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ONLY POINTS OF SYLLABUS

Topic names in Core Java:

1. Introduction to Java
2. Java Basics
3. Object-Oriented Programming (OOP)
4. Java Standard Edition (SE) API
5. Exception Handling
6. File I/O
7. Multithreading
8. Java Input/Output (I/O)
9. Networking in Java
10. Java Database Connectivity (JDBC)
11. Java Collections Framework
12. Generics
13. Lambda Expressions
14. Java Streams API
15. JavaFX Basics (Optional)
16. Introduction to Modular Programming (Java 9 and later)
17. Annotations
18. Java Memory Management
19. Java Design Patterns
20. Unit Testing with JUnit

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Topic names in Advanced Java:

1. Servlets
2. JavaServer Pages (JSP)
3. JavaBeans
4. Enterprise JavaBeans (EJB)
5. Java Database Connectivity (JDBC) - Advanced
6. Java Naming and Directory Interface (JNDI)
7. Java Message Service (JMS)
8. JavaMail API
9. Spring Framework
10. Hibernate Framework
11. Struts Framework
12. Java Authentication and Authorization Service (JAAS)
13. Web Services (SOAP and REST)
14. JavaServer Faces (JSF)
15. Spring MVC
16. Spring Boot
17. Microservices Architecture
18. Java Persistence API (JPA)
19. Design Patterns in Java
20. Security in Java EE Applications

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Topic names in Artificial Intelligence:

1. Introduction to Artificial Intelligence
2. Search Algorithms
3. Knowledge Representation
4. Machine Learning Fundamentals
5. Neural Networks and Deep Learning
6. Natural Language Processing (NLP)
7. Reinforcement Learning
8. Computer Vision
9. AI Ethics and Bias
10. AI in Industry and Future Trends
11. Capstone Project

Topic names in Data Science:

1. Introduction to Data Science
2. Exploratory Data Analysis (EDA)
3. Data Wrangling and Preprocessing
4. Introduction to Machine Learning
5. Model Evaluation and Hyperparameter Tuning
6. Regression Analysis
7. Classification Algorithms
8. Clustering Algorithms
9. Natural Language Processing (NLP)

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10. Time Series Analysis
11. Introduction to Deep Learning
12. Big Data Technologies (Optional)
13. Capstone Project
14. Ethical Considerations in Data Science

Technologies and tools used in Data Science:

1. Programming Languages:
   - Python
   - R
2. Data Manipulation and Analysis:
   - Pandas
   - NumPy
3. Data Visualization:
   - Matplotlib
   - Seaborn
   - Plotly
   - Tableau
4. Machine Learning Libraries:
   - Scikit-Learn
   - TensorFlow
   - Keras
   - PyTorch
5. Statistical Analysis:

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- SciPy
- Statsmodels

6. Database Management and SQL:
   - MySQL
   - PostgreSQL
   - SQLite
   - Microsoft SQL Server
7. Big Data Technologies:
   - Apache Hadoop
   - Apache Spark
8. Version Control:
   - Git
   - GitHub
9. Cloud Computing Platforms:
   - Amazon Web Services (AWS)
   - Microsoft Azure
   - Google Cloud Platform (GCP)
10. Data Cleaning and Preprocessing:
    - OpenRefine
    - Trifacta
11. Natural Language Processing (NLP):
    - NLTK (Natural Language Toolkit)
    - spaCy
    - TextBlob

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12. Web Scraping:
    - BeautifulSoup
    - Scrapy
13. Dashboarding and Reporting:
    - Power BI
    - Tableau
14. Containerization and Orchestration:
    - Docker
    - Kubernetes
15. Collaboration and Documentation:
    - Jupyter Notebooks
    - Markdown
16. Automated Machine Learning (AutoML):
    - Google AutoML
    - H2O.ai
17. Versioning and Reproducibility:
    - DVC (Data Version Control)
    - MLflow
18. Data Governance and Security:
    - Apache Ranger
    - Apache Atlas
19. Database Query Languages:
    - SQL
    - NoSQL databases (e.g., MongoDB, Cassandra)

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20. Geospatial Data Analysis:
    - Geopandas
    - Folium

Topic names in web development using PHP:

1. Introduction to Web Development
2. HTML and HTML5
3. CSS and CSS3
4. JavaScript and ECMAScript
5. PHP Basics
6. PHP Control Structures
7. PHP Functions
8. MySQL Database Basics
9. PHP and MySQL Integration
10. Forms and Form Handling in PHP
11. Sessions and Cookies in PHP
12. Object-Oriented PHP
13. Error Handling and Debugging in PHP
14. Introduction to PHP Frameworks (e.g., Laravel)
15. Introduction to Front-End Frameworks (e.g., Bootstrap)
16. AJAX and Asynchronous PHP
17. Security in PHP Web Applications
18. User Authentication and Authorization
19. RESTful API Development with PHP
20. Deployment and Hosting of PHP Applications

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Topic names in Machine Learning:

1. Introduction to Machine Learning
2. Supervised Learning
    - Regression
    - Classification
3. Unsupervised Learning
    - Clustering
    - Dimensionality Reduction
4. Model Evaluation and Metrics
5. Cross-Validation
6. Hyperparameter Tuning
7. Linear Regression
8. Logistic Regression
9. Decision Trees and Random Forest
10. Support Vector Machines (SVM)
11. k-Nearest Neighbors (k-NN)
12. Naive Bayes
13. Neural Networks and Deep Learning
14. Ensemble Learning
15. Feature Engineering
16. Feature Selection
17. Time Series Analysis
18. Natural Language Processing (NLP)
19. Reinforcement Learning ,Model Deployment

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Topic names in Python:

1. Introduction to Python
2. Basic Data Types (int, float, str)
3. Data Structures (lists, tuples, dictionaries, sets)
4. Control Flow (if, else, elif, loops)
5. Functions and Modules
6. File Handling (reading and writing files)
7. Exception Handling
8. Object-Oriented Programming (OOP)
    - Classes and Objects
    - Inheritance
    - Polymorphism
    - Encapsulation
    - Abstraction
9. Regular Expressions (regex)
10. Lambda Functions and Map/Filter/Reduce
11. List Comprehensions
12. Decorators
13. Generators
14. Working with External Libraries (e.g., NumPy, Pandas)
15. Introduction to Web Scraping
16. Introduction to GUI Programming (e.g., Tkinter)
17. Asynchronous Programming (async/await)
18. Unit Testing (e.g., using unittest)

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19. Introduction to Python Web Frameworks (e.g., Flask, Django)
20. Introduction to Data Visualization (e.g., Matplotlib, Seaborn)

Topic names in Data Analytics:

1. Introduction to Data Analytics
2. Exploratory Data Analysis (EDA)
3. Descriptive Statistics
4. Inferential Statistics
5. Data Visualization
    - Matplotlib
    - Seaborn
    - Plotly
    - Tableau
6. Data Cleaning and Preprocessing
7. Data Wrangling
8. Feature Engineering
9. Introduction to Machine Learning
10. Regression Analysis
11. Classification Algorithms
12. Clustering Algorithms
13. Time Series Analysis
14. Text Analytics and Natural Language Processing (NLP)
15. A/B Testing
16. Statistical Hypothesis Testing

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17. Data Governance and Ethics
18. Big Data Analytics (Optional)
19. Data Analytics Tools (e.g., R, Python, SQL)
20. Capstone Project

Topic names in Digital Marketing:

1. Introduction to Digital Marketing
2. Search Engine Optimization (SEO)
3. Search Engine Marketing (SEM)
4. Pay-Per-Click (PPC) Advertising
5. Social Media Marketing (SMM)
6. Email Marketing
7. Content Marketing
8. Influencer Marketing
9. Affiliate Marketing
10. Online Public Relations (PR)
11. Web Analytics
12. Conversion Rate Optimization (CRO)
13. Mobile Marketing
14. E-commerce Marketing
15. Video Marketing
16. Marketing Automation
17. Customer Relationship Management (CRM) in Marketing
18. Digital Marketing Strategy and Planning
19. Legal and Ethical Considerations in Digital Marketing

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20. Emerging Trends in Digital Marketing

Topic names in MEAN Stack:

1. Introduction to MEAN Stack
2. MongoDB (NoSQL Database)
3. Express.js (Web Application Framework)
4. Angular (Front-End Framework)
5. Node.js (JavaScript Runtime Environment)
6. RESTful API Development
7. Routing in MEAN Stack
8. Model-View-Controller (MVC) Architecture
9. User Authentication and Authorization
10. Middleware in Express.js
11. Front-End Development with Angular
12. Angular Components and Directives
13. Asynchronous Programming in Node.js
14. Error Handling and Debugging in MEAN Stack
15. Testing in MEAN Stack Applications
16. Deployment and Hosting of MEAN Stack Applications
17. Security Best Practices in MEAN Stack
18. Real-Time Web Applications with WebSockets
19. MEAN Stack Project Development
20. MEAN Stack Best Practices and Optimization

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Topic names in MERN Stack:

1. Introduction to MERN Stack
2. MongoDB (NoSQL Database)
3. Express.js (Web Application Framework)
4. React (Front-End Library)
5. Node.js (JavaScript Runtime Environment)
6. RESTful API Development
7. Routing in MERN Stack
8. Model-View-Controller (MVC) Architecture
9. User Authentication and Authorization
10. Middleware in Express.js
11. State Management in React
12. React Components and Props
13. React Hooks
14. Asynchronous Programming in Node.js
15. Error Handling and Debugging in MERN Stack
16. Testing in MERN Stack Applications
17. Deployment and Hosting of MERN Stack Applications
18. Security Best Practices in MERN Stack
19. Real-Time Web Applications with WebSockets
20. MERN Stack Project Development