SEMESTER - VII

PCC-DS701: Artificial Intelligence

Course Outcomes:

- CO1: Evaluate Artificial Intelligence (AI) methods and describe their foundations.
- CO2: Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation and learning.
- CO3: Demonstrate knowledge of reasoning and knowledge representation for solving real world problems.
- CO4: Analyze and illustrate how search algorithms play vital role in problem solving.
- CO5: Illustrate the construction of learning and expert system.
- CO6: Discuss current scope and limitations of AI and societal implications.

PCC-DS702: R Programming

Course Outcomes:

- CO1: Demonstration and implement of basic R programming framework and data structures.
- CO2: Explain critical R programming language concepts such as control structures and recursion.
- CO3: Applying mathematical and statistical operations data structures in R.
- CO4: Examine data-sets to create testable hypotheses and identify appropriate statistical tests.

PCC-DS703: Advanced Database Systems

Course Outcomes:

- CO1: Understand and identify issues arising from parallel and distributed processing of data.
- CO2: Select appropriate database and construct solution to real world problems of storing large data.
- CO3: Compare and Contrast NoSQL databases with each other and Relational Database Systems.
- CO4: Make use of SQL cursors, triggers, stored procedures, and procedural SQL to write complex SQL scripts.
- CO5: Learn database administration tasks and security measures.

PCE-DS704: Elective-I: Information Retrieval System

Course Outcomes:

- CO1: Demonstrate genesis and diversity of information retrieval situations for text and hyper media.
- CO2: Describe different techniques to retrieve information from www using semantic approaches.
- CO3: Demonstrate the usage of different data/file structures in building computational search engines.
- CO4: Analyze the performance of information retrieval using advanced techniques such as classification, clustering, and filtering over multimedia.
- CO5: Analyze ranked retrieval of a very large number of documents with hyperlinks between them.

PCE-DS705: Elective-I: Blockchain Technologies

Course Outcomes:

- CO1: Explain design principles of Bitcoin and Ethereum.

- CO2: Explain Nakamoto consensus.
- CO3: Explain the Simplified Payment Verification protocol.
- CO4: List and describe differences between proof-of-work and proof-of-stake consensus.
- CO5: Interact with a blockchain system by sending and reading transactions.
- CO6: Design, build, and deploy a distributed application.

PCE-DS706: Elective-I: Natural Language Processing

Course Outcomes:

- CO1: Acquire the knowledge of fundamental mathematical models and algorithms in the fields of NLP.
- CO2: Apply these mathematical models and algorithms in application in software design and implementation for NLP.
- CO3: Apply deep learning models to solve machine translation and conversation problems.
- CO4: Apply deep structured semantic models on information retrieval and natural language applications.

PCC-DS707: Deep Learning

Course Outcomes:

- CO1: Describe basic concepts of artificial intelligence and deep learning.
- CO2: Develop different deep learning models for given tasks.
- CO3: Devise the correct parameters and hyper-parameters of developed model for getting improved results.

PW-DS708: Project - I

Course Outcomes:

- CO1: Explain the need of a software project for the society.
- CO2: Identify requirement analysis like functional and technical requirements for the project.
- CO3: Come up with design documents for the project consisting of Architecture, Dataflow diagram, Class Diagram, Algorithmic descriptions of various modules, collaboration diagram, ER Diagrams, Database Design Documents, Sequence Diagram, Use Case Diagram.
- CO4: Able to demonstrate analysis and design.
- CO5: Prepare the technical report consisting of Requirement specification, Analysis and Design of Project.

SI-DS709: Internship

Course Outcomes:

- CO1: Have an exposure to industrial practices and to work in teams.
- CO2: Communicate effectively.
- CO3: Understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- CO4: Develop the ability to engage in research and to involve in life-long learning.
- CO5: Comprehend contemporary issues.
- CO6: Engage in establishing his/her digital footprint.

SEMESTER - VIII

PCC-DS801: Big Data Analytics

Course Outcomes:

- CO1: Analyze several key technologies used in manipulating, storing, and analyzing big data.
- CO2: Acquire clear understanding of R & Hadoop.
- CO3: Acquire clear understanding of Integrating R & Hadoop and Acquire clear understanding of Hadoop Streaming and its importance.
- CO4: Manage Big Data and analyze Big Data.
- CO5: Apply tools and techniques to analyze Big Data.

PCC-DS802: Data Visualization

Course Outcomes:

- CO1: Explain principles of visual perception.
- CO2: Apply core skills for visual analysis.
- CO3: Apply visualization techniques for various data analysis tasks.
- CO4: Apply different tools and techniques for acquiring data.

PCE-DS803: Elective-II: Project Management

Course Outcomes:

- CO1: Understand project characteristics and various stages of a project.
- CO2: Understand the conceptual clarity about project organization and feasibility analyses.
- CO3: Analyze the learning and understand techniques for Project planning, project risk, scheduling and Execution.
- CO4: Resolve IT related crises using project management.
- CO5: Manage the phases and infrastructure of IT projects.
- CO6: Describe fundamental concepts of agile methodology and agile development practices.

PCE-DS804: Elective-II: Cyber Laws and Ethical Hacking

Course Outcomes:

- CO1: Understand fundamentals of cyber space.
- CO2: Understand IT act 2000 and its details.
- CO3: Describe electronics governance and Indian Evidence Law.
- CO4: Implement Intrusion Detection, Policy Creation, Social Engineering.

PCE-DS805: Elective-II: Augmented Reality and Virtual Reality

Course Outcomes:

- CO1: Understand fundamental Computer Vision, Computer Graphics and Human-Computer Interaction Techniques related to VR/AR.
- CO2: Understand Geometric Modelling Techniques.
- CO3: Understand the Virtual Environment.
- CO4: Analyse VR/AR Technologies.
- CO5: Apply various types of Hardware and Software in Virtual Reality systems.

PCE-DS806: Elective-III: Distributed and Cloud Computing

Course Outcomes:

- CO1: Explain the principles underlying the functioning of distributed systems.
- CO2: Apply the algorithms used in distributed system & visualize their working.
- CO3: Explain Cloud Infrastructure and their Components.
- CO4: Make use of different virtualization techniques.
- CO5: Explain various cloud computing services and data security aspects in cloud.

PCE-DS807: Elective-III: Software Testing and Quality Assurance

Course Outcomes:

- CO1: Understand fundamental component of software life cycle.
- CO2: Apply and use the modern software testing tools.
- CO3: Compare and analyze the web and desktop application testing.
- CO4: Explore newer software project assessment methods.

PCE-DS808: Elective-III: High Performance Computing

Course Outcomes:

- CO1: To introduce the current trends in computer architecture and programming model.
- CO2: To explain Parallel Hardware and Parallel Software.
- CO3: To apply and use Distributed-Memory Programming with MPI.
- CO4: To apply and use Shared-Memory Programming with Pthreads.
- CO5: To apply and use Shared-Memory Programming with OpenMP.
- CO6: Program parallel architectures.

PCC-DS809: Web Technology

Course Outcomes:

- CO1: Apply knowledge of client side scripting.
- CO2: Develop web application using PHP.
- CO3: Design web application using MVC and Angular JS.
- CO4: Demonstrate use of server side technologies.
- CO5: Explore newer tools for web development.

PW-DS810: Project - II

Course Outcomes:

- CO1: Design and develop usable User Interface.
- CO2: Analyze and apply emerging technologies in development of a project.
- CO3: Test the modules in Project.
- CO4: Demonstrate working of project.

HM-DS811: Professional Skills

Course Outcomes:

- CO1: Recognize own strengths and opportunities.
- CO2: Apply the life skills to different situations.
- CO3: Speak fluently in academic and social contexts.
- CO4: Develop Critical thinking and innovative skills.