COURSE TITLE : COMPUTING FUNDAMENTALS (PRACTICAL)

COURSE CODE : 1008 COURSE CATEGORY : C

PERIODS/WEEK : 5 (2 THEORY+ 3 PRACTICAL)

PERIODS/SEMESTER : 75 CREDITS : 4

# **TIME SCHEDULE**

| MODULE | TOPICS  | PERIODS |
|--------|---|---------|
| 1      | Computer Fundamentals – Hardware and Software | 14      |
| 2      | Office Automation Tools                       | 14      |
| 3      | Basic Programming Concepts                    | 22      |
| 4      | Introduction to programming using python      | 25      |
|        | Total   | 75      |

# **COURSE OUTCOME:**

# On completion of the course the student will be able :

- o Understand Computer Fundamentals hardware and Software
- o Understand computer networks
- o Study Office automation tools
- o Email and search engines
- o Basic Programming Concepts
- o Introduction to programming in Python

#### **SPECIFIC OUTCOME**

# MODULE - I TO UNDERSTAND THE COMPUTER FUNDAMENTALS – HARDWARE AND SOFTWARE

- 1.1.1 Identify computer hardware and software (in the lab)
- 1.1.2 Draw and explain the block diagram of computer system
- 1.1.3 Demonstrate various peripherals and their applications.
- 1.1.4 Demonstrate the usage of various storage devices (data copying, CD/DVD burning)
- 1.1.5 Illustrate the booting procedure (using windows and linux)
- 1.1.6 Identify various operating system file management commands (create, copy, move, delete and rename folders and files)
- 1.1.7 Demonstrate installation of application software (in windows and linux)
- 1.1.8 Identify various computer languages
- 1.1.9 Differentiate the compiler and interpreters
- 1.1.10 State computer networks and internet.

#### **MODULE - II TO APPLY OFFICE AUTOMATION TOOLS**

- 2.1.1 Demonstrate how a document to be prepared and formatted
- 2.1.2 Demonstrate how a spread sheet to be prepared and calculations are performed
- 2.1.3 Demonstrate how presentations are prepared.
- 2.1.4 Demonstrate how to create email-id and uploading and downloading files.

### **MODULE - III TO UNDERSTAND BASIC PROGRAMMING CONCEPTS**

- 3.1.1 Identify various problem solving steps
- 3.1.2 Design algorithm and flowchart for simple sequential problems.
- 3.1.3 Design algorithm and flowchart for control structures (decision making and iterative)

#### **MODULE - IV TO DEVELOP PROGRAMS USING PYTHON**

- 4.1.1 Demonstrate output functions and input function for a simple application
- 4.1.2 Modify the applications with inserting control logic (if, else, elif)
- 4.1.3 Modify the applications with inserting looping control(while, for)
- 4.1.4 Write programs for a simple total/average mark calculation and calculation of grade based on boundary conditions.

# **CONTENT DETAILS**

### **List of Experiments:**

- 1. Identify the internal and external hardware/peripheral components
- 2. Familiarisation with operating system along with file management commands like create, copy, move, delete and rename files and folders.
- 3. Prepare and print Bio-data with a covering letter using word processor.
- 4. Calculation of Total mark, grade based on boundary conditions for n number of students using Spread sheet.
- 5. Experiments for burning the contents in to optical disks.
- 6. Preparation of presentation (with transition and animations , insertion of scanned images and internet contents )
- 7. Email id creation, sending and receiving of email with attachments.
- 8. Programs to calculate average of 3 numbers, area of triangle, volume of cylinder, Temperature conversion.
- 9. Largest of 3 numbers, Check whether even or odd, Roots of quadratic equation, Character name of the day.
- 10. Print natural numbers, Factorial value, Multiplication table, Sum of digits, Sum of a set of numbers, calculation of grade based on boundary conditions

#### Text Book(s):

1. Rajaraman V. - Fundamentals of Computers - PHI

#### References:

1. Mrs. Chetna Shah & Mr. Kalpesh Patel - Open Office

Hardware Requirement : Desk Top Computer

Operating System.