Tribhuvan University

Faculty of Management
Office of the Dean
Model Question 2025

Full Marks: 60
Pass Marks: 30
Time: 3hrs

BIM/ 7th Semester/ IT 271: Networking System Administration

Group A
Brief answer questions:

Attempt all questions. **(10 X 1=10)**

1. What is a router?
2. Name the two primary protocols of the TCP/IP model.
3. What is the main function of the Presentation layer in the OSI model?
4. What is the purpose of a subnet mask?
5. List two common types of network attacks.
6. What does the acronym WPA stand for in the context of wireless security?
7. Give one example of a system administration task.
8. What is SNMP used for in network management?
9. Define cloud computing.
10. What is the difference between a LAN and a WAN?

Group B
Short Answers Questions

Attempt any five questions. **(5 × 3= 15)**

11. Explain the purpose of the firewall in a network.
12. Briefly describe the process of data encapsulation.
13. How do IPv4 and IPv6 addresses differ in length?
14. What is a DoS attack and how does it differ from a DDoS attack?
15. Explain the concept of virtualization.
16. Explain the function of the Transport layer in the OSI model.

Group C
Long Answer Questions

Attempt any three questions. **(3× 5= 15)**

17. Describe the three main cloud computing service models: IaaS, PaaS, and SaaS.
18. A small company with 25 employees is setting up its first office network. They need to connect all their computers to the internet and want to ensure their internal network is protected from external threats. Recommend the primary network device they should use to connect to the internet and another device for security and explain how each device helps achieve their goals.
19. Imagine you are sending an email from your computer to a colleague. Describe the process of data encapsulation and decapsulation that the email data undergoes as it travels through the network, from the moment you click "send" on your computer until it reaches your colleague's inbox. Mention at least three layers of the OSI model and what happens at each stage.
20. An IT administrator is given the IP address 192.168.10.0 and a subnet mask of 255.255.255.0 to manage a small network. Explain the purpose of this subnet mask in relation to the IP address. How does it help the administrator logically organize the network?

Group D
Comprehensive Questions

Attempt all questions. **(2 × 10 = 20)**

21. A large e-commerce company is experiencing a significant increase in online traffic and is concerned about a potential DDoS attack. As a network security expert, you are tasked with outlining a comprehensive security strategy. Explain how you would use a combination of a firewall and an Intrusion Prevention System (IPS) to mitigate this threat. Detail the specific role of each tool and how they work together to protect the company's network and services.
22. A startup is building a new web application and wants to avoid the high cost of purchasing and maintaining its own physical servers. They are considering cloud computing. Explain the concept of virtualization and describe the three main cloud service models (IaaS, PaaS, and SaaS). Based on the scenario, which of these service models would be the most suitable for the startup to host and run their web application, and why?

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BIM 7th Semester / IT 273 : Multimedia System Application

Group A

Brief answer questions:
Attempt all questions. **(10 X 1=10)**

1. Define Multimedia.
2. What do you mean by Morphing?
3. What is MIDI?
4. What do you mean by digital audio?
5. What is authoring tool?
6. What do you mean by lossy compression?
7. Define Speech Analysis.
8. Define Medium.
9. Define JPEG.
10. What is dithering techniques?

Group B

Short Answers Questions
Attempt any five questions. **(5 × 3= 15)**

11. Explain the Components of a Multimedia System
12. With the help of block diagram explain baseline JPEG compression in detail.
13. Describe the characteristics of Multimedia system.
14. What is the major process in digital image representation?
15. Explain the methods of controlling Animation.
16. Discuss the Lossy Sequential DCT- based Mode.
17. Explain the toolkits used in multimedia system.

Group C

Long Answer Questions
Attempt any three questions. **(3× 5= 15)**

18. How does Multimedia impact on society?
19. Describe how companies can use Multimedia system application to gain the competitive advantages.
20. Define the lossless compression with example.
21. What are benefits and challenges of Multimedia system?

Group D

Comprehensive Questions

Attempt all questions. **(2 × 10 = 20)**

22. Discuss the Colour Dithering technique. Comparison between RGB and CMY colour models.
23. Explain the applications of multimedia in video conference and video on demand.

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BIM 7th Semester/IT 272: Mobile Application Development (IT 272)

Group A

Attempt all the questions (10 × 1 = 10)

1. What is the task of emulator?
2. What do you mean by view hierarchy?
3. Define activity.
4. Why do we need Adapter?
5. What is shared preference?
6. Define thread.
7. What is linear layout?
8. What is intent filter?
9. What is the task of content provider?
10. List any two aspects of android debugging.

Group B

Attempt any FIVE questions (5 × 3 = 15)

11. Discuss about linear and frame layout.
12. Describe in brief about the life cycle life activity.
13. How do you implement Grid View in mobile application?
14. How do you store and retrieve shared key value pairs? Illustrate with an example.
15. Explain the process of retrieving cache files using Content provider.
16. List some functions of SmsManager class with their purposes.

Group C

Attempt any THREE questions (3 × 5 = 15)

17. How do you create, test and debug the application? Explain.
18. Explain the key features and benefits of android widget.
19. Describe the process of implementing Recycler View in an application.
20. What is SQLite database? How data is being stored in the SQLite database?

Group D

Attempt the following questions (2 × 10 = 20)

21. What are the needs for UI flexibility? Distinguish between activity and fragment? Describe the process of passing data between fragments. [3 + 3 + 4]

22. How can we use Handler and Runnable to perform background operations and update the UI safely from a non – UI thread? How do you create and publish mobile application in Google play store. [6 + 4].

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BIM 7th Semester IT 247: E-Commerce and Internet Marketing

Group A

Brief answer questions:
Attempt all questions. **(10 X 1=10)**

24. Define E-Commerce.
25. List any 4 unique features of E-Commerce.
26. What do you mean by E-Commerce business model?
27. List B2C business models.
28. What is client/server computing?
29. What are different types of E-Commerce presence?
30. List different factors to consider in developing an E-Commerce presence.
31. List any four security threats to E-Commerce.
32. What is SEO?
33. What do you mean by Web analytics?

Group B

Short Answers Questions
Attempt any five questions. **(5 × 3= 15)**

34. Compare E-Commerce with E-Business. What are different types of E-Commerce?
35. What do you mean by B2C market creator?
36. What is the role of mobile app in E-Commerce?
37. What are the main factors to consider in developing an e-commerce presence?
38. What is good E-Commerce security? What are its dimensions.
39. Explain E-mail marketing in brief. How do you measure its effectiveness?

Group C

Long Answer Questions
Attempt any three questions. **(3× 5= 15)**

40. Explain key elements of E-Commerce business models in detail.
41. What are the features and services of Internet?
42. What are the main differences between single-tier and multi-tier site architecture? What are the main factors to consider in choosing the best hardware platform for your website?
43. How do you protect your networks as well as servers and clients from threats? What do you mean by intrusion detection and prevention?

Group D

Comprehensive Questions

Attempt all questions. **(2 × 10 = 20)**

44. Define the systems development life cycle, and discuss the various steps involved in creating an e-commerce site.
45. Explain social media marketing with example. What do you mean by on-page and off-page optimization?

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BIM 7th Semester IT 274: Data Warehousing and Data Mining

Group A

Attempt all the questions (10 × 1 = 10)

23. List any two types of knowledge.
24. Define data warehousing.
25. How do you evaluate the accuracy of clustering?
26. List any two approaches for outlier detection.
27. What is frequent pattern?
28. Define lazy learner.
29. Why k-Means algorithm is sensitive to outlier?
30. What are the techniques to improve classification accuracy?
31. How do you take benefits from outlier?
32. Define data cube.

Group B

Attempt any FIVE questions (5 × 3 = 15)

33. Discuss some data transformation techniques.
34. Describe the components of data warehouse.
35. Define hyper plane, support vectors and its roles in linear classifier.
36. Write the algorithm for k – Means algorithm.
37. How do you detect outlier based on proximity based approach?
38. What is closed item set? What are the types of association rules?

Group C

Attempt any THREE questions (3 × 5 = 15)

39. How reconstruction based outlier detection methods used auto encoder? Describe in brief.
40. Why do we need to clean the data and how do you clean the data? Explain.
41. Generate the frequent item set using FP Growth approach.

TID	Items
T10	{A, B, C , E}
T20	{B, D, E, F}
T30	{A, B, C, D, F, G}
T40	{A, B, C, D, E, G, H}
T50	{A, C, D, E, H}

42. Explain the types of OLAP operations.

Group D

Attempt the following questions (2 × 10 = 20)

43. List and describe in brief about the different evaluation metrics for evaluating classifiers. How decision is created? Illustrate with an example. [4 + 6]
44. Differentiate between partitioning and hierarchical clustering approach. Given the points A(4, 8), B(5, 7), C(6, 6), D(7, 5), E(8, 4), F(7, 3), G(8, 3) and H(9, 5), apply DBSCAN to perform clustering. [3 + 7]