Short Questions

1. What is a data model in the context of DBMS?
2. Differentiate between relational and hierarchical data models.
3. What is normalization in the context of database design?
4. Explain the term 'RDBMS'.
5. What is SQL, and what are its main components?
6. How does the SELECT statement work in SQL?
7. Explain the difference between INNER JOIN and LEFT JOIN in SQL.
8. What are database transactions, and why are they important?
9. Describe the ACID properties in the context of database transactions.
10. What is a database index, and why is it used?
11. Explain the concept of data center in the context of cloud services.
12. Differentiate between public cloud and private cloud.
13. What is database sharding, and why is it used?
14. Explain the concept of data replication in database systems.
15. What is a stored procedure in RDBMS?
16. How does the COMMIT statement work in SQL transactions?
17. What is the purpose of the GROUP BY clause in SQL?
18. Explain the concept of database triggers.
19. What is cloud storage, and what are its advantages?
20. Describe the role of database administrators (DBAs) in managing database systems.
21. Explain the difference between primary key and foreign key constraints in SQL.
22. What is the purpose of the ORDER BY clause in SQL?
23. Explain the concept of database normalization and its various normal forms.
24. What is a distributed database system, and why is it used?
25. Explain the concept of cloudbased database services.
26. What are the advantages of computer networks?
27. Define LAN and give an example.
28. What is WAN and provide an example?
29. Explain MAN with an example.
30. What is the Internet?
31. Define WiFi.
32. What are sensor networks?
33. What are vehicular networks?
34. What is 5G communication?

35. Explain the basics of the World Wide Web.
36. What is the role of HTML in web development?
37. What is CSS used for in web design?
38. What is XML and its significance in web development?
39. Name some tools used for web designing.
40. What is the role of social media in the context of the web?
41. Differentiate between social media and online social networks.
42. What is information security?
43. Define cybersecurity.
44. What are cyber laws?
45. Explain the importance of cyber laws in the digital age.
46. What is a firewall and how does it enhance security in computer networks?
47. Explain the concept of virtual private network (VPN).
48. What are the components of a typical TCP/IP network protocol stack?
49. Differentiate between HTTP and HTTPS protocols.
50. What is the purpose of DNS (Domain Name System) in computer networks?
51. Explain the concept of packet switching in computer networks.
52. What are the key characteristics of a welldesigned website?
53. How does encryption contribute to data security in computer networks?
54. Explain the role of cookies in web browsing.
55. What are the potential risks associated with using public WiFi networks?
56. Define latency and bandwidth in the context of network performance.
57. What are the primary components of a typical web server configuration?
58. Explain the concept of distributed denialofservice (DDoS) attacks.
59. What measures can be taken to mitigate the risks of phishing attacks?
60. Explain the concept of twofactor authentication (2FA) and its importance in
61. What is the role of encryption algorithms in ensuring data confidentiality?
62. Explain the concept of zeroday vulnerabilities and their impact on cybersecurity.
63. What is the role of intrusion detection systems (IDS) in network security?
64. Explain the difference between symmetric and asymmetric encryption algorithms.
65. What is the role of digital certificates in ensuring secure communication over the internet?
66. What is the role of a proxy server in computer networks?
67. Explain the concept of content delivery networks (CDNs) and their benefits.
68. What are the differences between HTTP and HTTPS protocols in terms of security?

69. Explain the role of a domain name registrar in the domain name system (DNS).
70. What is the purpose of SSL/TLS certificates in securing web communication?
71. Define SQL injection and its potential impact on web applications.
72. What are some common security best practices for securing wireless networks?
73. Explain the role of a firewall in network security and provide examples of firewall types.
75. What is the difference between authentication and authorization in the context of access control?
76. Explain the concept of endtoend encryption and its significance in ensuring data privacy.
77. What is IoT?
78. What are some examples of IoT devices?
79. What is the primary goal of Robotics?
80. What is the difference between a drone and a robot?
81. What is Artificial Intelligence (AI) Learning?
82. What are some popular AI learning algorithms?
83. What is Game Development?
84. What are the main components of natural language processing (NLP)?
85. What is image processing?
86. What is video processing?
87. What are the key concepts of Cloud Basics?
88. Define virtualization in the context of Cloud Basics.
89. What is scalability in cloud computing?
90. Explain the concept of elasticity in cloud computing.
91. What are the advantages of payasyougo pricing models in cloud computing?
92. Differentiate between IaaS, PaaS, and SaaS in cloud computing.
93. What are some challenges in implementing IoT systems?
94. What are the ethical considerations in Robotics?
95. How does reinforcement learning differ from supervised and unsupervised learning in AI?
96. What are some applications of natural language processing (NLP)?
97. What is the role of neural networks in image processing?
98. Explain the difference between object detection and object recognition in image processing.
99. What are some popular programming languages used in game development?

100. What are the steps involved in the game development process?
101. What role does cloud computing play in AI and machine learning applications?
102. How do drones utilize AI technology?
103. Explain the concept of deep learning in the context of AI.
104. What is the role of convolutional neural networks (CNNs) in image processing?
105. How does cloud computing support realtime video processing applications?
106. What are some challenges in deploying AI models in production environments?
107. How does natural language processing enable sentiment analysis?
108. What role does cloud storage play in video processing applications?
109. Explain the concept of transfer learning in machine learning.
110. What are some examples of AI applications in healthcare?
111. How do cloud computing services ensure data security and privacy?
112. What are some key considerations in designing AIdriven user interfaces?
113. What is the role of cloudbased machine learning platforms in AI development?
114. How does cloud computing support collaborative game development?
115. What are some challenges in designing AI algorithms for realtime applications?
116. How does cloud computing enable edge computing in IoT systems?
117. What are some techniques used for data preprocessing in machine learning?
118. How does reinforcement learning apply to robotics?
119. Explain the concept of cloudnative architecture.
120. What are some examples of AIdriven personalization in online services?
121. How does cloud computing support disaster recovery and business continuity?
122. What role does cloud computing play in the deployment of autonomous vehicles?
123. Explain the concept of federated learning in AI.
124. What are some examples of AI applications in finance?
125. How does cloud computing enable global scalability and accessibility for AI services?