RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

Credit Based Grading System

Computer Science & Engineering, IV-Semester

CS-4006 Computer Programming –II (b) (Python)

Introduction: Basic syntax, Literal Constants, Numbers, Variable and Basic data types, String, Escape Sequences, Operators and Expressions, Evaluation Order, Indentation, Input Output, Functions, Comments.

Data Structure: List, Tuples, Dictionary and Sets.

Control Flow: Conditional Statements - If, If-else, Nested If-else. Iterative Statement - For, While, Nested Loops. Control statements - Break, Continue, Pass.

Object oriented programming: Class and Object, Attributes, Methods, Scopes and Namespaces, Inheritance, Overloading, Overriding, Data hiding.

Exception: Exception Handling, Except clause, Try finally clause, User Defined Exceptions.

Modules and Packages

Standard Libraries: File I/0, Sys, logging, Regular expression, Date and Time, Network programming, multi-processing and multi-threading.

References

- Timothy A. Budd: Exploring python, McGraw-Hill Education.
- R.Nageshwar Rao ,"Python Programming" ,Wiley India
- Think Python: Allen B. Downey, O'Reilly Media, Inc.

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

Credit Based Grading System

Computer Science & Engineering, IV-Semester

CS-4006 Computer Programming –II (c) (MATLAB)

MATLAB: An Overview, Brief history of MATLAB, About MATLAB, Installation of MATLAB, Help browser, Arranging the desktop, Basic functions of Matlab, Mostly used symbols in MATLAB, debugging in Matlab; Building MATLAB expressions: MATLAB datatype, command handling, MATLAB basics.

MATLAB Vector and Matrix: Scalar and vector, elementary features in a vector array, matrices, eigen values and eigen vectors, matrix operations, matrix operators, creating matrix arrangement, indexing array value, other operations, mathematical operations on array, array types

Graphics in MATLAB: 2D plots, parametric plots, contour lines and implicit plots, field plots, multiple graphics display function, 3D plots, multivariate data, data analysis.

MATLAB programming introduction to M-files,MATLAB editors, M files, scripts, functions, MATLAB error and correction, MATLAB debugger; Digital Image Processing with MATLAB (Image Processing).

MATLAB in neural networks: About neural networks, Human and artificial neuron, Architecture of neural networks (feed-forward, feedback, network layers), The McCuulloch- Pitts Model of Neuron, The Perceptron, Transfer function, neural network toolbox, Actual model, applications of neural network.

REFERENCES:

1.S. Swapna Kumar, S V B Lenina: MATLAB – Esay way of learning, PHI Learning, 2016
2.Amos Gilat ," An Introduction with Applications ,4ed " , wiley India