5 | 3 | 2 | 1 | 1 | 1 | 1 | - | .1 | 2 | 3 | 2 | 2 | 1 | 1 | 1 |
| C412.6 | 3 | 3 | 3 | 3 | 1 | 1 | - | 1 | 2 | 3 | 2 | 2 | 1 | 1 | 1 |
| C412 | 3.0 | 2.7 | 2.0 | 1.7 | 1.0 | 1.0 | | 1.0 | 1.8 | 3.0 | 2.0 | 2.0 | 1.3 | 1.0 | 1.3 |

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