

Shri Shivaji Education Society Amravati's
SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR
Department of Computer Science
MCA Semester-I
Session 2023-2024
Assignment on
Data Communication Network

1. Explain OSI reference model.
2. Explain sliding window protocol in detail.
3. What is congestion control? Explain.
4. Explain ISDN model.
5. What is remote procedure call(RPC)?Explain
6. What is TCP and UDP? Explain the Connection management in Transport Layer.
7. What are the different data compression techniques?
8. What is Virtual terminal? Explain in detail.
9. Explain the Classification of Security Services.
10. Explain the different encryption types.



Signature of the Teacher



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Assignment on
Software Engineering

1. Explain the functional and non-functional requirements in Software engineering.
2. Explain Water Fall Model.
3. What is the process framework? Explain layered technology.
4. What is the requirement engineering process?
5. What is the system model? Explain context model and Behavioral model.
6. What is the design quality? How do you maintain quality of Design ?
7. What is the testing? Explain White box and Black box testing.
8. Explain the validation testing and system testing.
9. Explain the following metrics for(I)Analysis Model(II) Design Model.
10. Write short on Risk Projection and Risk Refinement.



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Assignment on
Advanced DBMS and Administration**

1. What is Query Execution Plan? Explain it in detail.
2. What do you mean by Checkpoint and Rollback? How it works in recovery process? Explain.
3. Explain the communication between client and Servers in detail.
4. Discuss about Crash Recovery in detail.
5. What is Shadow paging and Checkpoint?
6. What is Multiple Index Access?
7. Explain the different types of Failure in detail.
8. What are the Object Oriented features available in SQL-99? Explain any two in brief.
9. Discuss the types of fragmentation. How it is useful in distributed database design? Explain.
10. What are the advantages and disadvantages of primary indexes and secondary indexes? Explain.



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MCA Semester-II
Session 2023-2024
Assignment on
Cloud Computing

1. What are the basic concept and terminology of cloud computing?
2. Define characteristics of cloud delivery model cloud deployment?
3. What is type of cloud enabling virtualization technology?
4. Explain: 1. web technology?
2. Multimedia technology?
5. Explain the Application developers in detail?
6. What is the solution stacks and syndication?
7. Explain the feature of cloud and grid platforms?
8. Define the Understanding Core Open Stack Ecosystem. Applications?
9. What is the Cloud Security Threats and Attack?
10. How the Cloud Will Change Operating System?



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Assignment on
Computer Graphics**

1. What is the computer graphics and its Application?
2. Explain the Raster scan display, Raster scan systems, and video controller?
3. Define: Joysticks, Image scanner, Light pens, and Graphics software?
4. What are the Line drawing algorithms, DDA?
5. What is the Bresenham's, Circle generating, Mid-point circle algorithm?
6. What are the Basic transformations, Translation, Rotation and Scaling?
7. Matrix representations & homogeneous coordinates, Composite transformations?
8. What is the two dimensional viewing, Two dimensional clipping, Line?
9. Explain the Long distance communication, Computer networks and Interconnection structures?
10. What is the bus interfacing, Timing, Bus arbitration?



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Assignment on
Computer Architecture and Organization**

1. What is the Organization of the CPU and main memory of the IAS computer
2. What is the Four bit ripple carry adder, Four bit stream serial adder?
3. Explain Organization of the CPU and main memory of the IAS computer.
4. Explain Structure of the IBM System/360.
5. Write down Booths multiplication algorithm.
6. Explain n-bit twos complement adder-subtractor.
7. Write a note on Performance measurement.
8. Write a note on two-stage pipeline.
9. Write a note on Superscalar processing
10. Write notes on i) Access modes ii) Memory retention



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MCA Semester-III
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Assignment on
Big Data Analytics**

1. What is big data? Explain different advantages of Big data.
2. Explain Distributed and Parallel Computing in Big Data.
3. Write a short notes on i) Data Source Layer ii) Ingestion Layer.
4. Write a note on RDBMS.
5. Write a note on CAP Theorem.
6. What is Visualization? Explain types of Visualization.
7. Explain Challenges of Mobile Analytics
8. Explain Advance Features of R.
9. Write a note on Text Mining Processes
10. Explain Mobile Analytics Tools.



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Assignment on
Artificial Intelligence

1. What is constraint satisfaction? Explain in detail.
2. Write an algorithm for the breadth-first search strategies.
3. Write A* algorithm and discuss briefly the various observations about algorithm.
4. Write notes on: (i) Expert system (ii) Control knowledge.
5. What is predicate logic? Explain resolution in predicate logic.
6. What is Planning system? Explain the components of a planning system.
7. What is Adding Alpha beta cutoff? Explain in detail.
8. Explain Natural Language Processing?
9. What is understanding? Justify the statement "Understanding as Constraint Satisfaction."
10. What is Artificial Intelligence? Describe different AI Techniques, and its applications?



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Assignment on
Data Mining

1. What is OLAP? Explain multidimensional data analysis in detail?
2. Write different Data Mining tasks in detail?
3. Define Classification? Explain decision tree induction in detail?
4. What are the methods for comparing classifiers?
5. Explain the origin of Data Mining? Write different Data Mining tasks in detail?
6. What is Visualization? Explain different Visualization techniques in detail?
7. Explain Bayesian Classifier in detail.
8. Explains SNN Density –based Clustering.
9. Explain Graph based Clustering in detail.
10. Explain artificial neural network in detail (ANN)?

Abhaudhari

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