Sem-1

IS

- 1. Information Systems and Information Technology
- 2. Information Systems for Organization and Globalization
- 3. IS-Evolution to E-Commerce and M-Commerce
- 4. Electronic Business Systems
- 5. Specialized Systems and New Technologies
- 6. Information System Acquisition
- 7. Security, Ethical, Privacy and Other Challenges in IS

Course Content: (Main Topics, Sub topics)

Topic	Theory (Hrs)	Practical (Hrs.)
1. Information System Concepts and Technologies	6	3
2. Information Systems for Organizations and Globalization	6	4
3. Electronic and Mobile Commerce	6	3
4. Electronic Business Systems	8	4
5. Specialized Systems and New Technologies	5	3
6. Information system Acquisition	8	4
7. Security, Ethical, Privacy and Other Challenge	6	9
Total	45	30

CS

- 1. Computer Technology Evolution
- 2. Data Representation and Arithmetic
- 3. Boolean Algebra and Circuit Design
- 4. Combinational and Sequential Logic Circuit
- 5. CPU Organization and Instruction Set Architecture
- 6. Input and Output Devices
- 7. Memory and Storage Devices
- 8. Expansion Cards and System Interfaces
- 9. System Software and Utilities
- 10. Introduction to Computer Networks
- 11. System Maintenance and Troubleshooting

Course Content: (Main Topics, Sub topics)

Topics	Theory (Hrs.)	Practical (Hrs.)
1. Introduction	2	0
2. Data Representation and Arithmetic	5	3
3. Boolean Algebra and Circuit Design	5	3
4. Combinational and Sequential Logic Circuits	4	3
5. CPU Organization and Instruction Set Architecture (ISA)	5	4
6. Input and Output Devices	4	2
7. Volatile and Non-Volatile Storage	5	3
8. Expansion Cards and System Interfaces	5	3
9. System Software and Utilities	4	3
10. Introduction to Networks	2	2
11. System Maintenance and Troubleshooting	4	4
Total	**45**	**30**

IP

- 1. Java Programming Environment
- 2. Architecture of a Java Program
- 3. Data Types, Literals, Variables and Arrays
- 4. Operators
- 5. Control Structures
- 6. Object Oriented Programming
- 7. Program Designing
- 8. Console and GUI Application Development
- 9. Streams and Database Connectivity

Course Content: (Main Topics, Sub topics)

Topic	Theory (Hrs)	Practical (Hrs.)
1. History and Evolution of Java	1	-
2. Interacting with Java Programming environment	1	1
3. Fundamentals of Java Programming	9	7
4. Computer program design	2	1
5. Object Orientation	8	4
6. Packages and interfaces	2	1
7. Exception handling	3	2
8. Enumerations, Auto boxing and annotations (Meta data)	2	1
9. Understanding generics	1	1
10. Overview of some classes of the Java library	16	12
Total	45	30

PC

- 1. Free and Open Source Software
- 2. FOSS - Operating System - Ubuntu
- 3. Word Processing with LibreOffice - Writer
- 4. Spreadsheet Calculation with LibreOffice - Calc
- 5. Database Processing with LibreOffice - Base
- 6. Presentation with LibreOffice - Impress
- 7. Image Processing with GIMP

Outline of the Syllabus

Topics	Lecture Hours	Practical Hours
1. Introduction to FOSS -Free and Open source Software	01	01
2. Managing Files and Folders in a FOSS Operating System	02	04
3. Word Processing for Electronic Documentation	07	07
4. Spreadsheet for Calculation	07	07
5. Databases for Processing Data	05	04
6. Presentations for Effective Communications	04	03
7. Multimedia Content Development	04	04
Total	**30**	**30**

IM

- 1. Numbers and Arithmetic Operations
- 2. Basic Algebra
- 3. Solving Equations and Inequalities
- 4. Fundamentals of Measurements
- 5. Percentages and Ratios
- 6. Fundamentals of Sequence and Series
- 7. Indices and Logarithms
- 8. Modular Arithmetic

Course Content: (Main Topics, Sub topics)

Topic	Theory (Hrs)	Practical (Hrs.)
1. Numbers and Arithmetic Operations	3	0
2. Basic Algebra	4	0
3. Solving Equations and Inequalities	4	0
4. Fundamentals of Measurements	4	0
5. Percentages and Ratios	3	0
6. Fundamentals of Sequences and Series	5	0
7. Indices and logarithms	3	0
8. Modular Arithmetic	4	0
Total	30	0

Sem-2

MC

- 1. Sets
- 2. Logic
- 3. Relations and Functions
- 4. Boolean Algebra
- 5. Techniques of Counting
- 6. Probability

Course Content: (Main Topics, Sub topics)

Topic	Theory (Hrs)	Practical (Hrs.)
1. Sets	06	-
2. Logic	12	-
3. Relations and Functions	06	-
4. Boolean Algebra	03	-
5. Techniques of Counting	06	-
6. Probability	12	-
Total	**45**	-

WD

- 1. Internet & Internet Application
- 2. HTML
- 3. CSS
- 4. Bootstrap
- 5. JavaScript
- 6. XML
- 7. MEAN
- 8. Execute Duties of Web Administrator

	Topic	Theory (Hrs.)	Practical (Hrs.)
1	Web page design with HTML	10	6
2	Cascading Style Sheets (CSS)	8	6
3	Client-side programming with JavaScript	10	6
4	Fundamentals of XML	4	2
5	Introduction to Bootstrap	4	2
6	Introduction to MEAN	9	8
Total		45	30

SE

- 1. Introduction to Software Engineering
- 2. Software Development Process
- 3. Agile Software Development
- 4. System Modelling
- 5. Architectural Design
- 6. Requirement Engineering
- 7. Design
- 8. Coding
- 9. Testing
- 10. Evolution

Course Content: (Main Topics, Sub topics)

Topic	Theory (Hrs)	Practical (Hrs.)
1. Introduction	5	2
2. Software Processes	6	4
3. Agile Software Development	3	2
4. Requirement Engineering	7	6
5. System Modeling	6	4
6. Architectural Design	6	4
7. Design and Implementation	3	2
8. Software Testing	6	4
9. Software Evolution	3	2
Total	45	30

DB

- 1. Introduction to Database Systems
- 2. Database Definition with DDL
- 3. Database Manipulation with DML
- 4. Database Controlling with DCL
- 5. Relational Algebra
- 6. Database Design Process
- 7. Normalization
- 8. Execute Duties of a DBA

Course Content: (Main Topics, Sub topics)

Topic	Theory (Hrs)	Practical (Hrs.)
1. Introduction to DBMS	04	-
2. Relational Data Model	03	01
3. Database design process	10	05
4. Relational Algebra	04	04
5. Data Manipulation using SQL	13	10
6. Data Security	07	05
7. Data normalization process and the normal forms	04	05
Total	45	30

CS

Course Content: (Main Topics, Sub topics)

Topic	Theory (Hrs)	Practical (Hrs.)
1. Writing and Typing	1	1
2. Mechanics of Writing	2	4
3. Writing for a Purpose	3	6
4. Listening for a Purpose	1	2
5. Small Talk and General Communication Skills	2	4
6. Presentations and Public Speaking	2	5
7. Reading for a Purpose	2	3
8. Summarizing and Paraphrasing	2	5
Total	15	30