

2.6.2: Attainment of programme outcomes and course outcomes are evaluated by the institution

| Sr. No | Details |
|---------------|--|
| 1 | Sample CO-PO Calculation of Course ETE701: DATA COMPRESSION AND ENCRYPTION |
| 2 | Sample of the correlation between the courses and the Program Outcomes (POs) and Program Specific Outcomes (PSOs) -Chemical Engineering Department |

**Sample CO-PO Calculation of Course
ETE701: DATA COMPRESSION AND
ENCRYPTION**

Electronics & Telecommunication Engineering

Department

(A.Y 2017-18)

Course ETE701: DATA COMPRESSION AND ENCRYPTION

Course Education Objectives: To teach the students

- Lossless and Lossy compression techniques for different types of data
- To understand data encryption techniques
- Network security and ethical hacking

Course Outcomes:

| | | |
|---|--|----------|
| At the end of the course student will be able to: | | PO |
| ETE701.1 | Implement text, audio and video compression techniques. | PO3 |
| ETE701.2 | Understand symmetric and asymmetric key cryptography schemes | PO5, PO6 |
| ETE701.3 | Understand network security and ethical hacking | PO8 |

Mapping of CO with PO:

| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| ETE701.1 | | | 3 | | | | | | | | | |
| ETE701.2 | | | | | 3 | 3 | | | | | | |
| ETE701.3 | | | | | | | | 3 | | | | |
| ETE701 | | | 3 | | 3 | 3 | | 3 | | | | |

Correlation Levels: 1: Slightly 2: Moderately 3: Substantially

Contribution to outcomes will be achieved through content delivery:

Modes of Content Delivery:

| | |
|-----|--------------------------------|
| i | Class Room Teaching |
| ii | Lab Experiment |
| iii | Self-Learning Online Resources |
| iv | Slides |
| v | Simulations/Demonstrations |



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Assessment Instruments:

| Course Outcome | Course Outcome | Assessment Tool Direct | Maximum Marks | Assessment Tool Indirect |
|---------------------|--|------------------------|---------------|--------------------------|
| ETE701.1 | Implement text, audio and video compression techniques. | Test 1 | 20 | Course Exit Survey |
| ETE701.2 | Understand symmetric and asymmetric key cryptography schemes | Test 2 | 15 | |
| ETE701.3 | Understand network security and ethical hacking | Test 2 | 05 | |
| All Course Outcomes | Viva Voce Examination | | 25 | -- |
| | University Examination | | 80 | -- |

Attainment Levels Versus Target:

| CO No | Course Outcome | Attainment |
|----------|--|------------|
| ETE701.1 | Implement text, audio and video compression techniques. | 3 |
| ETE701.2 | Understand symmetric and asymmetric key cryptography schemes | 3 |
| ETE701.3 | Understand network security and ethical hacking | 3 |
| ETL701 | | 3 |

| CO Attainment Method | Attainment Level | | |
|-------------------------------|---|---|---|
| | 1 | 2 | 3 |
| University Examination | <i>60% student scoring more than 50% marks in the final examination</i> | <i>70% student scoring more than 50% marks in the final examination</i> | <i>80% student scoring more than 50% marks in the final examination</i> |
| Internal Assessment | <i>50% students score more than 60% marks in in the internal assessment</i> | <i>60% students score more than 60% marks in in the internal assessment</i> | <i>70% students score more than 60% marks in in the internal assessment</i> |
| Course Exit Survey | <i>60% student scoring more than 60% marks in the course exit analysis</i> | <i>70% student scoring more than 60% marks in the course exit analysis</i> | <i>80% student scoring more than 60% marks in the course exit analysis</i> |

Justification for 80:20 weightage:

The internal as well as external assessment of this theory course is carried out. Internal assessment comprises of Test 1 and Test 2 each of 20 marks (average 20 marks). Internal assessment is the continuous assessment carried out by instructor. Theory paper of 80 marks is set by university. Evaluation guidelines are also being given by the university.



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University question paper is based on the entire syllabus which leads toward the attainment of all the course outcomes. Based on the above points 80:20 percent weightage to external and internal assessment of theory paper is adopted.

| CO No | Course Outcome | Attainment |
|----------|--|------------|
| ETE701.1 | Implement text, audio and video compression techniques. | 3 |
| ETE701.2 | Understand symmetric and asymmetric key cryptography schemes | 3 |
| ETE701.3 | Understand network security and ethical hacking | 3 |
| ETE701 | | 3 |

Attainment of Course Outcomes through Internal Assessment:

| CO No | Course Outcome | Attainment |
|----------|--|------------|
| ETE701.1 | Implement text, audio and video compression techniques. | 3 |
| ETE701.2 | Understand symmetric and asymmetric key cryptography schemes | 3 |
| ETE701.3 | Understand network security and ethical hacking | 3 |
| ETL701 | | 3 |

Attainment of Course Outcomes through University Exam:

| CO No | Course Outcome | Attainment |
|--------|---------------------------------|------------|
| ETE701 | Data Compression and Encryption | 2 |

Contribution to program Outcome (Y1)

| Program Outcome | Attainment through University Examination X1 | Attainment through Internal Assessment X2 | Overall Attainment (0.8X1+0.2X2) Y1 |
|-----------------|--|---|-------------------------------------|
| PO3 | 2 | 3 | 2.2 |
| PO5 | 2 | 3 | 2.2 |
| PO6 | 2 | 3 | 2.2 |
| PO8 | 2 | 3 | 2.2 |



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Contribution to Program Outcome: Contribution to PO Attainment:

| EXC7053 | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|--------------------------|-----|-----|------|-----|------|------|-----|------|-----|------|------|------|
| Target | | | 3 | | 3 | 3 | | 3 | | | | |
| Direct Method (Y1) | | | 2.2 | | 2.2 | 2.2 | | 2.2 | | | | |
| Indirect Method (Y2) | | | 3 | | 3 | 3 | | 3 | | | | |
| Attainment (0.8Y1+0.2Y2) | | | 2.36 | | 2.36 | 2.36 | | 2.36 | | | | |

Correlation Levels: 1: Slightly 2: Moderately 3: Substantially

Observations and Action Taken:

| | Target Level | Attainment Level | Observations |
|---------------|--|------------------|---|
| PO3 | 3 | 2.36 | Attainment does not measure up to the expectations. This is because the assessment for this PO is carried out in the first test which was conducted when students did not focus much on the course due to placement activities. |
| Action | Syllabus is getting revised. This subject no more exists for VII sem | | |
| PO5 | 3 | 2.36 | Attainment does not measure up to the expectations. This is because the assessment for this PO is carried out in the first test which was conducted when students did not focus much on the course due to placement activities. |
| Action | Syllabus is getting revised. This subject no more exists VII sem | | |
| PO6 | 3 | 2.36 | Attainment does not measure up to the expectations |
| Action | Syllabus is getting revised. This subject no more exists VII sem | | |
| PO8 | 3 | 2.36 | Attainment does not measure up to the expectations |
| Action | Syllabus is getting revised. This subject no more exists VII sem | | |



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Electronics & Telecommunication Engineering

Department

(2018-19)

Course ETE 701 : Data Compression and Encryption

Total no of students: 74

No of students who got above 70% (above 18) in Term work: 43 (58%)

No of students who got above 70% (above 18) in Practical/Oral: 52 (70%)

| At the end of the course student will be able to: | | PO |
|---|---|------------------|
| ETE701.1 (LO1) | Ability to implement text, audio and video compression techniques. | PO1, PO2 and PO5 |
| ETE701.2 (LO2) | Ability to implement symmetric and asymmetric key cryptography schemes. | P01,PO3 |
| ETE701.3 (LO3) | To understand network security and ethical hacking. | P06, PO8 & PO10 |

| Experiment No | Name of Experiment | LO |
|---------------|---|----------|
| 1 | Implementation of Run length Coding | LO1 |
| 2 | To generate code word using Arithmetic Coding | LO1 |
| 3 | To generate μ law code word and A law code word | LO1 |
| 4 | To study the use of Discrete Cosine Transform in JPEG | LO1 |
| 5 | To Secure data with Image Steganography | LO3 |
| 6 | To find the inverse of a given number using Extended Euclid Algorithm | LO2 |
| 7 | To Secure the data using Ceaser Cipher | LO2, LO3 |
| 8 | To study the Brute Force Attack | LO3 |
| 9 | To implement RSA Encryption | LO2 |
| 10 | To implement Diffie Hellman Key Exchange Program | LO3 |

Mapping of LO with PO (Target) :

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| ETE701.1 | 3 | 3 | | | 3 | | | 3 | | | | |
| ETE701.2 | 3 | | 3 | | | | | | | | | |
| ETE701.3 | | | | | | 3 | | 3 | | 3 | | |

Correlation Levels: 1: Slightly 2: Moderately 3: Substantially

Attainment Levels Versus Target:

| LO Attainment Method | Attainment Level | | |
|----------------------|--|--|--|
| | 1 | 2 | 3 |
| Term work | More than 50% student scoring more than 70% marks in the final examination | More than 60% student scoring more than 70% marks in the final examination | More than 70% student scoring more than 70% marks in the final examination |
| Oral/ Practical | More than 50% students score more than 70% in the final assessment | More than 60% students score more than 70% in the final assessment | More than 70% students score more than 70% in the final assessment |

Attainment of Lab Outcomes through University Exam

| LO No | Course Outcome | PO | Term work Attainment | Pract / Oral Attainment |
|----------|---|-----------------|----------------------|-------------------------|
| ETE701.1 | Ability to implement text, audio and video compression techniques. | PO1, PO2 & PO5 | 2 | 3 |
| ETE701.2 | Ability to implement symmetric and asymmetric key cryptography schemes. | P01,PO3 | 2 | 3 |
| ETE701.3 | To understand network security and ethical hacking. | P06, PO8 & PO10 | 2 | 3 |

Contribution to program Outcome (Y1)

| Program Outcome | Attainment through Term work Marks (X1) | Attainment through Practical / Oral Marks X2 | Overall Attainment (0.5X1+0.5X2) |
|-----------------|---|--|----------------------------------|
| PO1 | 2 | 3 | 2.5 |
| PO2 | 2 | 3 | 2.5 |
| PO3 | 2 | 3 | 2.5 |
| PO5 | 2 | 3 | 2.5 |
| PO6 | 2 | 3 | 2.5 |
| PO8 | 2 | 3 | 2.5 |
| PO10 | 2 | 3 | 2.5 |

Contribution to PO Attainment:

| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| Target | 3 | 3 | 3 | | 3 | 3 | | 3 | | 3 | | |
| Y1 | 2.5 | 2.5 | 2.5 | | 2.5 | 2.5 | | 2.5 | | 2.5 | | |

Correlation Levels: 1: Slightly 2: Moderately 3: Substantially



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**Sample of the correlation between the
courses and the Program Outcomes (POs)
and Program Specific Outcomes (PSOs) -
Chemical Engineering Department**

Sample of the correlation between the courses and the Program Outcomes (POs) and Program Specific Outcomes (PSOs) -Chemical Engineering Department

Course Outcomes (COs)

3.1.1. (CHC304: Computer Programming and Numerical Methods, Year of study 2015- 16

| Course Code | Course Outcomes |
|-------------|--|
| CHC304.1 | Use the different numerical methods to solve the algebraic equations |
| CHC304.2 | Acquire knowledge of using algebraic methods to find solution of system of linear and non-linear equations |
| CHC304.3 | Apply knowledge of numerical methods in chemical engineering applications. |
| CHC304.4 | Predict solution of ordinary differential equations and partial differential equations using different methods and their applications in different areas of chemical engineering |
| CHC304.5 | Estimate solution for difference equations arising in statistical problems. |
| CHC304.6 | Execute programs in SCILAB for all numerical methods covered during course. Use fundamentals of programming to develop a program. |

CHC404: Material Science &Engineering, Year of study 2015- 16

| Course Code | Course Outcomes |
|-------------|--|
| CHC404.1 | To gain basic knowledge of physics and chemistry to understand principles of materials science |
| CHC404.2 | To gain knowledge about electrical, magnetic, optical properties of materials |
| CHC404.3 | To understand iron carbon phase diagram, deformation mechanisms, theories of failure |
| CHC404.4 | To understand about causes of corrosion and it's mitigation measures |
| CHC404.5 | To understand about polymer blends-alloys and ceramic refractories, composites, clay |
| CHC404.6 | To understand about materials of construction, their properties, selection and applications in chemical industries |

CHC502: Mass Transfer operations - I, Year of study AY 2016 -17

| Course Code | Course Outcomes |
|-------------|--|
| CHC502.1 | To understand the knowledge of mass transfer by applying principles of diffusion, mass transfer coefficients and interphase mass transfer. |

| | |
|----------|---|
| CHC502.2 | To understand the concept and operation of various types of gas-liquid contacts equipments |
| CHC502.3 | To determine NTU, HTU, HETP and height of packed bed used for Absorption and Humidification operations |
| CHC502.4 | To find time required for drying and to understand the operation of various types of drying equipments. |

CHC604: Chemical Reaction Engineering – II (CRE-II), Year of study AY 2016 -17

| Course Code | Course Outcomes |
|-------------|---|
| CHC604.1 | Understand the concept of Residence Time Distribution (RTD) in various reactors and obtain the actual design parameters to design Real Reactor. |
| CHC604.2 | Find the model equation and use this model to design the reactors used for heterogeneous non catalytic reactions. |
| CHC604.3 | Apply the knowledge they have gained to develop kinetic model and Design strategy for heterogeneous catalytic reactions. |
| CHC604.4 | apply the knowledge they have gained to develop kinetic model and use this model to design the reactors used for Fluid-Fluid reactions |

CHC702: Process Engineering, Year of study 2017-18

| Course Code | Course Outcomes |
|-------------|--|
| CHC702.1 | Understand role and various activities of process engineer in industries and criteria for the selection of best process alternative |
| CHC702.2 | Acquire the knowledge of how to represent the process by various means such as PFD, P&ID and their importance in process development |
| CHC702.3 | Synthesize the chemical process flow sheets using design heuristics |
| CHC702.4 | Evaluate the material and energy requirements for the process by performing mass and energy balance around process flow sheet and utility requirement through techniques like pinch analysis |
| CHC702.5 | Apply certain design heuristics and thumb rules to design process equipments and evaluate their cost |
| CHC702.6 | Analyze and synthesize the most suitable control strategies necessary to avoid run away of the process as well they will be able to understand and analyze safety aspects of process |

CHC404: Material Science &Engineering, Year of study 2015- 16

| CO | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 | PO 12 |
|----------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| CHC404.1 | 3 | - | - | - | - | 1 | 1 | 1 | - | - | - | 2 |
| CHC404.2 | 3 | 2 | | - | - | 1 | 1 | 1 | - | - | - | 2 |
| CHC404.3 | 3 | 2 | 2 | - | - | 1 | 1 | 1 | - | - | - | 2 |
| CHC404.4 | 3 | 2 | 2 | - | - | 1 | 1 | 1 | - | - | - | 2 |
| CHC404.5 | 3 | 2 | 3 | - | - | 1 | 1 | 1 | - | - | - | 3 |
| CHC404.6 | 2 | 2 | 3 | - | - | 1 | 1 | 1 | - | - | - | 3 |

CHC502: Mass Transfer operations – I, Year of study AY 2016 -17

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO 6 | PO7 | PO8 | PO9 | PO 10 | PO 11 | PO 12 |
|----------|-----|-----|-----|-----|-----|------|-----|-----|-----|-------|-------|-------|
| CHC502.1 | 3 | 1 | 1 | 1 | - | - | - | - | - | - | - | - |
| CHC502.2 | 3 | 1 | 1 | 1 | 2 | 1 | - | - | - | - | 1 | 2 |
| CHC502.3 | 3 | 2 | 2 | 2 | 1 | 2 | - | - | - | - | - | 2 |
| CHC502.4 | 3 | 2 | 2 | 2 | 2 | - | - | - | - | - | 1 | 2 |

CHC604: Chemical Reaction Engineering – II, (CRE-II), Year of study AY 2016 -17

| CO | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 | PO 12 |
|----------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| CHC604.1 | 3 | 3 | 3 | 2 | - | - | - | - | - | - | - | - |
| CHC604.2 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | - |
| CHC604.3 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | - |



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| | | | | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|---|---|---|---|
| CHC604.4 | 2 | 2 | 3 | 1 | - | - | - | - | - | - | - | - |
|----------|---|---|---|---|---|---|---|---|---|---|---|---|

Course Name CHC702: Process Engineering, Year of study 2017-18

| CO | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 | PO 12 |
|----------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| CHC702.1 | 2 | 1 | 1 | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| CHC702.2 | 2 | 2 | 2 | - | 3 | - | - | - | 2 | 3 | - | - |
| CHC702.3 | 3 | 3 | 3 | - | 2 | - | - | - | - | - | - | - |
| CHC702.4 | 3 | 3 | 2 | - | 2 | - | 1 | - | - | - | - | - |
| CHC702.5 | 3 | 3 | 3 | - | - | - | - | - | - | - | 1 | - |
| CHC702.6 | 3 | 3 | 3 | 1 | - | - | 2 | 1 | 1 | - | - | 3 |

Course Name CHC804: Energy System Design, Year of study 2017-18

| CO | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 | PO 12 |
|----------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| CHC804.1 | - | - | - | 1 | - | 2 | 1 | - | - | - | - | 3 |
| CHC804.2 | 2 | 2 | 1 | - | - | 2 | 1 | 1 | 2 | 1 | 1 | - |
| CHC804.3 | 3 | 3 | 2 | 1 | - | 1 | 1 | - | - | - | - | 3 |
| CHC804.4 | 3 | 3 | 3 | 2 | 2 | - | - | - | - | - | - | - |
| CHC804.5 | 3 | 1 | 3 | - | 2 | - | - | - | - | - | - | - |
| CHC804.6 | 3 | 2 | 3 | - | 2 | - | 2 | - | - | - | - | 2 |

CO-PSOs matrices of courses

CHC304: Computer Programming and Numerical Methods, Year of study 2015-16

| CO | PSO1 | PSO2 | PSO3 | PSO4 |
|----------|------|------|------|------|
| CHC304.1 | 3 | - | 1 | - |
| CHC304.2 | 3 | - | 1 | - |
| CHC304.3 | 3 | - | 1 | - |
| CHC304.4 | 3 | - | 1 | - |

| | | | | |
|----------|---|---|---|---|
| CHC304.5 | 3 | - | 1 | - |
| CHC304.6 | 3 | - | 1 | - |

Course Name: CHC502: Mass Transfer operations – I, Year of study AY 2016 -17

| CO | PSO1 | PSO2 | PSO3 | PSO4 |
|----------|------|------|------|------|
| CHC502.1 | 3 | - | - | - |
| CHC502.2 | 3 | - | - | 1 |
| CHC502.3 | 3 | 2 | 2 | 2 |
| CHC502.4 | 3 | 2 | 2 | 2 |

CHC604: Chemical Reaction Engineering – II (CRE-II), Year of study AY 2016 -17

| CO | PSO1 | PSO2 | PSO3 | PSO4 |
|----------|------|------|------|------|
| CHC604.1 | - | 2 | 2 | 1 |
| CHC604.2 | 2 | 2 | - | 1 |
| CHC604.3 | 2 | 2 | - | 1 |
| CHC604.4 | 2 | - | - | 1 |

Program level Course-PO matrix of all courses INCLUDING first year courses

| Course | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO 10 | PO 11 | PO 12 |
|--------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| FEC101 | 2.83 | 2.17 | 2.17 | 2.17 | 2.33 | - | - | - | - | - | - | - |
| FEC102 | 1.16 | 1.33 | 1.66 | 1.66 | 1.83 | 2.16 | 2.00 | 2.00 | 2.00 | 2.00 | 2.50 | 2.00 |
| FEC103 | 1.60 | 1.75 | 1.50 | 1.33 | 1.00 | 1.00 | 1.33 | 1.00 | | 1.16 | 1.60 | 1.50 |
| FEC104 | 2.16 | 2.16 | 2.00 | - | - | - | - | - | 2.50 | 2.50 | - | - |
| FEC105 | 3.00 | 3.00 | 3.00 | 3.00 | 2.16 | 3.00 | | 2.16 | 3.00 | 3.00 | - | 2.00 |
| FEC106 | - | - | - | - | - | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 |
| FEL101 | 1.00 | - | - | - | 2.00 | - | - | 1.00 | 3.00 | 2.00 | 1.00 | 1.00 |
| FEC201 | 2.83 | 2.17 | 2.17 | 2.17 | 2.33 | - | - | - | - | - | - | - |
| FEC202 | 1.16 | 1.16 | 1.33 | 1.83 | 2.00 | - | - | - | - | - | - | - |
| FEC203 | 1.88 | 2.00 | 2.33 | 2.00 | 2.66 | 1.00 | 2.00 | 1.00 | 1.81 | 1.16 | 1.66 | 2.00 |
| FEC204 | 2.33 | 2.33 | 2.16 | - | - | - | - | - | 2.33 | 2.33 | - | - |
| FEC205 | 2.50 | 3.00 | 3.00 | - | - | 3.00 | - | - | - | - | - | - |

| | | | | | | | | | | | | |
|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| CHC702 | 2.67 | 2.50 | 2.33 | 1.00 | 2.33 | 1.00 | 1.33 | 1.00 | 1.33 | 2.00 | 1.00 | 2.50 |
| CHC703 / CHL708 | 3.00 | 3.00 | 3.00 | - | 2.00 | 2.00 | | 3.00 | - | - | - | 3.00 |
| CHE704 | 2.83 | 1.75 | 2.40 | - | 1.80 | 2.33 | 1.00 | - | 1.00 | 1.00 | 1.00 | 2.00 |
| CHC801 / CHL808 | 2.83 | 2.17 | 2.17 | 2.17 | 2.33 | 1.00 | 1.00 | - | 1.17 | - | 1.83 | 1.50 |
| CHC802 | 2.00 | 2.00 | 2.00 | - | - | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| CHC803 / CHL807 | 2.25 | 2.00 | 2.00 | 2.00 | - | 2.00 | 3.00 | 1.00 | - | - | 1.00 | 2.25 |
| CHC804 | 2.80 | 2.20 | 2.40 | 1.33 | 2.00 | 1.67 | 1.25 | 1.00 | 2.00 | 1.00 | 1.00 | 2.67 |
| CHE805 | 2.83 | 2.00 | 2.00 | - | 1.00 | 1.00 | 1.83 | - | - | - | - | - |
| CHE805 | 1.50 | 3.00 | 2.33 | 3.00 | 3.00 | 1.50 | 2.00 | - | 2.00 | - | - | 1.00 |

Note: Enter correlation levels 1, 2 or 3 as defined:

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

Program level Course- PSOs matrix of all courses INCLUDING first year courses

| Course | PSO1 | PSO2 | PSO3 | PSO4 |
|---------------|------|------|------|------|
| FEC101 | 2.83 | - | - | - |
| FEC102 | 1.10 | 1.00 | 1.40 | - |
| FEC103 | 1.20 | 1.00 | - | - |
| FEC104 | 1.50 | 1.65 | - | - |
| FEC105 | 1.00 | - | - | - |
| FEC106 | 1.67 | - | - | 1.00 |
| FEL101 | 1.00 | - | - | 1.00 |
| FEC201 | 1.83 | - | - | - |
| FEC202 | 1.25 | 1.00 | 1.25 | - |
| FEC203 | 2.17 | 2.00 | - | - |
| FEC204 | 1.00 | - | 3.00 | - |
| FEC205 | - | - | 1.00 | - |
| FEC206 | - | - | - | 3.00 |
| FEL201 | 3.00 | - | - | 3.00 |
| CHC301 | 3.00 | - | - | 3.00 |
| CHC302/CHL308 | 3.00 | 3.00 | - | 3.00 |
| CHC303/CHL307 | 3.00 | 3.00 | - | 3.00 |
| CHC304/CHL309 | 3.00 | 0.00 | 1.00 | 0.00 |
| CHC305 | 2.00 | 1.00 | - | - |
| CHC306 | 1.50 | 1.40 | - | 2.00 |
| CHC401 | 3.00 | - | - | 3.00 |
| CHC402/CHL407 | 3.00 | - | - | 3.00 |
| CHC403 | 2.00 | 1.00 | - | - |

| | | | | |
|---------------|------|------|------|------|
| CHC404 | 3.00 | 2.00 | - | 3.00 |
| CHC405/CHL409 | 1.83 | 1.83 | 1.83 | 1.83 |
| CHC406/CHL408 | 1.00 | 1.00 | 1.00 | - |
| CHC501 | 2.00 | 1.00 | - | 2.00 |
| CHC502/CHL507 | 3.00 | 2.00 | 2.00 | 1.67 |
| CHC503/CHL509 | 2.00 | 2.00 | 2.00 | 1.00 |
| CHC504/CHL508 | 2.00 | 2.00 | 2.00 | 1.00 |
| CHC505/CHL510 | 3.00 | 3.00 | - | 3.00 |
| CHC506 | - | - | - | 3.00 |
| CHC601 | 1.50 | 1.50 | 1.60 | 1.50 |
| CHC602/CHL607 | 2.00 | 2.00 | 2.00 | 1.00 |
| CHC603/CHL609 | 3.00 | 3.00 | 3.00 | 3.00 |
| CHC604/CHL608 | 2.00 | 2.00 | 2.00 | 1.00 |
| CHC605 | 1.00 | 1.00 | 2.00 | 2.00 |

Results of evaluation of each PO & PSO

| Course | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| FEC101 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | - | - | - | - | - | - | - |
| FEC102 | 1.20 | 1.20 | 1.20 | 1.20 | 1.13 | 1.20 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 1.05 |
| FEC103 | 2.93 | 2.85 | 2.85 | 2.78 | 2.69 | 2.93 | 2.78 | 3.00 | | 3.08 | 2.95 | 3.03 |
| FEC104 | 1.35 | 1.35 | 1.35 | - | - | - | - | - | 1.35 | 1.35 | - | - |
| FEC105 | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 | 1.09 | | 1.75 | 1.75 | 1.75 | - | 1.75 |
| FEC106 | 2.20 | - | - | - | 0.90 | 2.20 | 2.20 | 2.20 | - | - | - | 2.20 |
| FEC107 | 3.00 | - | - | - | 3.00 | - | - | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| FEC201 | 1.36 | 1.36 | 1.36 | 1.36 | 1.36 | - | - | - | - | - | - | - |
| FEC202 | 2.33 | 2.40 | 2.40 | 2.40 | 2.40 | - | - | - | - | - | - | - |
| FEC203 | 2.93 | 3.06 | 3.25 | 3.23 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 2.99 | 3.02 | 3.00 |
| FEC204 | 2.17 | 2.17 | 2.17 | - | - | - | - | - | 2.17 | 2.17 | - | - |
| FEC205 | 2.66 | 2.13 | 2.15 | - | - | 2.02 | - | - | - | - | - | - |
| FEC206 | - | - | - | - | - | 2.98 | 2.98 | 2.98 | 2.98 | - | - | 2.98 |
| FEL201 | 3.00 | - | - | - | 3.00 | - | | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| CHC301 | 2.36 | 2.36 | 2.36 | 2.36 | 2.36 | - | - | - | - | - | - | - |
| CHC302 /CHL308 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | | | | - | 3.00 |
| CHC303 /CHL307 | 2.92 | 2.92 | 3.00 | 2.92 | - | - | - | 2.92 | 2.92 | 2.92 | - | - |
| CHC304 /CHL309 | 2.22 | 2.22 | 2.22 | 2.22 | 2.02 | | - | - | | - | - | 2.20 |
| CHC305 | 3.00 | 3.00 | 2.52 | - | 2.52 | 3.00 | - | - | 3.00 | - | - | - |
| CHC306 | 3.00 | 3.00 | 3.00 | 3.00 | - | 3.00 | - | - | 3.00 | - | 3.00 | 3.00 |
| CHC401 | 1.72 | 1.72 | 1.72 | 1.72 | 1.72 | - | - | - | - | - | - | - |
| CHC402 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | - | - | - | - | 3.00 |

| | | | | | | | | | | | | |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Project -B | | | | | | | | | | | | |
| Direct Attainment | 2.58 | 2.54 | 2.55 | 2.58 | 2.56 | 2.55 | 2.63 | 2.65 | 2.63 | 2.60 | 2.74 | 2.69 |
| Indirect Attainment | 2.90 | 2.98 | 2.96 | 2.97 | 3.00 | 2.81 | 2.79 | 2.79 | 2.80 | 2.76 | 2.84 | 2.86 |
| Overall Attainment | 2.64 | 2.63 | 2.63 | 2.66 | 2.65 | 2.61 | 2.66 | 2.68 | 2.66 | 2.63 | 2.76 | 2.72 |

PSO Attainment

| Course | PSO1 | PSO2 | PSO3 | PSO4 |
|----------------|------|------|------|------|
| FEC101 | 3.00 | - | - | - |
| FEC102 | 1.13 | - | - | - |
| FEC103 | 3.00 | 3.00 | - | - |
| FEC104 | 1.35 | 1.29 | - | - |
| FEC105 | 2.02 | - | - | - |
| FEC106 | 2.20 | - | - | 2.20 |
| FEC107 | 3.00 | - | - | 3.00 |
| FEC201 | 1.71 | - | - | - |
| FEC202 | 2.40 | 2.40 | 2.40 | - |
| FEC203 | 3.00 | 3.00 | | - |
| FEC204 | 2.17 | - | 2.17 | - |
| FEC205 | - | - | 2.50 | - |
| FEC206 | - | - | - | 3.00 |
| FEL201 | 3.00 | - | - | 3.00 |
| CHC301 | 2.49 | - | - | 2.49 |
| CHC302 /CHL308 | 3.00 | 3.00 | - | 3.00 |
| CHC303/CHL307 | 3.00 | 3.00 | - | 3.00 |
| CHC304/CHL309 | 2.22 | | 2.22 | - |
| CHC305 | 1.66 | 0.83 | - | - |
| CHC306 | 2.31 | 2.30 | - | 2.28 |
| CHC401 | 1.98 | - | - | 1.98 |
| CHC402/CHL407 | 3.00 | - | - | 3.00 |
| CHC403 | 2.68 | 2.68 | - | - |
| CHC404 | 2.91 | 2.91 | - | 2.91 |
| CHC405/CHL409 | 2.87 | 2.87 | 2.87 | 2.87 |
| CHC406/CHL408 | 0.48 | 0.48 | 0.44 | - |
| CHC501 | 2.80 | 2.80 | - | - |
| CHC502/CHL507 | 2.48 | 2.44 | 2.44 | 2.45 |
| CHC503/CHL509 | 3.00 | 2.87 | 2.87 | 2.87 |
| CHC504/CHL508 | 2.75 | 2.66 | 2.62 | 2.68 |
| CHC505/CHL510 | 1.91 | 1.91 | - | 1.91 |
| CHC506 | - | - | - | 2.20 |

| | | | | |
|----------------------|-------------|-------------|-------------|-------------|
| CHC601 | 2.92 | 2.92 | 2.70 | 2.72 |
| CHC602/CHL607 | 2.71 | 2.71 | 2.77 | 2.77 |
| CHC603/CHL609 | 3.00 | 3.00 | 3.00 | 3.00 |
| CHC604/CHL608 | 2.78 | 2.78 | 2.94 | 2.82 |
| CHC605 | 2.80 | 3.00 | 3.00 | 2.73 |
| CHE606 | 2.26 | 2.24 | - | 2.26 |
| CHC701/CHL707 | 2.76 | 2.76 | 2.76 | 2.76 |
| CHC702 | 2.55 | 2.55 | 2.55 | 2.55 |
| CHC703/CHL708 | 2.92 | 2.92 | 2.82 | 2.92 |
| CHE704 | 2.79 | 2.88 | 2.80 | - |
| CHP705 Project -A | 3.00 | 3.00 | 3.00 | 3.00 |
| CHP706 Seminar | 3.00 | 3.00 | 3.00 | 3.00 |
| CHC801/CHL808 | 2.88 | 2.94 | 2.89 | - |
| CHC802 | 2.93 | 2.93 | - | 2.93 |
| CHC803/CHL807 | 2.36 | 2.36 | - | 2.36 |
| CHC804 | 2.78 | 2.79 | 2.82 | 2.82 |
| CHE805 (Elective) | 2.91 | 2.98 | 3.00 | 2.92 |
| CHE805 | 3.00 | - | - | 3.00 |
| CHP806 Project -B | 3.00 | 3.00 | 3.00 | 3.00 |
| Direct Attainment | 2.56 | 2.61 | 2.65 | 2.72 |
| Indirect Attainment | 2.88 | 2.82 | 2.94 | 2.93 |
| Overall Attainment | 2.62 | 2.65 | 2.71 | 2.76 |