Guru Nanak Dev Engineering College, Ludhiana

Department of Information Technology

Program	B.Tech.(IT)	**Semester**	5
Subject Code	PEIT-106	**Subject Title**	Advanced Computer Network
Mid Semester Examination (MSE) No.	I	**Course Coordinator**	Pankaj Bhambri
Max. Marks	24	**Time Duration**	9AM - 10.30AM
Date of MSE	20.09.2024	**University Roll Number**	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Classify Half and Full Duplex Ethernet with two major differences.	CO1, L2	2
Q2	Illustrate the data encapsulation concept used in the computer network.	CO1, L4	2
Q3	Explain the working of FTP and DNS through appropriate diagrams.	CO1, L3	4
Q4	Enlist the features of IP, ARP, TCP and UDP.	CO1, L1	4
Q5	Critically assess the advantages of using the trunking protocol for VLAN traffic management. In a network with high inter-VLAN communication requirements, how would trunking optimize traffic flow and minimize network congestion?	CO2, L5	4
Q6	a. Evaluate the role of the Spanning Tree Protocol (STP) in preventing network loops. Given a scenario where network redundancy is critical, how would you configure STP to balance redundancy and network performance?	CO2, L5	4
	b. Compare and contrast unmanaged and managed switches in terms of control, functionality, and real-world use cases. How would each type impact network scalability and performance in a large enterprise environment?	CO5, L5	4

Course Outcomes (CO)

Students will be able to

1	Understand internetworking, TCP protocols, switching, network routing, adhoc networks, internet layer protocols, host to host layer protocols, application layer protocols, Virtual LAN, Network Routing Protocols, adhoc routing protocols
2	Implement the switch administrative configurations, routing between different VLANs, router administrative configurations.
3	Analyze Enhanced IGRP and Open Shortest Path First routing protocols
4	Compare adhoc networks with cellular networks
5	Formulate communication between VLANs of different configuration

RBT Classification	**Lower Order Thinking Levels (LOTS)**			**Higher Order Thinking Levels (HOTS)**		
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

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Department of Information Technology

Program	B.Tech.(IT)	**Semester**	5th
Subject Code	PEIT-106	**Subject Title**	Advanced Computer Network
Mid Semester Examination (MSE) No.	2nd	**Course Coordinator**	Pankaj Bhambri
Max. Marks	24	**Time Duration**	9AM – 10.30AM
Date of MSE	22nd November, 2024 (Friday)	**University Roll Number**	

Note: Attempt all questions

Q. No.	Question	COs, RBT level	Marks
Q1	Explain the four main differences between ad-hoc networks and cellular networks.	CO4, L2	2
Q2	Compare two major strengths and weaknesses of proactive versus reactive routing protocols in ad-hoc networks.	CO3, L4	2
Q3	Demonstrate how to view, save, and erase configurations on a router.	CO2, L3	4
Q4	Summarize the basic operations of Distance Vector Routing Protocols.	CO2, L2	4
Q5	Critique the effectiveness of specific MAC and routing protocols in providing reliable communication in ad-hoc networks.	CO4, L5	4
Q6	Compare and contrast Routing Information Protocol (RIP), Enhanced Interior Gateway Routing Protocol (EIGRP), and Open Shortest Path First (OSPF) in terms of efficiency and use cases.	CO3, L4	8

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Please check that this question paper contains ____9__ questions and ____1__ printed pages within first ten

[Total No. of Questions: 09]
Uni. Roll No. .....

[Total No. of Pages: 01]

Program: B.Tech (Batch 2018 onward)
Semester: 5th
Name of Subject: Advanced Computer Networks
Subject Code: PEIT-106
Paper ID: 16449

Time Allowed: 03 Hours **Max. Marks: 60**

NOTE:

1) Parts A and B are compulsory
2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
3) Any missing data may be assumed appropriately

Part – A **[Marks: 02 each]**

1.

a) What is Authentication header?
b) Define Personal Area Network?
c) Give details about the term SNMP.
d) List some Application Layer Protocols and explain them briefly.
e) Explain Data Encapsulation with an example?
f) Discuss the three-way handshaking protocol.

Part – B **[Marks: 04 each]**

2. Explain the role of Ethernet cabling.
3. Illustrate the simple overview of IPv6.
4. Explain Spanning Tree Protocol.
5. Give an overview of a Switch. What are Managed and Unmanaged Switches?
6. Elaborate the working of DHCP.
7. Differentiate between Half and Full Duplex Ethernet.

Part – C **[Marks: 12 each]**

8. Explain in detail the three-layer hierarchical network. Also compare its different layers with their functions.

OR

Summarize the features, advantages and applications of Adhoc Networks.

9. Define VLAN. Differentiate Static VLAN vs Dynamic VLAN. Analyze communication between VLAN of different configuration.

OR

Compare adhoc networks from cellular networks? Also explain advantages along with limitations and gaps.

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