**MCA-20201 COMPUTER NETWORKS**

1.Introduction to Computer Networks, Network Examples, Internet Based Applications.

2.Explain about Network Hardware, Network Software, Data Communication Services

3.Explain about Transmission Media, Wireless Transmission,Reference models

4.Explain about Multiplexing, Switching, ATM Networks

5. Explain about Data Link Control, Error Detection & Correction

6. Write about IEEE Standards for LANs & MANs

7. Explain IEEE Standards 802.2, 802.3, 802.4, 802.5, 802.6, High Speed LANs

8. Explain about Routing Algorithms, Congestion Control Algorithms

9. Explain about IP Protocol, IP Address

10. Explain about Subnets, and Internetworking

11. Write about Transport Service, Elements of Transport Protocols

12. Explain about TCP and UDP Protocols

13. Explain about Quality of Service Model, Best Effort Model

14. Explain about DNS, SNMP, Electronic Mail, FTP, TFTP, BOOTP

15. Explain about HTTP Protocols, World Wide Web, Firewalls

16. Explain about Repeaters, Bridges, Routers, Gateways, Multiprotocol Routers,

Brouters, Hubs, Switches, Modems

17. Explain about Channel Service Unit CSU, Data Service Units DSU

18. Explain about NIC, Wireless Access Points, Transceivers, Firewalls, Proxies

19. Explain about Cellular Networks, Ad-hoc Networks, Mobile

20. Explain about Ad-hoc Networks, Sensor Networks

**MCA-20202 Object Oriented Programming through JAVA**

1.Principles and Applications of OOP?

2.Explain about Variables, Primitive Data types, Identifiers?

3. Explain about Naming Conventions, Keywords, Literals

4. Explain about Operators, Expressions, Precedence rules and Associativity

5. Explain about Primitive Type Conversion and Casting

6. Explain about Flow of control Branching, Conditional, loops

7. Explain about classes, Objects, Creating Objects, Methods, Constructor overloading

8. Explain about cleaning up unused objects, Class variable and Methods

9. Explain about Static keyword, this keyword, Arrays, Command line arguments

10.Explain about Inheritance,Types of Inheritance?

11. Explain about Deriving classes using extends keyword

12. Explain about Method overloading, super keyword, final keyword, Abstract class

13.Explain about Interface-Extending interface, Interface Vs Abstract classes

14. Explain about Packages-Creating packages, using Packages, Access protection

15. Explain about Exception handling techniques- try, catch, throw, throws, finally block

16. Explain about user defined exception, Exception Encapsulation and Enrichment

17.Explain about The main Thread, Creation of new threads, Thread priority

18. Synchronization, suspending and Resuming threads

19. Define Applet? Explain about Applet life cycle, paint(), update() and repaint().

20. Explain about Event handling?

21.Define AWT? Explain about buttons and boxes available in AWT?

22.Explain about Swing Concepts? Explain Components in swings

23.Write about JFrame, JApplet, JPanel, JList and JScroll Pane

**MCA-20203 DATABASE MANAGEMENT SYSTEMS**

1. Explain about Data models, schemas, and instances?
2. Write about three-schemas architecture and data independence?
3. Discuss about database languages and interfaces?
4. Discuss Centralized and client/server architectures for DBMSs?
5. Define Entity types, entity sets Attributes and keys, Relationships types, relationship sets?
6. Define roles and structural constraints, Weak Entity types?
7. Discuss about Enhance Entity Relationship model?
8. Write about Relational model constraints and relational schemas?
9. Explain about Unary Relational operations, Binary Relational operations?
10. Explain about Relational Algebra operations, Additional Relational operation?
11. Define Domain Relational Calculus?
12. Explain about Relational database design using ER to Relational Mapping?
13. Explain about Mapping EER Model Construct to Relations?
14. Write about SQL Data definition?
15. Explain about Specifying basic constraints in SQL, Basic queries in SQL, More complex SQL queries?
16. Discuss about Schema change Statements in SQL?
17. Discuss about INSERT DELETE UPDATE queries in SQL?
18. Define Data base stored Procedures?
19. Explain about Functional Dependences, Normal forms based on Primary keys?
20. Explain about Second and Third Normal form, BOYCE-CODE Normal form?
21. Discuss about Multi-valued dependencies and fourth Normal forms?
22. Explain about Secondary Storage Devices, Buffering Blocks?
23. Discuss about placing file records on disk, Operations on Files?
24. Explain about Hashing Techniques, Parallelizing Disk Access using RAID Technology?
25. Discuss about Indexing Structures for files?
26. Explain about Translating SQL Queries into Relational Algebra?
27. Explain about Algorithms for SELECT and JOIN Operations?
28. Explain about Algorithms for PROJECT and SET Operations?
29. Explain about Transaction and System Concepts?
30. Explain about Characterizing Schedules, Concurrency Control Techniques?
31. Explain about Database Recovery Concepts, Recovery Techniques?