Academic Year: 2021-22
Skill Oriented Course-I

S.No.	Sem & Section	Title	Date (From -to)
1.	III SEM CST	Data Science with Python	17/01/2022 to 22/01/2022
2.	III SEM Lateral Entry Students	Python Programming	24/01/2022 to 29/01/2022

Skill Oriented Course-II

S.No.	Sem & Section	Title	Date (From -to)
1.	IV SEM CST	AWS-Cloud Computing	02/05/2022 to 07/05/2022

Skill Oriented Course-I

S.No.	Sem & Section	Title	Date (From -to)
1.	III SEM CST	Data Science with Python	17/01/2022 to 22/01/2022
2.	III SEM Lateral Entry Students	Python Programming	24/01/2022 to 29/01/2022

Syllabus

Data Science With Python

Course Outcomes: After successful completion of the course student will be able to learn:

CO1: Describe fundamentals of python.   [K2]
CO2: Discuss data mining techniques.   [K2]
CO3: Explain python libraries.   [K2]
CO4: Demonstrate machine learning and deep learning techniques.   [K3]

Topics Covered:

Exercise 1: Introduction to python
Exercise 2: Python Basics
Exercise 3: Introduction to Data Science
Exercise 4: Types of Data
Exercise 5: Learning Path – Data Science
Exercise 6: Data Science Life Cycle
  6.1: Business Understanding
  6.2: Data Mining
  6.3: Data Cleaning
  6.4: Data Exploration
  6.5: Feature Engineering
  6.6: predictive Modelling
  6.7: Data Visualization
Exercise 7: Installing of Vscode and Extensions
Exercise 8: Installing of python
Exercise 9: Introduction to Python Libraries
  9.1: Installing of NumPy, matplotlib, seaborn, Pandas, jupyter notebook
  9.2: Applications of Libraries
  9.3: Importance of jupyter notebook
Exercise 10: Introduction to Machine Learning and Deep Learning

Python Programming

Course Outcomes: After successful completion of the course student will be able to learn:

    CO1: Discuss fundamentals of python.   [K2]
    CO2: Describe about control structures in python.   [K2]
    CO3: illustrate functions implementation.   [K3]
    CO4: Discuss file handling.   [K2]

Topics Covered:

- Introduction to Python

- Control Structures

- Structured Data Types

- Functions& modules

- Files & Exception Handling

Skill Oriented Course-II

S.No.	Sem & Section	Title	Date (From -to)
2. 1	IV SEM CST	AWS-Cloud Computing	02/05/2022 to 07/05/2022

AWS-Cloud Computing

Course Outcomes: After successful completion of the course student will be able to learn:

 CO1: Discuss architecture of AWS.   [K2]

 CO2: Illustrate VPC.   [K3]

 CO3: Describe storage concepts.   [K2]

 CO4: Explain database connectivity.   [K2]

Topics Covered:

Exercise 1. Introduction to Cloud Computing & Account Registration in AWS

Exercise 2. AWS Global Architecture

Exercise 3. Demo on Servers, How to launch instances(Servers) in Cloud.

Exercise 4. AWS Security Groups

Exercise 5. AMIs and Volumes in AWS

Exercise 6. To Configure Amazon Virtual Private Cloud (VPC)

 6.1. To Create your own VPC

 6.2. To Create public subnet

 6.3. To Create private subnet

 6.4. Create an Internet gateway and attach to your VPC

 6.5. Create a Public Routing Table, associate subnet and add routing rules

 6.6. Create Private Routing Table, associate subnet and add routing rules

 6.7. To Connect to Public subnet instance

 6.8. To Connect to Private subnet instance

 6.9. To Connect linux instance in private subnet

 6.10. To Connect linux instance in public subnet

Exercise 7. VPC Peering

Exercise 8. NAT Gateway

Exercise 9. To Assign Elastic IP address

Exercise 10. Application Deployment in Cloud using EC2

Exercise 11. Load balancer concepts on Cloud

Exercise 12. Storage Concepts

 12.1. EC2 Store

 12.1.1. Instance Store

 12.1.2. EBS(Elastic Block Store)

 12.2. S3(Simple Storage Service)

 12.3. NFS/EFS

 12.4. Glacier

Exercise 13. Static Website Hosting using WINSCP-Tool

Exercise 14. Database creation using RDS