**SUBJECT: DISCRETE MATHEMATICS – DSC201**

**2nd year – 1st Semester**

After going through this course the student got a thorough knowledge on

**COURSE OUTCOME:**

| CO. No. | COURSE OUTCOMES | BTLevel |
|---|---|---|
| **DSC201.1** | Ability to understand and construct precise mathematical proofs. | 1 |
| **DSC201.2** | Ability to use logic and set theory to formulate precise statements. | 5 |
| **DSC201.3** | Ability to analyze and solve counting problems on finite and discrete structures. | 4 |
| **DSC201.4** | Ability to describe and manipulate sequences. | 4 |
| **DSC201.5** | Ability to apply graph theory in solving computing problems. | 4 |

**MAPPING:**

| CO. No | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC201.1** | 2 | 3 | 3 | 3 | 1 | 1 | - | 2 | 2 | 3 | 2 | - | 2 | 3 | - |
| **DSC201.2** | 2 | 2 | 3 | 3 | 2 | 1 | 2 | 1 | 2 | - | 1 | 3 | 2 | 3 | 2 |
| **DSC201.3** | 2 | 2 | 3 | 3 | 3 | 1 | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 2 | 2 |
| **DSC201.4** | 1 | 3 | 3 | 3 | 3 | 1 | 3 | - | 2 | 1 | 2 | 1 | - | 1 | 1 |
| **DSC201.5** | 2 | 3 | 2 | 3 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 3 |
| **Average** | **1.8** | **2.6** | **2.8** | **3** | **2.2** | **1** | **1.4** | **1.2** | **2** | **1.4** | **1.4** | **1.8** | **1.2** | **2.2** | **1.6** |

## SUBJECT: DATA STRUCTURES (DSC202)

### 2nd year – 1st Semester

Upon completion of the course the students get an idea of:

**COURSE OUTCOME:**

| CO. No | COURSE OUTCOME | BT LEVEL |
|---|---|---|
| **DSC202.1** | Develop a program using linear data structures such as array and circular | 3 |
| **DSC202.2** | Develop a program for basic operations of Stack and its applications | 3 |
| **DSC202.3** | Construct a program using Non-linear data structures and their applications | 3 |
| **DSC202.4** | Construct a program using linear data structures for Linked Lists | 3 |
| **DSC202.5** | Ability to Implement searching and sorting algorithms | 3 |

**MAPPING**

| CO No. | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO10 | PO11 | PO1 2 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC202.1** | 3 | 2 | 1 | 1 | - | 2 | 1 | 2 | 1 | 3 | - | 1 | 3 | 2 | 3 |
| **DSC202.2** | 3 | 2 | 1 | 1 | 2 | - | 1 | -- | 1 | - | 2 | 1 | 3 | 3 | 3 |
| **DSC202.3** | 3 | 2 | 1 | 1 | - | 2 | - | 2 | 2 | 3 | 2 | 1 | 3 | 3 | 3 |
| **DSC202.4** | 3 | 2 | 1 | 1 | 2 | - | 1 | 1 | 2 | - | - | 1 | 2 | 3 | 3 |
| **DSC202.5** | 3 | 2 | 1 | 1 | 2 | 3 | 2 | 1 | - | 1 | 1 | 1 | 2 | 3 | 3 |
| **Average** | 3 | 2 | 1 | 1 | 1.2 | 1.4 | 1 | 1.2 | 1.2 | 1.4 | 1 | 1 | 2.6 | 2.8 | 3 |

## SUBJECT: MATHEMATICAL AND STATISTICAL FOUNDATIONS - DSC203

### 2nd year – 1st Semester

**COURSE OUTCOME:**

| CO. No. | COURSE OUTCOMES | BTLevel |
|---|---|---|
| **DSC203.1** | Apply the number theory concepts to cryptography domain | 4 |
| **DSC203.2** | Apply the concepts of probability and distributions to some case studies | 4 |
| **DSC203.3** | Correlate the material of one unit to the material in other units | 3 |
| **DSC203.4** | Resolve the potential misconceptions and hazards in each topic of study. | 3 |
| **DSC203.5** | Knownaboutthelogicfamiliesandrealizationoflogicgates. | 1 |

**MAPPING:**

| CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC203.1** | 2 | 2 | 3 | 3 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 2 | 2 |
| **DSC203.2** | 1 | 2 | 3 | 3 | 1 | 1 | 3 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 3 |
| **DSC203.3** | 2 | 2 | 3 | 3 | 3 | - | 2 | 2 | 2 | - | 2 | 1 | 2 | - | 2 |
| **DSC203.4** | 1 | 1 | 3 | 3 | 1 | 1 | - | 3 | 2 | 2 | 1 | 3 | 1 | 2 | - |
| **DSC203.5** | 1 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | 2 | 3 | 2 | 1 | 1 | 3 | 1 |
| **Average** | 1.4 | 2 | 2.8 | 3 | 1.6 | 0.8 | 1.6 | 1.6 | 2 | 1.4 | 1.4 | 1.6 | 1.4 | 1.8 | 1.6 |

## COURSE: PYTHON PROGRAMMING (DSC204)

### 2nd year – 1st Semester

Upon completion of the course the students get an idea of:

**COURSE OUTCOME:**

| CO. No. | Course Outcomes | BT Level |
|---|---|---|
| **DSC204.1** | Examine Python syntax and semantics and be fluent in the use of Python flow control and functions. | 2 |
| **DSC204.2** | Demonstrate proficiency in handling Strings and File Systems. | 2 |
| **DSC204.3** | Create, run and manipulate Python Programs using core data structures like Lists, Dictionaries and use Regular Expressions. | 4 |
| **DSC204.4** | Interpret the concepts of Object-Oriented Programming as used in Python. | 5 |
| **DSC204.5** | Implement exemplary applications related to Network programming, Web Services and Databases in Python. | 6 |

**MAPPING:**

| CO No. | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC204.1** | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 3 |
| **DSC204.2** | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 3 |
| **DSC204.3** | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 3 | 1 | 3 | 1 | 2 | 3 | 3 |
| **DSC204.4** | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 3 | 1 | 3 | 3 | 3 |
| **DSC204.5** | 3 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 |
| **Average** | 2.7 | 2.2 | 2 | 2 | 1.5 | 1.5 | 1 | 1 | 1.8 | 1 | 2.2 | 1 | 2.4 | 2.6 | 3 |

**Subject: Computer Organization & Architecture (**DSC205)
**2nd year – 1st Semester**

## COURSE OUTCOME:

Upon completion of the course the students get an idea of:

| S. No. | COURSE OUTCOMES | BT Level |
|---|---|---|
| **DSC205.1** | Understand the basics of instructions sets and their impact on processor design. | 5 |
| **DSC205.2** | Demonstrate an understanding of the design of the functional units of a digital computer system | 5 |
| **DSC205.3** | Evaluate cost performance and design trade-offs in designing and constructing a computer processor including memory | 2 |
| **DSC205.4** | Design a pipeline for consistent execution of instructions with minimum hazards | 1 |
| **DSC205.5** | Recognize and manipulate representations of numbers stored in digital computers | 5 |

## MAPPING

| CO. No. | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC205.1** | 3 | 3 | 3 | 1 | 2 | - | 2 | 2 | 1 | 2 | 1 | 2 | 3 | 3 | 3 |
| **DSC205.2** | 2 | 2 | 3 | 2 | 2 | 1 | 1 | 3 | 2 | - | 1 | 3 | 3 | 2 | 3 |
| **DSC205.3** | 3 | 3 | 3 | 2 | 2 | - | 1 | 2 | 2 | 1 | 1 | 3 | 2 | 3 | 3 |
| **DSC205.4** | 2 | 2 | 3 | 1 | 3 | 2 | - | 2 | 1 | - | 1 | 2 | 2 | 1 | 3 |
| **DSC205.5** | 3 | 3 | 3 | 2 | 1 | 1 | 2 | - | 2 | 1 | 1 | 3 | 3 | 3 | 3 |
| **Average** | 2.6 | 2.6 | 3 | 1.6 | 2 | 0.5 | 1.2 | 1.8 | 1.6 | 0.8 | 1 | 2.6 | 2.6 | 2.4 | 3 |

**Course: BUSINESS ECONOMICS AND FINANCIAL ANALYSIS (DSC206)**

**2nd year – 1st Semester**

Upon completion of the course the students get an idea of:

**COURSE OUTCOME:**

| Course Code | Course Outcomes | BT Levels |
|---|---|---|
| **DSC206.1** | The students will understand the various Forms of Business and the impact of economic variables on the Business. | 2 |
| **DSC206.2** | Understand the elasticity of the demand of the product, different types, and measurement of elasticity of demand and factors influencing on elasticity of demand and supply | 2 |
| **DSC206.3** | Recognize the Production function, features of Iso-Quants and Iso-Costs, Market Structure, Pricing aspects are learnt. | 1 |
| **DSC206.4** | The Students can study the firm's financial position by analyzing the Financial Statements of a Company. | 4 |
| **DSC206.5** | Evaluate different types of financial ratios knowing liquidity, solvency and profitability position of business. | 5 |

**MAPPING:**

| CO No. | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC206.1** | 1 | 2 | 2 | - | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 2 |
| **DSC206.2** | 1 | - | 2 | 2 | - | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 |
| **DSC206.3** | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 3 | - | 2 | 2 | 2 |
| **DSC206.4** | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 3 | - | 2 | 1 | 2 |
| **DSC206.5** | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 3 | 1 | - | 1 | 2 |
| **Average** | 1.6 | 1 | 1.4 | 1 | 1.2 | 1.4 | 1.6 | 1.4 | 2 | 1 | 2 | 1 | 1.4 | 1.6 | 2 |

## SUBJECT: DATA STRUCTURES LAB(DSC207)

### 2nd year – 1st Semester

Upon completion of the course the students get an idea of

**COURSE OUTCOME:**

| CO. No | Course Outcome | BT Levels |
|---|---|---|
| **DSC207.1** | Implement linear and non linear data structures using linked list. | 1 |
| **DSC207.2** | Apply various data structures such as stack, queue and tree to solve the Problems | 4 |
| **DSC207.3** | Implement various searching and sorting techniques | 1 |
| **DSC207.4** | Analyze the complexity of the algorithms | 3 |
| **DSC207.5** | Choose appropriate data structures while designing the applications | 2 |

**MAPPING**

| CO No. | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC207.1** | 2 | 2 | 3 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 3 | 2 | 1 | 2 | 2 |
| **DSC207.2** | 2 | 2 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 1 | 2 | 2 |
| **DSC207.3** | 3 | 2 | 3 | 1 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| **DSC207.4** | 3 | 2 | 1 | 2 | 1 | 1 | 3 | 2 | 3 | 1 | 1 | 2 | 2 | 2 | 2 |
| **DSC207.5** | 2 | 2 | | 1 | 3 | 1 | 1 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 2 |
| **Average** | **2.4** | **2** | **2** | **1.4** | **2** | **2** | **2.2** | **2** | **3** | **1.6** | **2.4** | **2.0** | **1.6** | **2** | **2.0** |

## SUBJECT:PYTHON PROGRAMMING LAB- DSC208

After going through this course the student got a thorough knowledge on

| COURSE CODE | COURSE OUTCOME | BT Level |
|---|---|---|
| **DSC208.1** | Students will be able to describe the number, math functions,strings,list, tuples and dictionaries in python. | 1 |
| **DSC208.2** | Students will be able to acquire the skills to apply different decision-making statements and functions in python. | 3 |
| **DSC208.3** | Students will be able to interpret object-oriented programming in python. | 5 |
| **DSC208.4** | Students will be able to develop skill to understand and summarize different file handling operations. | 6 |
| **DSC208.5** | Students will be able to demonstrate the ability to design GUI applications in python and evaluate different database operations. | 3 |

**MAPPING:**

| CO No. | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC208.1** | 3 | 2 | 2 | 3 | 3 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 3 | 2 |
| **DSC208.2** | 3 | 2 | 3 | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 3 | 3 | 3 |
| **DSC208.3** | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 3 |
| **DSC208.4** | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | - | - | 2 | 3 | 3 | 3 |
| **DSC208.5** | 3 | 2 | 3 | - | 3 | 3 | 2 | 2 | 2 | 3 | - | 2 | 3 | 3 | 3 |
| **Average** | 3 | 2 | 2.8 | 2 | 2.6 | 2.6 | 2.4 | 2 | 2.4 | 2.4 | 1.2 | 2 | 2.6 | 2.8 | 2.8 |

## SUBJECT: GENDER SENSITIZATION (DSC209)

### 2nd year – 1st Semester

Upon completion of the course the students get an idea of:

**COURSE OUTCOME:**

| CO. No. | CourseOutcome | BTlevel |
|---|---|---|
| **DSC209.1** | Apply the concepts of probability and distributions tosomecasestudies. | 3 |
| **DSC209.2** | Apply the concepts of continuousprobabilitydistributions. | 3 |
| **DSC209.3** | Assessthesamplingtheoryandmakinginferences. | 5 |
| **DSC209.4** | Correlate the material of one unit to the material inotherunits. | 2 |
| **DSC209.5** | Resolvethepotentialmisconceptionsandhazardsineachtopicof study. | 1 |

**MAPPING**

| CO. No. | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC209.1** | 3 | 2 | 3 | - | 3 | 1 | - | 1 | 1 | - | - | 2 | 2 | 1 | 3 |
| **DSC209.2** | 3 | 2 | 2 | 2 | - | - | 2 | - | 2 | 1 | - | 2 | 2 | 2 | 3 |
| **DSC209.3** | 3 | 2 | 3 | 1 | 2 | 2 | - | 2 | - | 2 | 3 | - | 1 | 2 | 3 |
| **DSC209.4** | 3 | 2 | 2 | - | 1 | - | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 3 |
| **DSC209.5** | 3 | 2 | 3 | 3 | 1 | 1 | 3 | 1 | 1 | - | 3 | - | 1 | 1 | 3 |
| **Average** | 3 | 2 | 2 | 1.2 | 1.4 | 0.8 | 1.2 | 1 | 1 | 1 | 1.4 | 1 | 1.6 | 1.6 | 3 |

**Subject: Formal Languages and Automata Theory (DSC210)**

**2nd year – 2ndSemester**

Upon completion of the course the students get an idea of:

**COURSE OUTCOME:**

| CO. No. | Course Outcomes | BT Levels |
|---|---|---|
| **DSC210.1** | Able to understand the concept of abstract machines and their power to recognize the languages. | 5 |
| **DSC210.2** | Able to employ finite state machines for modeling and solving computing problems. | 4 |
| **DSC210.3** | Able to design context free grammars for formal languages. | 1 |
| **DSC210.4** | Able to distinguish between decidability and undesirability. | 3 |
| **DSC210.5** | Able to gain proficiency with mathematical tools and formal methods. | 4 |

**MAPPING**

| CO. No. | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC210.1** | 3 | 3 | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 3 | 3 | 3 | 3 |
| **DSC210.2** | - | 3 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | - | 1 | 2 | 3 | 2 | 3 |
| **DSC210.3** | 2 | 2 | 1 | 2 | 2 | - | 1 | 1 | 2 | 1 | 1 | 2 | 3 | 2 | 3 |
| **DSC210.4** | 1 | 2 | 2 | 2 | 2 | 2 | - | 2 | 1 | - | 1 | 2 | 2 | 1 | 3 |
| **DSC210.5** | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 3 | 2 | 3 | 3 |
| **Average** | 1.6 | 2.4 | 1.6 | 1.8 | 1.8 | 1.2 | 1.4 | 1.4 | 1.6 | 0.8 | 1 | 2.4 | 2.6 | 2.2 | 3 |

**Subject: SOFTWARE ENGINEERING (DSC211)**

**2nd year – 2nd Semester**

Upon completion of the course the students get an idea of:

**COURSE OUTCOME:**

| Course Code | COURSE OUTCOMES | BT Level |
|---|---|---|
| **DSC211.1** | Outline the framework activities for a given project. | 1 |
| **DSC211.2** | Examine Right process model for a given project. | 2 |
| **DSC211.3** | Analyze various system models for a given Context | 3 |
| **DSC2114** | Understand various testing techniques for a given project. | 5 |
| **DSC211.5** | Identify various risks in project development. | 5 |

**MAPPING:**

| CO. No. | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC211.1** | 3 | 3 | 3 | 1 | 2 | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 3 | 3 | 3 |
| **DSC211.2** | 2 | 3 | 3 | 2 | 2 | 1 | 1 | 3 | 2 | 2 | 1 | 3 | 3 | 2 | 3 |
| **DSC211.3** | 2 | 3 | 3 | 2 | 2 | - | 1 | 2 | 2 | 1 | 1 | 3 | 2 | 3 | 3 |
| **DSC2114** | 2 | 2 | 3 | 3 | 3 | 2 | - | 2 | 2 | - | 1 | 2 | 2 | 2 | 3 |
| **DSC211.5** | 3 | 3 | 3 | 2 | 2 | 1 | 2 | - | 2 | 1 | 1 | 3 | 3 | 3 | 3 |
| **Average** | 2.8 | 2.8 | 3 | 2 | 2.2 | 1.4 | 1.2 | 1.8 | 1.8 | 0.8 | 1.2 | 2.6 | 2.6 | 2.6 | 3 |

**SUBJECT: OPERATING SYSTEM – DSC212**

**2nd year – 2nd Semester**

After going through this course the student gets a thorough knowledge on

| CO. No | COURSEOUTCOMES | BT Level |
|---|---|---|
| **DSC212.1** | UnderstandtheconceptsofOS,thebasicprinciplesusedinthedesignof modernoperatingsystemandprocess. | 2 |
| **DSC212.2** | Understand the concepts of threads and mechanisms for synchronization. | 2 |
| **DSC212.3** | Understandtheconceptsrelatedtodeadlockandmemorymanagement. | 2 |
| **DSC212.4** | Understandtheconceptsofvirtualmemorymanagement,filesystem. | 2 |
| **DSC212.5** | Understand the concepts of secondary storage structure, protection andcasestudyofLinuxoperating system. | 2 |

**MAPPING:**

| CO No. | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC212.1** | 1 | 2 | - | 2 | 2 | 1 | 3 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 3 |
| **DSC212.2** | 2 | 2 | 3 | 1 | 2 | 1 | 3 | 2 | 3 | 1 | 2 | 2 | 3 | 2 | 1 |
| **DSC212.3** | 2 | 1 | 2 | 3 | 2 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 |
| **DSC212.4** | 2 | 2 | 2 | 2 | 1 | 2 | 3 | 2 | 3 | 2 | 2 | 2 | 1 | 2 | 2 |
| **DSC212.5** | 1 | 1 | 2 | 2 | 1 | - | - | 1 | 2 | 2 | 3 | 2 | 1 | 2 | 3 |
| **Average** | **1.6** | **1.6** | **1.8** | **2** | **1.6** | **1.4** | **2.4** | **1.8** | **2.4** | **1.6** | **1.4** | **2** | **1.8** | **2** | 2 |

**SUBJECT: DATABASE MANAGEMENT SYSTEM- DSC213**

**2nd year – 2nd Semester**

After going through this course the student got a thorough knowledge on

**COURSE OUTCOME:**

| CO. No. | Course Outcomes | BT Levels |
|---|---|---|
| **DSC213.1** | Understand data models to design a database | 2 |
| **DSC2132** | Illustrate the conceptual design for Large enterprises | 2 |
| **DSC213.3** | Formulate SQL queries and integrity constraints over relations | 6 |
| **DSC213.4** | Apply normalization on database for eliminating redundancy | 3 |
| **DSC213.5** | Understand transaction properties, concurrency control and recovery techniques and Explain various data storage and security mechanisms | 2 |

**MAPPING:**

| CO. No. | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO1- | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC213.1** | 3 | 2 | 2 | 3 | 3 | 1 | 2 | 1 | 3 | 2 | 3 | 2 | 3 | 3 | 1 |
| **DSC2132** | 3 | 2 | 3 | 2 | 2 | 2 | | 2 | 1 | 2 | 3 | 2 | 1 | 3 | 1 |
| **DSC213.3** | 3 | 2 | 2 | 1 | 2 | 2 | 3 | 1 | 1 | 2 | 2 | 2 | 1 | 3 | 1 |
| **DSC213.4** | 3 | 2 | 3 | 1 | 3 | 1 | 3 | 2 | 3 | 2 | 1 | 3 | 2 | 2 | 1 |
| **DSC213.5** | 3 | 2 | 2 | 3 | 3 | | | 1 | 3 | 2 | 3 | 2 | 3 | 2 | 1 |
| **Average** | 3 | 2 | 2.4 | 2 | 2.6 | 1.2 | 1.6 | 1.4 | 2.2 | 2 | 2.4 | 2.2 | 2 | 2.6 | 1 |

## SUBJECT: JAVA PROGRAMMING - (DSC214)

### 2nd year – 2nd Semester

After going through this course the student gets a thorough knowledge on

**COURSE OUTCOME:**

| CO. No | COURSE OUTCOMES | BT Level |
|---|---|---|
| **DSC214.1** | Able to solve real world problems using OOP techniques | 3 |
| **DSC214.2** | Able to understand the use of abstract classes. | 2 |
| **DSC214.3** | Able to solve problems using java collection framework and I/o classes | 3 |
| **DSC214.4** | Able to develop multithreaded applications with synchronization. | 5 |
| **DSC214.5** | Able to develop applets for web applications, Able to design GUI based applications | 5 |

**MAPPING:**

| CO. No. | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC214.1** | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 1 | 1 | 1 |
| **DSC214.2** | 2 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 2 |
| **DSC214.3** | 3 | 3 | 2 | 2 | 3 | 2 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 |
| **DSC214.4** | 3 | 3 | 2 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 2 |
| **DSC214.5** | 2 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 1 | 1 | 1 |
| **Average** | **2.6** | **2.8** | **2** | **2** | **2.4** | **1.6** | **1** | **1.6** | **2.2** | **2** | **2** | **2.8** | **1.6** | **1.8** | **1.6** |

**SUBJECT: OPERATING SYSTEM LAB – DSC215**

**2nd year – 2nd Semester**

After going through this course the student got a thorough knowledge on

**COURSE OUTCOME:**

| CO. No. | COURSE OUTCOME | BT LEVEL |
|---|---|---|
| **DSC215.1** | Implement thebasiccommandofOSandwillexecutethevarioussystemcalls. | 3 |
| **DSC215.2** | Implement the process synchronizationproblemusingsemaphore. | 3 |
| **DSC215.3** | ImplementCPUschedulingalgorithmforprocess schedulinganddeadlockmanagement techniques. | 3 |
| **DSC215.4** | Implementmemorymanagementtechniques. | 3 |
| **DSC215.5** | Implementfilestorageallocationtechniques. | 3 |

**MAPPING:**

| CO. NO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PS03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC215.1** | 2 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 3 | 3 | 2 | 3 |
| **DSC215.2** | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 3 | 3 | 2 | 3 |
| **DSC215.3** | 2 | 3 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 3 | 3 | 2 | 3 |
| **DSC215.4** | 2 | 1 | 2 | 3 | 2 | 3 | 3 | 2 | 2 | 1 | 2 | 3 | 3 | 2 | 3 |
| **DSC215.5** | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 2 | 1 | 1 | 2 | 3 | 3 | 2 | 3 |
| **Average** | 2 | 2.2 | 2.4 | 2.8 | 2 | 2.2 | 2.2 | 1.8 | 1.4 | 1.6 | 1.6 | 3 | 3 | 2 | 3 |

**SUBJECT: DATABANE MANAGEMENT SYSTEMS LAB- DSC216**

**2nd year – 2nd Semester**

After going through this course the student got a thorough knowledge on

**COURSE OUTCOME:**

| Courses | COURSE OUTCOME | BT Levels |
|---|---|---|
| **DSC216.1** | Illustrate the basic DDL commands | 2 |
| **DSC216.2** | Illustrate DCL and DML commands. | 2 |
| **DSC216.3** | Demonstrate SQL queries using SQL operators. | 5 |
| **DSC216.4** | Explain the concept of relational algebra. | 1 |
| **DSC216.5** | Implement various queries using date and group functions and elaborate nested queries. Construct views, cursor and triggers. | 5 |

**MAPPING:**

| CO. No. | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PS03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC216.1** | 3 | 2 | 2 | 2 | 1 | 1 | 2 | 3 | 2 | 1 | 2 | 3 | 3 | 2 | 3 |
| **DSC216.2** | 3 | 3 | 3 | 2 | 3 | 2 | 1 | 3 | 2 | 2 | - | 2 | 3 | 2 | 3 |
| **DSC216.3** | 3 | 3 | 2 | 1 | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 3 |
| **DSC216.4** | 3 | 3 | 3 | 2 | 3 | 2 | 1 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 3 |
| **DSC216.5** | 3 | 3 | 3 | 1 | 3 | 1 | 1 | 2 | - | - | 1 | 1 | 2 | 2 | 3 |
| **AVG** | 3 | 2.8 | 2.6 | 1.6 | 2.6 | 1.6 | 1.4 | 2.4 | 1.2 | 1.2 | 1.4 | 1.8 | 2.4 | 2 | 3 |

**SUBJECT:JAVA PROGRAMMING LAB- DSC217**

**2nd year – 2nd Semester**

After going through this course the student got a thorough knowledge on

**COURSE OUTCOME:**

| CO. No. | COURSE OUTCOME | BT Level |
|---|---|---|
| **DSC217.1** | Able to write programs for solving real world problems using java collection frame work. | 2 |
| **DSC217.2** | Able to write programs using abstract classes. | 3 |
| **DSC217.3** | DevelopSimpleJavaProgramsusinginheritanceandException Handling. | 3 |
| **DSC217.4** | DevelopMulti-threadingProgrammingandInterfaces. | 6 |
| **DSC217.5** | DevelopGUIapplicationsusingAppletclasses,Swingcomponentsand Eventhandlingprograms. | 6 |

**MAPPING:**

| CO No. | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 | PO 12 | PSO 1 | PSO 2 | PSO 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DSC217.1** | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 3 | - | 3 | 2 | 3 | 2 |
| **DSC217.2** | 3 | 2 | 2 | 2 | 3 | 2 | 3 | 2 | 2 | 3 | 2 | 3 | 3 | 3 | 3 |
| **DSC217.3** | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 3 |
| **DSC217.4** | 2 | 3 | 3 | 1 | 3 | 2 | 2 | 2 | 3 | 1 | 1 | 3 | 3 | 3 | 3 |
| **DSC217.5** | 2 | 3 | 3 | 2 | 3 | - | - | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 |
| **Average** | 2.6 | 2.6 | 2.4 | 1..8 | 2.6 | 1.8 | 1.8 | 2 | 2 | 2.2 | 1.4 | 3 | 2.6 | 3 | 2.8 |