Mathematics II

Code: M201

Contact: 3L + 1T

Credits: 4

Syllabus

Course outcome:

|  |  |
| --- | --- |
| CO | Statement |
| C01 | Construct the knowledge to solve differential equation(using various types of methods) arising in different Engineering branch and able to form mathematical & physical interpretation of its solution which play important role in all branches of Engineering. |
| C02 | The objective of the course is to introduce students with the fundamental concepts in graph Theory with a sense of some its modern applications. They will be able to use these methods in subsequent courses in the design and analysis of algorithms, computability theory, software engineering, computer systems and structure analysis. |
| C03 | Explain ideas of tree, minimal spanning tree, BFS and DFS methods, Kruskal’s, prim’s, Dijktras algorithm that will provide intense knowledge in networking problem and also in structure, circuit analysis. |
| CO4 | Students will be able to find the Laplace transform of a function by definition and by use of a table, find the inverse Laplace transform of a function. Could explain first and second translation theorems. Able to compute convolution of two functions and the transform of a convolution. they can analyse the transforms of derivatives and integrals and able to Solve linear differential equations with constant coefficients and unit step input functions using the Laplace transform. |

**PSO:**

**PSO1:**Ability to Identify, Formulate & Solve problems of basics of Electronics & Communication Engineering and to apply them to various areas like Analog& digital Circuits, Signal & systems, Communication, VLSI, Embedded System etc.

**PSO2:**Ability to design the systems of Electronics & Communication Engineering using advanced hardware and software tools with analytical skills to achieve the Soceital needs.

**PSO3:** Knowledge of social & environmental awareness along with ethical responsibility to achieve a successful career addresses the real world applications using optimal resources as an entrepreneur.

Mapping with CO with PSO

|  |  |  |  |
| --- | --- | --- | --- |
|  | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 2 | 3 |
| CO2 | 3 | 3 | 3 |
| CO3 | 3 | 2 | 3 |
| CO4 | 3 | 2 | 2 |
| AVG OF M201 | 3 | 2.25=2 | 2.75=3 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| COs | Class test (T1)  (30) | Slot test-1 (T2) (30) | Assignment  (T3) (30) | Slot test-2 (T4) (30) |
| CO1 | Q1,Q2, Q3 | Q1,Q2,Q3 | Q1 | - |
| CO2 | - | Q4,Q5,Q6 | Q2 | - |
| CO3 | Q4,Q5 | - | Q3 | Q1,Q2,Q3 |
| CO4 | - | - | Q4 | Q4,Q5,Q6 |

**CO attainment for a course ES 101:**

Target level 1: 60% students must score 60% and above

Target level 2: 70% students must score 60% and above

Target level 3: 80% students must score 60% and above

Total number of student for the batch 2015-2019 in 1st year=126

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course outcome | Avg. grading on scale of 3 | Distribution % | | |
| 3 | 2 | 1 |
| CO1 |  | 90/125=72% |  |  |
| CO2 |  | 100/125=80% |  |  |
| CO3 |  | 86/125=68.8% |  |  |
| CO4 |  | 78/125=62.5% |  |  |

|  |  |  |
| --- | --- | --- |
| CO and PO Scale | 3 | Strongly Related |
| 2 | Moderately Related |
| 1 | Low |

CO achieved if percentage (%) of students is greater than or equal to 60

|  |  |  |
| --- | --- | --- |
| Course outcomes | % of students achieved CO | CO result (achieved) (Y/N) |
| CO1 | 72% | Y |
| CO2 | 80% | Y |
| CO3 | 68.8% | Y |
| CO4 | 62.5% | Y |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CO** | **Statement** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| M201.1 | Construct the knowledge to solve differential equation(using various types of methods) arising in different Engineering branch and able to form mathematical & physical interpretation of its solution which play important role in all branches of Engineering. | 3 | 2 | 2 | 2 | - | - | - | - | 2 | - | - | 2 |
| M201.2 | The objective of the course is to introduce students with the fundamental concepts in graph Theory with a sense of some its modern applications. They will be able to use these methods in subsequent courses in the design and analysis of algorithms, computability theory, software engineering, computer systems and structure analysis. | 3 | 3 | 2 | 2 | - | - | - | - | 2 | - | - | 3 |
| M201.3 | Explain ideas of tree, minimal spanning tree, BFS and DFS methods, Kruskal’s, prim’s, Dijktras algorithm that will provide intense knowledge in networking problem and also in structure, circuit analysis. | 3 | 3 | 2 | 2 | - | - | - | - | 2 | - | - | 3 |
| M201.4 | Students will be able to find the Laplace transform of a function by definition and by use of a table, find the inverse Laplace transform of a function. Could explain first and second translation theorems. Able to compute convolution of two functions and the transform of a convolution. they can analyse the transforms of derivatives and integrals and able to Solve linear differential equations with constant coefficients and unit step input functions using the Laplace transform. | 3 | 3 | 2 | 2 | - | - | - | - | 2 | - | - | 2 |
| M201 | | 3 | 3 | 2 | 2 | - | - | - | - | 2 | - | - | 3 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
| M201 | 3 | 3 | 2 | 2 | - | - | - | - | 2 | - | - | 3 |

Result of attainment of POs (CIE)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course | COs | CO Attainment | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
| M201 | CO1 | 72% | 72% | 48% | 48% | 48% | - | - | - | - | 48% | - | - | 48% |
| CO2 | 80% | 80% | 80% | 53.33% | 53.33% | - | - | - | - | 53.33% | - | - | 80% |
| CO3 | 68.8% | 68.8% | 68.8% | 45.87% | 45.87% | - | - | - | - | 45.87% | - | - | 68.8% |
| CO4 | 62.5% | 62.5% | 62.5% | 41.67% | 41.67% | - | - | - | - | 41.67% | - | - | 41.67% |
| AVG of M201 |  |  | 70.82% | 64.82% | 47.22% | 47.22% | - | - | - | - | 47.2% | - | - | 59.6% |

Result of POs (SEE: Semester End Examination )

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SL No. | Course | % of students achieved >=60% | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
| 1 | M201 | 68.8% | 68.8% | 68.8% | 45.87% | 45.87% | - | - | - | - | 45.87% | - | - | 68.8% |

**CO-PSO mapping**

|  |  |  |  |
| --- | --- | --- | --- |
|  | PSO1 | PSO2 | PSO3 |
| CO1 | 3 | 2 | 3 |
| CO2 | 3 | 3 | 3 |
| CO3 | 3 | 2 | 3 |
| CO4 | 3 | 2 | 2 |
| AVG OF M 201 | 3 | 2.25=2 | 2.75=3 |

**Result of attainment of PSOs (CIE) ( NB : The following table to be generated considering mapping of COs with PSOs)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Course | COs | CO Attainment | PSO1 | PSO2 | PSO3 |
| M 201 | CO1 | 72% | 72% | 48% | 72% |
| CO2 | 80% | 80% | 80% | 80% |
| CO3 | 68.8% | 68.8% | 45.87% | 68.8% |
| CO4 | 62.5% | 62.5% | 41.67% | 41.67% |
| AVG of M201 |  |  | 70.8% | 53.88% | 65.62% |

**Result of attainment of PSOs (SEE: Semester End Examination) ( NB : The following table to be generated considering mapping of COs with PSOs)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SL No. | Course | % of students achieved >=60% | PSO1 | PSO2 | PSO3 |
| 1 | M201 | 68.8% | 68.8% | 45.87% | 68.8% |