MARIS STELLA COLLEGE (AUTONOMOUS), VIJAYAWADA-8
Affiliated to Krishna University, Machilipatnam

SYLLABUS

Subject: Computer Science   Semester: I
Course Title: Problem Solving   Course Code: COMPC053
                Using Computers   Credits: 3

Unit – I (10 Hrs)

Computer Fundamentals: Introduction to Computers: Characteristics of Computers, Uses of computers, Types of computers and generations of Computers. Basic Computer Organization - Units of a computer, CPU, ALU, memory hierarchy, cache memory, registers.

Unit - II (10 Hrs)

Input Devices: Keyboard devices, point – and –draw devices, data scanning devices, digitizer.

Output Devices: Monitor, printers, plotters and screen image projector.

Planning the Computer Program: Purpose of program planning, algorithm – What is an algorithm, sample algorithms, representations of algorithms.

Flow Charts: What is a flow chart? Why use flow chart, flow chart symbols.

System Implementation: Testing and Debugging – definition of testing and debugging, types of program errors, documentation.

Unit – III (8 Hrs)

Introduction to Python: The Python programming language, History of Python, features of Python, Comments, keywords, Types, Names (Variables), Operators (Arithmetic operator, Relational operator, Logical or Boolean operator, Assignment, Operator, Bit wise operator, Increment or Decrement operator), Functions, Print Statement, Input from the User, Indexing (Slicing).

Unit – IV (8 Hrs)

Creating Python Programs: Input and Output Statements, Control statements (Looping- while Loop, for Loop, Loop Control, Conditional Statement- if...else, Difference between break, continue and pass).

Unit - V (10 Hrs)

Structures: Numbers, Strings, Lists, Tuples, Dictionary, Date & Time, Modules, Defining Functions, Exit function, default arguments.

Introduction to Advanced Python: Objects and Classes, Inheritance, Regular Expressions, Event Driven Programming, GUI Programming.

Prescribed Text Books:

1. P. K. Sinha & Priti Sinha , "Computer Fundamentals", BPB Publications, 2007.
2. Dr. Anita Goel, Computer Fundamentals, Pearson Education, 2010.
3. T. Budd, Exploring Python, TMH, 1st Ed, 2011
4. Python Tutorial/Documentation www.python.or 2010
5. Allen Downey, Jeffrey Elkner, Chris Meyers , How to think like a computer scientist : learning with Python , Freely available online.2012

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MODEL QUESTION PAPER

Subject: Computer Science   Semester: I
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       Using Computers
Max. Marks: 100   Time: 3Hrs

SECTION - A

Answer **all** the questions   10X3=30M

1. List out the characteristics of Computers.
2. Write about the uses of Computers.
3. Define the term "Documentation".
4. Define Algorithm.
5. Write a short note on Interpreter.
6. Write a short note on Elements of Python.
7. Write a short note on Exit Function in Python.
8. Define String.
9. Define Class.
10. Define GUI.

SECTION - B

Answer **all** the questions   5X14=70M

11. a. Explain in detail about Generations of Computers.

(OR)

  b. Explain about Input and Output Devices.

12. a .What is Debugging? Explain about Types of Errors in Programming?

(OR)

  b. Explain about Top-Down and Bottom Up Programming in Python.

13. a. Explain about Structure of a Python Programming.

(OR)

b. Explain in detail about Operators in Python.

14. a. Explain in detail about Control Statements in Python.

(OR)

b. (i) Write a short note on Stings and Lists.

  (ii) Write a short note on Functions in Python.

15. a. Explain in detail about Inheritance in Python.

(OR)

b. Explain in detail about Event Driven Programming in Python.

BLUE PRINT

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Max. Marks: 100 Time: 3Hrs

SECTION – A

Answer **all** questions: 10X3=30M

Question No.	Unit	Marks Weightage
1.	I	3
2.	I	3
3.	II	3
4.	II	3
5.	III	3
6.	III	3
7.	IV	3
8.	IV	3
9.	V	3
10.	V	3

SECTION – B

Answer **all** questions: 5X14=70M

Question No.	Unit	Marks Weightage
11(a) OR 11(b)	I	14
12(a) OR 12(b).	II	14
13(a) OR 13(b).	III	14
14(a) OR 14(b).	IV	14
15(a) OR 15(b).	V	14