

Big Data

- Recognize opportunities of Big Data for creating data driven competitive advantage for enterprises.
- Distinguish key Big Data technologies.
- Explain Big Data management process and prepare Big Data for analysis.
- Describe technical architecture of Big Data tools.
- Identify and apply appropriate technique to prepare Big Data for analysis.
- Develop Big Data analytics applications using right tools and methods.
- Build strategy for effective Big Data management and analytics in enterprises.

Business Continuity and Disaster Recovery

- Compare and contrast disaster recovery and business continuity planning techniques.
- Describe the basic framework of a business continuity and disaster recovery (BC/DR) plan.
- Evaluate the business impact of critical business function loss or disruptions through business impact analysis (BIA) processes.
- Create a plan for risk treatment. • Evaluate technologies used to support a business continuity and disaster recovery plan.
- Construct a planned response to an emergency or disaster including backup and restore strategies.

Data Science/Machine Learning

- Recognize real-world processes that can benefit from data mining to improve business results.
- Examine commonly available data sources for data mining, including enterprise, social, web, machines, and public sources.
- Formulate data for analytics.
- Identify the right machine-learning techniques for a given data set.
- Analyze applications for common machine-learning algorithms in classification, association, and clustering.
- Identify meaningful patterns and actionable insights in datasets.
- Discuss the role of data science and data mining in the enterprise IT ecosystem.

Database Administration

- Develop database administration (DBA) practices, policies, and procedures across the application development lifecycle that align with business strategy.
- Evaluate the physical architecture and functionality of a commercial database management system (DBMS).
- Construct and support scalable, enterprise database environments that satisfy the business requirements.
- Create and maintain user databases that incorporate design features that enhance performance and data integrity.
- Plan backup and recovery strategies in conjunction with high-availability design to meet business continuity and disaster recovery objectives.
- Implement robust security models that can adapt to changing business and regulatory environments.
- Analyze database performance and take remedial action as necessary.

Database Systems Design & Implementation

- Discuss key terms and concepts used in database management.
- Design a database using diagrams and models.
- Interpret database diagrams.
- Explain relational languages and how they are used to provide the interface with Oracle DBMS.
- Evaluate existing databases in order to make recommendations for improvement or adding additional data or functionality.
- Analyze a database for errors and other issues and take the necessary steps to resolve errors and issues.
- Construct a database in Oracle.
- Evaluate security risks of a given database and recommend strategies to mitigate the identified risks.

Foundations of Leadership

- Analyze different forms of value (economic, meaning, and social) and the role value, experience, and research play in effective leadership.
- Identify the theoretical foundations for successful leadership in today's organizations.
- Compare and contrast the major leadership theories and discuss the key points and application methods of each theory in the workplace.
- Discuss the context and outcome of applied leadership in selected situations.

- Analyze and interpret a particular performance-based organizational issue, develop a solution to the issue at hand, and apply appropriate leadership theories in the given situation.
- Given different organizational scenarios, discuss and analyze the responsibility, privilege, value, culture, ethical considerations, and the appropriate use of authority and power.
- Synthesize best practices to create a plan for engaging, implementing, and sustaining planned organizational change.
- Identify principles by which successful leaders operate.
- Identify your personal philosophy and style and expand this for interpersonal influence in your organization.

IT Management

- Explain the key objectives, responsibilities, capabilities, and risks managed by an IT organization.
- Examine the business model and current capabilities of a business or business unit to determine IT capability and IT service needs.
- Create an IT function service strategic plan.
- Recommend approaches for optimizing information technology investments and managing the life cycle of information technology assets.
- Prepare financial plans for an IT organization function, an IT capability or service, and an IT program or project.
- Explain the various types of sourcing arrangements and process for managing suppliers.

Network Security

Object-Oriented Programming

- Use data attributes of system native and user-defined types, including arrays of these types.
- Implement self-designed encapsulated methods that include conditional and iterative constructs.
- Run self-written, compiled, and debugged Java applications.
- Solve basic programming problems by applying critical thinking.
- Implement self-designed programs that perform external file input/output (I/O).
- Use basic concepts of object-oriented abstraction, encapsulation, and information hiding.
- Implement a self-designed program composed of user-defined classes.
- Use testing and debugging techniques to ensure robust programs.

Software Project Management

- Explain the key aspects of a Project and Project Management.
- Create a project scope statement and work breakdown structure (WBS).
- Establish project timelines, project resources, and costs.
- Develop a project plan and risk management plan.
- Develop a resource schedule and cost baseline.
- Explain the factors involved in being an effective manager and leading a successful project team.
- Develop project progress and performance measures.
- Design a project closure procedure.

Telecommunications and Computer Networks

- Define the basic terminology and architecture of Data and Voice Communication Networks.
- Identify the characteristics and main functionality of individual internetworking components in voice and data networks.
- Describe network communication fundamentals, key protocols, industry standards and models.
- Recognize industry best practices for basic and advanced network configurations and deployments.
- Examine the concept of IT Innovation, creativity and future trends within the IT industry.
- Discuss use cases related to key quality service issues for data and voice networks.

Web Application Development

- Analyze the architecture of the Web application
- Create a servlet-based Web application.
- Create and use Java Beans in Java Web-based applications
- Create a Java server page (JSP)-based Web application.
- Create an object-oriented Web application using servlets/JSPs.
- Use Model-View-Controller (MVC) pattern in building Java Web-based applications
- Create an AJAX-based Web application. Create a Java multithreaded application.
- Create a remote method invocation (RMI) application.
- Connect a Web application to a database.