**Weekly Lesson Plan of the 3rd semester(Python Programming)**

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| **Name of the faculty:** | Ms. Manisha |
| **Designation:** | Assistant Professor |
| **Discipline:** | Computer Science and Engg. |
| **Semester:** | 3rdsem |
| **Subject:** | **Python Programming** |
| **Subject Code:** | PCC-CSE-207G |
| **Lesson Plan duration:** | 15 weeks |
| **Work Load per week in hours:** | Lectures- 03 |

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| **Week** | **Topic (Including Assignment/Test)** |
| 1 | Installing Python basic syntax |
| interactive shell, editing, saving, and running a script |
| data types |
| 2 | variables, assignments |
| numerical types |
| arithmetic operators and expressions |
| 3 | Loops and selection statements; text files |
| Control statementsString manipulations |
| subscript operator |
| 4 | indexing, slicing a string |
| reading/writing text and numbers from/to a file |
|  | creating and reading a formatted file |
|  | Unit 2 |
| 5 | Lists, dictionary and Design with functions |
| Basic list operators, replacing, inserting, removing an element |
| searching and sorting lists |
| 6 | Dictionary literals, adding, and removing keys, accessing and replacing values, traversing dictionaries,**Assignment** |
| Hiding redundancy, complexity,arguments and return values |
| Program structure and design, Recursive functions. |
|  | Unit 3 |
| 7 | Simple graphics and image processing:, |
| Manipulating turtle screen, Drawing two dimensional shapes, examining an object attributes |
| Turtle operations, Taking a random walk, Color and RGB scheme,**Test** |
| 8 | Image processing, Image manipulation operations, properties of images |
| image module, copying, blurring and reducing image,**Assignment** |
|  | Graphical User Interfaces: Terminal based and GUI based programs |
| 9 | Simple GUI-Based Programs |
| Simple graphicsWindows and Window Components, Input and Output with Entry Fields |
| Defining and Using Instance Variables, Other Useful GUI Resources. |
|  | Unit 4 |
| 10 | Classes and OOP : classes, objects, attributes and methods |
| defining classes |
| design with classes |
| 11 | Data modelling |
| Persistent storage of objects |
| Inheritance,**Test** |
| 12 | Polymorphism |
| Operator overloading |
| Abstract classes |
| 13 | Exception handling, try block. Multithreading |
| Threads and Processes,Sleeping, **Assignment** |
| Threads,Producer, |
| 14 | Consumer andSynchronization |
| The Readers and Writers Problem, |
| SharedCell Class,**Test** |
| 15 | Thread-Safe Class |
| **Revision** |
| **Revision** |