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| **SESSION** | **NOV-DEC 2023** |
| **PROGRAM** | **BACHELOR OF COMPUTER APPLICATIONS (BCA)** |
| **SEMESTER** | **IV** |
| **COURSE CODE & NAME** | **DCA2201–COMPUTER NETWORKING** |
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**SET-I**

**1. Explain about following Reference Models**

**i. OSI Reference Model**

**ii. TCP/IP model**

**Ans 1.**

The study of computer networking involves understanding various models that provide frameworks for the design and implementation of network protocols and architectures. Two of the most significant models are the OSI (Open Systems Interconnection) Reference Model and the TCP/IP (Transmission Control Protocol/Internet Protocol) model.

1. **OSI Reference**

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**2. What is Framing? Explain the following framing techniques.**

**i Byte-Oriented Protocols (BISYNC, PPP, DDCMP)**

**ii. Bit-Oriented Protocols (HDLC)**

**iii. Clock-based Framing (SONET)**

**Ans 2.**

**Introduction to Framing**

In computer networking, framing refers to a process of encapsulating data for transmission over a network. Framing is a core aspect of data link layer protocols in the OSI model. It involves the addition of headers and trailers around data from the network layer. These headers and trailers are used to define the start and end of the frame, ensure data integrity, and manage flow and error

**3. Explain Virtual Circuits and Datagram Networks 10**

**Ans 3.**

Virtual Circuits and Datagram Networks are two fundamental concepts in the field of computer networking, each representing a different approach to data transmission and network communication.

**Virtual Circuits**

Virtual Circuits (VCs) are a type of network communication method where a pre-established path is set up

**SET-II**

**4. Describe in detail about Connection-Oriented Transport: TCP 10**

**Ans 4.**

**Connection-Oriented Transport: TCP**

The world of computer networking is vast and complex, with various protocols and systems that ensure the efficient and reliable transmission of data across networks. Among these, Transmission Control Protocol (TCP), a cornerstone of the Internet protocol suite, stands out for its unique characteristics and pivotal role in enabling connection-oriented communication. This essay delves into the

**5. What is Queuing? Explain the following Queuing techniques:**

**i. FIFO**

**ii. Fair Queuing**

**Ans 5.**

**Queuing**

Queuing in computer networking refers to the process of managing data packets or frames that are waiting to be transmitted across a network. This process is crucial because it affects how efficiently data is transmitted and how network resources are utilized. Different queuing techniques are employed to manage traffic effectively, ensuring that the network operates smoothly and that data packets

**6. Explain the Domain Name System in detail 10**

**Ans 6.**

The Domain Name System (DNS) is a critical component of the internet's infrastructure, serving as the phone book of the internet. This system translates human-readable domain names (like [www.example.com](http://www.example.com/)) into IP addresses that computers use to identify each other on the network. Without DNS, we would have to remember the numerical IP addresses of every website we want to visit, which is not practical.

**Understanding DNS**

DNS is a