INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)
Dundigal, Hyderabad - 500 043

COMPUTER SCIENCE AND ENGINEERING

TUTORIAL QUESTION BANK

Course Name	**COMPUTER NETWORKS**
Course Code	**AIT003**
Class	**B. Tech IV Semester**
Branch	**Computer Science and Engineering**
Year	**2018 –19**
Course Coordinator	**Mr. N Poornachandra Rao, Assistant Professor, CSE**
Course Faculty	**Mr. C Raghavendra, Assistant Professor, CSE**

COURSE OVERVIEW:

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited.

In line with this, Faculty of Institute of Aeronautical Engineering, Hyderabad has taken a lead in incorporating philosophy of outcome-based education in the process of problem solving and career development. So, all students of the institute should understand the depth and approach of course to be taught through this question bank, which will enhance learner's learning process.

COURSE OBJECTIVIES:

The course should enable the students to:

I. Recognize modern network architectures from a design and performance perspective.
II. Understand the basics and challenges of network communication.
III. Provide an opportunity to do network programming using TCP/IP.
IV. Interpret the operation of the protocols that are used inside the Internet.

COURSE LEARNING OUTCOMES:

Students, who complete the course, will have demonstrated the ability to do the following:

Sl. No	Course Learning Outcomes
CAIT003.01	**Understand** the importance of data networks and the Internet in supporting business communications and everyday activities.
CAIT003.02	**Classify** different network topologies, LANs, WANs, internetworks and models such as Open System Interconnect (OSI), TCP/IP.
CAIT003.03	**Understand** the significance and purpose of protocols, standards and their key elements use in data communications and networking.
CAIT003.04	**Describe** the relationship between data and signals, their types, behavior, properties, characterization and transmission in the physical layer.
CAIT003.05	**Understand** the basic concepts of data communications including the key aspects of networking and their interrelationship, packet switching, circuit switching as internal external operations, physical structures, types, models and internetworking.
CAIT003.06	**Understand** the concept, advantages, analysis of cyclic codes including their algebraic representation and explain the design, implementation, performance of cyclic redundancy check, checksum.
CAIT003.07	**Understand** the basic difference between data logical link control, media access control and discuss logical link control with reference to framing, flow and error control.
CAIT003.08	**Describe** the reliable inter-node transmission of frames and discuss the ability to compare and contrast high-level data link control protocol and point-to-point protocol (HDLC, PPP).

CAIT003.09	**Understand** connecting LAN's, backbone networks, and virtual LAN's and operations of bridges, spanning tree algorithm in networks.
CAIT003.10	**Explain** the role of data link layer protocols in data transmission and the preparation method of data for transmission on network media.
CAIT003.11	**Understand** routing principles and algorithms such as distance vector and link state and usage of the routing protocols on the Internet such as RIP, OSPF, and BGP.
CAIT003.12	**Understand** internetworking principles and the operation of Internet protocols IP, IPv4, IPv6 and ICMP.
CAIT003.13	**Explain** and demonstrate the mechanics associated with IP addressing, device interface, association between physical and logical addressing.
CAIT003.14	**Understand** the concepts of transport service, elements of transport protocol and congestion control in the computer networks.
CAIT003.15	**Describe** the utilization of transport layer protocols in the control congestion on the Internet.
CAIT003.16	**Analyze** the correct transport layer protocol, such as TCP and UDP to transfer data segments in the networks.
CAIT003.17	**Describe** the SCTP, RTP protocols and analyze the applications based on these protocols, network activity at the transport layer.
CAIT003.18	**Analyze** the operations and features of common application layer protocols such as Hyper Text Transfer protocol (HTTP), File transfer Protocol (FTP.)
CAIT003.19	**Describe** the operations and features of common application layer protocols such as Dynamic Host Configuration Protocol (DHCP), Simple Network Management Protocol (SNMP).
CAIT003.20	**Describe** SSH-based applications, socket programming and its role in application processing.
CAIT003.21	**Analyze** the process of map hostnames to IP addresses using Domain Naming System (DNS) protocol.
CAIT003.22	**Understand** the concepts of E-mail, telnet, secure shell in computer networks.
CAIT003.23	**Possess** the Remember and skills for employability and to succeed in national and international level competitive examinations.
CAIT003.24	**Possess** the Remember and skills currently use in the Internet work and the requirements for designing network protocols.

TUTORIAL QUESTION BANK

UNIT - I			
PART - A (SHORT ANSWER QUESTIONS)			
Sl. No.	**Question**	**Blooms Taxonomy Level**	**Course Learning Outcomes**
1.	State two disadvantages of twisted pair cables.	Remember	CAIT003.01
2.	Define packet switching?	Remember	CAIT003.01
3.	Define Data rate?	Understand	CAIT003.01
4.	List two advantages and two disadvantages of bus topology in network.	Understand	CAIT003.05
5.	State Nyquist Bit Rate?	Remember	CAIT003.03
6.	List two advantages of layering principle in computer networks?	Understand	CAIT003.02
7.	Explain the role of ARPANET in computer networks?	Remember	CAIT003.02
8.	Distinguish between baseband transmission and broadband transmission?	Understand	CAIT003.02
9.	Define network.	Remember	CAIT003.01
10.	List different types of networks?	Understand	CAIT003.02
11.	Discuss why are protocols needed?	Understand	CAIT003.03
12.	Discuss two points to improve the performance of network?	Understand	CAIT003.03
13.	What is meant by topology? Name some popular topologies?	Remember	CAIT003.07
14.	Define switching?	Remember	CAIT003.04
15.	Describe Why are standards needed?	Understand	CAIT003.02
16.	Write the importance about MAN?	Understand	CAIT003.02
17.	Describe the Noise?	Understand	CAIT003.07
18.	Write a short note on WAN?	Understand	CAIT003.02
19.	List the Transmission Impairments?	Remember	CAIT003.03
20.	Discuss on Distortion?	Understand	CAIT003.01
21.	Discuss on internet history?	Remember	CAIT003.01
22.	List the types of the Transmission mediums?	Remember	CAIT003.01
23.	Give the importance of LAN?	Understand	CAIT003.02

24.	Define Attenuation?	Understand	CAIT003.02
25.	Define Shannon Capacity?	Remember	CAIT003.06
27.	Discuss how do the layers of the Internet model correlate to the layers of the OSI model?	Understand	CAIT003.02
28.	Differentiate four basic topologies?	Understand	CAIT003.03
29.	Write two advantages and disadvantages of computer networks.	Remember	CAIT003.07
30.	List the Layers of the OSI model?	Remember	CAIT003.01
31.	List the layers of the TCP/IP reference model?	Remember	CAIT003.01
32.	List out the functions of the Physical Layer?	Remember	CAIT003.07
	PART -B (LONG ANSWER QUESTIONS)		
1.	Describe TCP/IP Model? Explain the functions and protocols and services of each layer? Compare it with OSI Model.	Remember	CAIT003.02
2.	Distinguish the OSI and TCP/IP Reference Models	Understand	CAIT003.02
3.	Define computer networks? Describe various types of networks topologies in computer network. Also discuss various advantages and disadvantages of each topology.	Remember	CAIT003.03
4.	Define switching? Explain circuit switching?	Understand	CAIT003.04
5.	Give a detailed note on three types of transmission impairment?	Remember	CAIT003.04
6.	Distinguish between baseband transmission and broadband transmission?	Understand	CAIT003.04
7.	Define switching? Explain packet switching?	Understand	CAIT003.02
8.	With a neat sketch explain ISO/OSI reference model?	Understand	CAIT003.02
9.	Define topology and explain the various topologies of the network?	Remember	CAIT003.03
10.	Discuss and compare various types of networks.	Understand	CAIT003.03
11.	List out and explain are the applications of Computer Networks?	Understand	CAIT003.01
12.	Define OSI Model? Explain the functions and protocols and services of each layer?	Understand	CAIT003.02
13.	Explain the following:- a) LAN b) MAN c) WAN d) ARPANET	Understand	CAIT003.02
14.	Explain how are OSI and ISO related to each other?	Remember	CAIT003.02
15.	Illustrate some of the factors that determine whether a unification system is a LAN or WAN?	Understand	CAIT003.03
16.	Calculate the maximum bit rate? Consider a noiseless channel with a bandwidth of 3000 Hz transmitting a signal with two signal levels.	Remember	CAIT003.02
17.	Explain Shannon Capacity with example	Understand	CAIT003.03
18.	Explain Nyquist Bit Rate with example?	Understand	CAIT003.01
19.	Define Bit Rate and explain factors effects the bit rate?	Understand	CAIT003.02
	PART -C (CRITICAL THINKING QUESTIONS)		
1.	Imagine a signal travels through a transmission medium and its power is reduced to half. This means $p_2 = (1/2)\ p1$. Calculate Attenuation.	Understand	CAIT003.04
2.	Consider a telephone line normally has a bandwidth of 3000 Hz (300 to 3300 Hz) assigned for data communications. The signal-to-noise ratio is usually 3162. Calculate the channel capacity for this channel?	Understand	CAIT003.04
3.	Consider the difference between circuit switching and packet switching. Assume the link's rate is 2 Mbps and users are generating data at a rate of 100 Kbps when busy. Users are busy only %1 of time. a. What is the maximum number of users that a circuit switching architecture can support simultaneously?	Understand	CAIT003.01
4.	A network with bandwidth of 10 Mbps can pass only an average of 12,000 frames per minute with each frame carrying an average of 10,000 bits. What is the throughput of this network?	Understand	CAIT003.04
5.	For a wavelength in vacuum of 1550 nm, the corresponding frequency is $f = c/\lambda = (3 * 10^8) / (1550*10^{-9}) = 193.4 * 10^{12} = 193.4$ THz. for a typical single mode fiber, the velocity of propagation is approximately $v = 2.04 * 10^8$. Find out Wavelength of the Fiber optic cable.	Understand	CAIT003.01
	UNIT – II		
	PART - A (SHORT ANSWER QUESTIONS)		
1.	What is redundancy?	Understand	CAIT003.06
2.	What is vulnerable period?	Understand	CAIT003.09
3.	List three categories of multiple access protocols?	Remember	CAIT003.07
4.	Define CSMA and CDMA?	Understand	CAIT003.07
5.	List out the available error detection methods.	Remember	CAIT003.06
6.	What is an exponential back off?	Understand	CAIT003.07
7.	What are the responsibilities of data link layer?	Remember	CAIT003.06
8.	Mention the types of errors.	Understand	CAIT003.06
9.	Define bridge?	Remember	CAIT003.09
10.	Write a short note on Hub?	Understand	CAIT003.09
11.	Describe the functionalities of router?	Remember	CAIT003.09

12.	Define ALOHA?	Understand	CAIT003.07
13.	Describe checksum?	Remember	CAIT003.06
14.	What is HDLC?	Understand	CAIT003.06
15.	Give a note on VLAN?	Remember	CAIT003.06
16.	Write short notes on CRC generator	Understand	CAIT003.06
17.	How performance is improved in CSMA/CD protocol compared to CSMA protocol?	Understand	CAIT003.07
18.	Give data transfer modes of HDLC?	Understand	CAIT003.06
19.	What is vulnerable time?	Remember	CAIT003.07
20.	Distinguish between FDMA and TDMA?	Understand	CAIT003.07
21.	Write short notes on CRC.	Remember	CAIT003.06
22.	What are the steps followed in checksum generator?	Understand	CAIT003.06
23	Define parameter 'a'. How does it affect the performance of the CSMA?	Remember	CAIT003.05
	PART -B (LONG ANSWER QUESTIONS)		
1.	Compare and contrast Go back N and selective Repeat	Understand	CAIT003.06
2.	List and briefly discuss the two different basic transmission technologies.	Remember	CAIT003.06
3.	How many types of frames HDLC uses? Explain briefly?	Remember	CAIT003.07
4.	What is pure ALOHA and slotted ALOHA? Consider the delay of both at low load. Which one is less? Explain your answer.	Understand	CAIT003.07
5.	Explain the working of carrier sense multiple access protocol?	Remember	CAIT003.07
6.	Describe the back-off time of PURE ALOHA protocol?	Understand	CAIT003.07
7.	Explain in details the types of bridges.	Remember	CAIT003.09
8.	State and explain the functions of MAC.	Remember	CAIT003.06
9.	How performance is improved in CSMA/CD protocol compared to CSMA protocol? Explain.	Understand	CAIT003.09
10.	How CSMA/CA differs from CSMA/CD. Explain in brief?	Remember	CAIT003.07
11.	What is the purpose of the timer at the sender site in systems using	Understand	CAIT003.07
12.	Explain Error Control & Flow Control.	Remember	CAIT003.08
13.	Why collision is an issue in a random access protocol but not in controlled access or channelizing protocols?	Understand	CAIT003.08
14.	Compare and contrast a controlled access protocol with a channelizing protocol.	Remember	CAIT003.08
15.	Do we need a multiple access protocol when we use the local loop of the telephone company to access the internet? Explain.	Understand	CAIT003.08
	PART - C (CRITICAL THINKING QUESTIONS)		
1.	Derive the laplace transform of the message delay in FDMA in which every message contains a random number of packets. Compare the expected message delay with that of TDMA?	Understand	CAIT003.07
2.	A network with one primary and four secondary stations uses polling. The size of a data frame is 1000 bytes. The size of the poll, ACK and NAK frames are 32 bytes each. Each station has 5 frames to send. How many total bytes are exchanged if there is no limitation on the number of frames a station can send in response to a poll?	Understand	CAIT003.07
3.	Find CRC for P = 110011 and M = 1100011?	Understand	CAIT003.06
4.	One hundred stations on a pure ALOHA network share a 1- Mbps channel. If frames are 1000 bits long, find the throughput if each station is sending 10 frames/sec?	Remember	CAIT003.06
5.	Calculate the hamming distance for each of the following code words? i. d(10000, 01000) ii. d(10101, 10010) iii. d(1111, 1111) iv. d(0000, 0000)	Remember	CAIT003.06
	UNIT – III		
	PART - A (SHORT ANSWER QUESTIONS)		
1.	State quality of service.	Remember	CAIT003.11
2.	List the classifications of the adaptive algorithms.	Understand	CAIT003.11
3.	List the classifications of the non-adaptive algorithms.	Remember	CAIT003.06
4.	Write the keys for understanding the distance vector routing.	Understand	CAIT003.10
5.	Define Flooding.	Remember	CAIT003.11
6	What is meant by routing algorithm?	Remember	CAIT003.11
7.	Give a note on optimality principle.	Understand	CAIT003.11
8.	Define Adaptive routing algorithms.	Remember	CAIT003.10
9.	Define Non-Adaptive routing algorithms.	Understand	CAIT003.14
10.	What is congestion control?	Remember	CAIT003.14
11.	Define Traffic shaping.	Understand	CAIT003.06
12.	State on Leaky bucket algorithm.	Remember	CAIT003.10
13.	Define Load shedding.	Understand	CAIT003.10
14.	What are the design issues of network layer?	Remember	CAIT003.06

15.	List network support layers and the user support layers.	Remember	CAIT003.10
16.	State store and forward.	Understand	CAIT003.10
17.	Give a note on shortest path.	Remember	CAIT003.11
18.	Write the keys for understanding the link state routing.	Understand	CAIT003.10
19.	List the requirements of the routing algorithms.	Remember	CAIT003.11
20.	List the three variant s of the internetworking.	Understand	CAIT003.11
1.	Define virtual circuit.	Remember	CAIT003.10
2.	List out responsibilities of network layer.	Remember	CAIT003.10
3.	Define datagram's.	Remember	CAIT003.12
4.	How broadcast and multicast address is represented in IP addressing scheme?	Understand	CAIT003.12
5.	Differentiate between Datagram and datagram networks.	Understand	CAIT003.11
6.	List the messages types of ICMP.	Understand	CAIT003.11
7.	Define BGP.	Remember	CAIT003.12
8.	Define IPv4.	Understand	CAIT003.11
9.	List out functions of IP.	Understand	CAIT003.12
10.	Define ICMP.	Remember	CAIT003.09
11.	State on IPv6.	Remember	CAIT003.12
12.	What is subnet mask?	Remember	CAIT003.11
13.	List the features of the IPv6 Protocol.	Understand	CAIT003.12
14.	Differentiate between virtual circuit and virtual circuit networks.	Remember	CAIT003.12
15.	List the two parts of OSPF Protocol.	Remember	CAIT003.10
16.	List the payload type's messages of OSPF.	Understand	CAIT003.11
	PART -B (LONG ANSWER QUESTIONS)		
1.	How the routers get the information about neighbor?	Remember	CAIT003.11
2.	How the packet cost referred in distance vector and link state routing?	Understand	CAIT003.11
3.	Describe the Routing Information protocol and Distance vector routing protocol?	Understand	CAIT003.12
4.	Explain Leaky bucket algorithm?		
5	Describe the Traffic Shaping?		
6.	Explain in detail about non-adaptive algorithms?	Understand	CAIT003.14
7.	Describe the Flooding algorithms?	Remember	CAIT003.14
8.	List the fields of an IPv4 datagram header that participate in fragmentation and reassembly.	Remember	CAIT003.13
9.	Explain the link state routing algorithm with an example?	Understand	CAIT003.13
10.	State the major difference between Distance Vector Routing and Link state routing. Discuss	Remember	CAIT003.11
11.	Describe the various congestion control mechanism in detail.	Understand	CAIT003.14
1.	Explain Internet Protocol with the neat block diagram of IP header format.	Understand	CAIT003.13
2.	List and explain the features of the IPv6 Protocol.	Understand	CAIT003.11
3.	Explain the IP packet format with neat diagram.	Understand	CAIT003.13
4.	Describe the IPv6 packet format.	Remember	CAIT003.11
5.	Explain the datagram delivery and forwarding in internet protocol.	Understand	CAIT003.13
6.	Find the class of each IP address. Give suitable explanation. i) 227.12.14.87 ii) 193.14.56.22 iii) 14.23.120.8 iv) 252.5.15.111 v) 134.11.78.56 vi) 172.18.58.1	Understand	CAIT003.13
7.	Explain ICMPv6 protocol.	Remember	CAIT003.11
8	Explain about Internet Control Message Protocol.	Understand	CAIT003.13
9	Define BGP Protocol. Describe its routing functionality in detail.	Remember	CAIT003.11
10.	Explain IP addressing method.	Understand	CAIT003.13
11.	Describe two groups of multicast routing protocols.	Understand	CAIT003.13
	PART -C (CRITICAL THINKING QUESTIONS)		
1.	Write the following MASKS in slash notation (/n). a) 255.0.0.0 b) 255.255.224.0 c) 255.255.255.0 d) 255.255.240.0	Remember	CAIT003.13
2.	Why are we running out of IPv4 addresses? How does IPv6 solve this problem?	Understand	CAIT003.12
3.	Find the class of the following IP addresses? a) 237.14.2.1 b) 208..35.54.12 c) 129.14.6.8 d) 114.34.2.8	Remember	CAIT003.13
4.	Design the autonomous system with the following specifications : a) There are 8 networks (N1 to N8) b) There are 8 routers (R1 to R8) c) N1,N2,N3,N4,N5 and N6 are Ethernet LANs d) N7 and N8 are point to point WANs e) R1 connects N1 and N2 f) R2 connects N1 and N7 g) R3 connects N2 and N8	Understand	CAIT003.13

5.	Consider a host using leaky bucket strategy for traffic shaping. The host sends a burst data at a rate of 15Mbps for first 3 seconds and remains silent for 2 seconds. Then again a burst data at a rate of 6 Mbps is send for next 2 seconds and then the host remains silent for next 2 seconds. Now again the host sends data at rate of 5 Mbps for next 3 seconds. What will be the output data rate of the leaky bucket?	Remember	CAIT003.13
UNIT – IV			
PART - A (SHORT ANSWER QUESTIONS)			
1.	List out functions of transport layer.	Remember	CAIT003.14
2.	Define Multi-protocol router.	Understand	CAIT003.16
3.	List out duties of the transport layer.	Remember	CAIT003.16
4.	Define role of TCP in networks.	Remember	CAIT003.16
5.	Differentiate between network layer delivery and the transport layer delivery.	Understand	CAIT003.18
6.	What are the different fields in pseudo header?	Remember	CAIT003.19
7.	Define quality of service.	Remember	CAIT003.17
8.	What is the main idea of UDP?	Understand	CAIT003.19
9.	List the timers used by TCP.	Remember	CAIT003.20
10.	How an application process running in one host is addressed by another process through TCP?	Understand	CAIT003.16
11.	Describe datagram format of UDP.	Understand	CAIT003.16
12.	What is traffic shaping?	Remember	CAIT003.20
13.	State two protocols available at transport layer.	Remember	CAIT003.19
14.	List out various congestion avoidance techniques.	Remember	CAIT003.18
15.	Distinguish between contention and congestion.	Understand	CAIT003.17
16.	Define tunneling.	Remember	CAIT003.18
17.	State the four major aspects of reliable delivery at the transport layer.	Remember	CAIT003.19
18.	How check sum is calculated in TCP?	Understand	CAIT003.16
19.	What is CODE BITS in TCP header?	Understand	CAIT003.16
20.	State the use of SYN and FIN bits in TCP.	Remember	CAIT003.16
21.	What is the difference between TCP?	Remember	CAIT003.16
22.	Draw UDP header format.	Remember	CAIT003.16
23.	Write a short note on transport layer services.	Understand	CAIT003.17
24.	What is congestion? How to control congestion?	Understand	CAIT003.19
25.	Define multiplexing.	Remember	CAIT003.17
26.	How connection establishment is acquiring?	Understand	CAIT003.17
27.	How to release a connection from the network?	Remember	CAIT003.17
28.	Draw UDP header format.	Remember	CAIT003.16
PART -B (LONG ANSWER QUESTIONS)			
1.	Explain the real transport protocol of UDP and how will you calculate checksum in UDP.	Remember	CAIT003.16
2.	Draw neatly the TCP segment format and describe each of it.	Understand	CAIT003.16
3.	List out the network performance characteristics.	Remember	CAIT003.17
4.	Describe the adaptive retransmission policy in detail.	Understand	CAIT003.17
5.	Explain the TCP connection establishment and termination using timeline diagram?	Remember	CAIT003.16
6.	Describe the three way handshake protocol to establish the transport level connection.	Remember	CAIT003.16
7.	Draw TCP state transition diagram and describe each of it.	Understand	CAIT003.16
8.	Give a detailed note on connection establishment.	Remember	CAIT003.17
9.	Discuss about the TCP sliding window algorithm for flow control.	Understand	CAIT003.16
10.	Write congestion control algorithms and describe how it works.	Remember	CAIT003.18
11.	Explain leaky bucket and token bucket algorithm.	Understand	CAIT003.19
12.	Distinguish UDP & TCP with suitable example.	Remember	CAIT003.16
13.	Describe congestion avoidance techniques in detail.	Understand	CAIT003.19
14.	List major types of networks and give brief note on each of it.	Remember	CAIT003.17
15.	Illustrate data units at different layers of the TCP / IP protocol suite.	Remember	CAIT003.16
PART -C (CRITICAL THINKING QUESTIONS)			
1.	An end system sends 50 packets for second using UDP over a full duplex mode 100 Mbps Ethernet LAN Connection. Each packet consists of 1500 Bytes of the Ethernet frame payload data. What is the throughput when measured at UDP protocol?	Remember	CAIT003.16
2.	Assume each packet has typical TCP and IP headers each 20bytes long. If we have three computers, A, B and C. The link between A and B has an MTU of 3000 bytes, while the link between B and C has an MTU of 1000 bytes. Consider the case where a packet needs to be sent from A to C that has a size of 3000 bytes (including headers). How many fragments will we have from B to C, and how much data will be in each fragment (i.e. excluding headers)? (all connections are assumed to be Ethernet)	Understand	CAIT003.16

3.	A TCP connection is using a window size of 12000 bytes and the previous acknowledgement remembrance number was 22001.It receives a segment with acknowledgment number 24001 and window size advertisement of 12000. Design a diagram to show the situation of the window before and after?	Remember	CAIT003.16
4.	A client uses UDP to send data to a server. The data are 15 bytes. Calculate the efficiency of this transmission at the UDP level (ratio of useful bytes to total bytes)?	Understand	CAIT003.16
UNIT – V			
PART - A (SHORT ANSWER QUESTIONS)			
1.	Define Internet Transport Protocols.	Understand	CAIT003.20
2.	What is the purpose of Domain Name System?	Remember	CAIT003.21
3.	State advantages of stateless server of HTTP.	Remember	CAIT003.21
4.	Define message Formatting.	Remember	CAIT003.22
5.	Discuss the three main division of the domain name space.	Remember	CAIT003.22
6.	Differentiate between FTP & HTTP.	Understand	CAIT003.22
7.	Discuss the basic model of FTP.	Understand	CAIT003.22
8.	Describe the need of Uniform Resource Locator in WWW.	Understand	CAIT003.24
9.	List two applications of Application Layer?	Remember	CAIT003.24
10.	What is DNS Name Space?	Understand	CAIT003.24
11.	List the advantages of Email.	Remember	CAIT003.23
12.	Define SNMP.	Remember	CAIT003.22
13.	Describe the concept of Telnet.	Understand	CAIT003.24
14.	Define FTP.	Remember	CAIT003.24
15.	Give a note on MIME.	Understand	CAIT003.23
16.	Illustrate the use of MIME Extension.	Remember	CAIT003.23
17.	Give a brief history of WWW?	Understand	CAIT003.24
18.	Define Lossy Compression and Lossless Compression?	Remember	CAIT003.23
PART -B (LONG ANSWER QUESTIONS)			
1.	What are the duties of FTP protocol?	Remember	CAIT003.23
2.	Define two methods of HTTP.	Remember	CAIT003.22
3.	Define Big-endian format and little-endian format.	Remember	CAIT003.22
4.	Describe the role of the local name server and the authoritative name server in DNS.	Understand	CAIT003.22
5.	Define Domain Name Service (DNS) and explain in detail about the domain hierarchy and name servers?	Remember	CAIT003.24
6.	Explain in detail about the working principles of Simple Network Management Protocol (SNMP).	Understand	CAIT003.24
7.	What is HTTP protocol used for? What is the default port number of HTTP protocol?	Understand	CAIT003.24
8.	Describe in detail about the World Wide Web.	Understand	CAIT003.24
9.	Explain the working principle of FTP in detail with neat diagram.	Understand	CAIT003.23
10.	Differentiate between ARP and RARP.	Understand	CAIT003.21
11.	Explain the specific purposes of the DNS, HTTP application layer protocols.	Understand	CAIT003.21
12.	Compare and contrast client/server with peer-to-peer data transfer over networks.	Understand	CAIT003.23
PART -C (CRITICAL THINKING QUESTIONS)			
1.	Determine which of the following an FQDN is and which is a PQDN? a. Mil b. Edu c. xxx.yyy.net	Understand	CAIT003.23
2.	Discuss the TCP connection needed in the FTP?	Remember	CAIT003.22
3.	Determine which of the following an FQDN is and which is a PQDN? a. Mil b. edu c. xxx.yyy.net d. zzz.yyy.xxx.edu	Remember	CAIT003.22
4.	Interpret the following sequences of characters (In Hexadecimals) received by a TELNET client or server? a. FFFB01 c. FFF4 b. FFFE01 d. FFF9	Understand	CAIT003.23
5.	Show the sequence of bits sent from a client TELNET for the binary transmission of 11110011 00111100 11111111	Understand	CAIT003.23

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