Mid Semester Examination

Name of the Program: Diploma (CSE) *Semester: 4th*

Name of the Course: Computer Networks *Course Code: DTCS-403*

Time: 1-1/2 Hour Maximum Marks: 50

Note:

(i) Answer **all the questions** by choosing ***any one of the sub-questions***.

(ii) Each question carries 10 marks

Q1	(10 marks)	CO1
(a)	What is the significance of topologies? What are the different types of topologies? Explain all types of topologies with their advantages and disadvantages.	
	OR	
(b)	Explain the significance of Switching? Explain the working and significant difference between packet Switching and circuit switching.	
Q2	(10 marks)	CO1
(a)	Explain different types of classification of Computer Networks? Classify the networks based on the geography. Compare and contrast all of its types of Networks.	
	OR	
(b)	How data **encapsulation and decapsulation works** in networking? Explain with neat diagram.	
Q3	(10 marks)	CO2
(a)	How peers' architecture is different from client-server architecture. Compare the performance for both architectures having n number of active hosts for data frame of size F bits in terms of delay. What is Peer architecture, explain with the help of bit torrent and a diagram.	
	OR	
(b)	Describe the process of sending an email, incorporating the SMTP protocol, accompanied by an illustrative diagram. Additionally, discuss the importance of POP3 and IMAP protocols in email communication.	
Q4	(10 marks)	CO1/ CO2
(a)	How does the OSI model facilitate communication between different network devices and protocols? Provide examples of protocols or technologies associated with each layer of the OSI model.	
	OR	
(b)	Explain the working of HTTP protocol with the help of an example.	
Q5	(10 marks)	CO2
(a)	Write the short notes on: a) Switches b) Routers c) Modems d) Hubs e) Gateways	
	OR	

(b)	What is the primary function of the Domain Name System (DNS) in computer networks? Provide a detailed explanation of how DNS functions, including a well-illustrated diagram.	