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Enrollment No.....



Faculty of Science
End Sem (Odd) Examination Dec-2018
CA3CO10 Computer Networks
Programme: BCA Branch/Specialisation: Computer Application

Duration: 3 Hrs.

Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only A, B, C or D.

- Q.1 i. Which layers of the OSI model are host-to-host layers? **1**
(a) Transport, Session, Presentation, Application
(b) Network, Transport, Session, Presentation
(c) Data link, Network, Transport, Session
(d) Physical, Data link, Network, Transport
- ii. Repeater operates in which layer of the OSI model? **1**
(a) Physical layer (b) Data link layer
(c) Network layer (d) Transport layer
- iii. Which of the following is not a guided transmission Media? **1**
(a) Magnetic Media (b) Infrared Transmission
(c) Twisted Pairs (d) Fiber Optics
- iv. Fiber optics possess following properties **1**
(a) Immune electromagnetic interference
(b) Very less signal attenuation
(c) Very hard to tap
(d) All of these
- v. Which of the following is the Error correction code: **1**
(a) Parity check code (b) Hamming code
(c) CRC Code (d) Checksum code
- vi. Sender window size of Selective repeat ARQ is: **1**
(a) At most $n/2$ (b) At most $n*2$
(c) At most n^2 (d) At most 2^n-1

P.T.O.

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- vii. A data unit in Network layer is called: **1**
(a) Frame (b) Packet (c) Datagram (d) None of these
- viii. Address size of IPv6 is: **1**
(a) 32 bit (b) 64 bit (c) 128 bit (d) 256 bit
- ix. Which of the following protocol is/are defined in Transport layer? **1**
(a) FTP (b) SMTP (c) UDP (d) Telnet
- x. DNS is the abbreviation of: **1**
(a) Dynamic Name System (b) Dynamic Network System
(c) Domain Name System (d) Domain Network Service

- Q.2 Attempt any two:
- i. Define the following: **5**
(a) Computer Network (b) Internet
(c) Intranet (d) WAN
- ii. With the help of diagram write the working of various layers of OSI Model. **5**
- iii. Write the various network software and hardware with their working. **5**

- Q.3 Attempt any two:
- i. Explain the working of two guided media. **5**
- ii. Briefly describe: **5**
(a) Radio Transmission (b) Infrared Transmission
- iii. Explain the working of public switched telephone network with diagram. **5**

- Q.4 Attempt any two:
- i. Explain the working of Hamming code with example 110011. **5**
- ii. Discuss the working of Go-Back-N ARQ. Also explain how exceptional conditions are handled? **5**
- iii. Briefly describe two multiple access protocols. **5**

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- Q.5 Attempt any two:
- i. Define the following: **5**
(a) Routing (b) Broadcast routing
(c) Multicast routing (d) Hierarchical routing
- ii. Differentiate distance vector and link state routing. **5**
- iii. Write the need and various classes of IPv4 address with example. **5**
- Q.6 Attempt any two:
- i. Differentiate TCP and UDP. **5**
- ii. Explain the various protocols used in electronic mail. **5**
- iii. Briefly explain the working of digital signature. **5**

Marking Scheme
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Q.1	i.	Which layers of the OSI model are host-to-host layers? (a) Transport, Session, Presentation, Application	1
	ii.	Repeater operates in which layer of the OSI model? (a) Physical layer	1
	iii.	Which of the following is not a guided transmission Media? (b) Infrared Transmission	1
	iv.	Fiber optics possess following properties (d) All of these	1
	v.	Which of the following is the Error correction code: (b) Hamming code	1
	vi.	Sender window size of Selective repeat ARQ is: (a) At most n/2	1
	vii.	A data unit in Network layer is called: (b) Packet	1
	viii.	Address size of IPv6 is: (c) 128 bit	1
	ix.	Which of the following protocol is/are defined in Transport layer? (c) UDP	1
	x.	DNS is the abbreviation of: (c) Domain Name System	1
Q.2		Attempt any two:	
	i.	Define the following: 1.25 marks each (1.25 mark *4)	5
		(a) Computer Network (b) Internet (c) Intranet (d) WAN	
	ii.	Diagram of OSI Layers of OSI Model.	2 marks 3 marks
	iii.	Names of network software and hardware Working of network software and hardware	2 marks 3 marks.
Q.3		Attempt any two:	
	i.	Working of two guided media.2.5 marks each	5
	ii.	Briefly describe: 2.5 marks each (2.5 marks *2)	5
		(a) Radio Transmission (b) Infrared Transmission	

iii.	diagram. of public switched telephone network	2 marks	5
	Working of public switched telephone network	3 marks	
Q.4	Attempt any two:		
	i.	Explanation of Hamming code Example 110011.	3 marks 2 marks
	ii.	Working of Go-Back-N ARQ with diagram Exceptional conditions Go-Back-N ARQ	3 marks 2 marks
	iii.	Two multiple access protocols.2.5 marks each	(2.5 marks * 2) 5
Q.5	Attempt any two:		
	i.	Define the following: 1.25 marks each (1.25 mark *4)	5
		(a) Routing (b) Broadcast routing (c) Multicast routing (d) Hierarchical routing	
	ii.	Difference b/w distance vector and link state routing. At least 5 differences for each	5
	iii.	Need of IpV4 address Classes of IpV4 address	1 mark 4 marks
Q.6	Attempt any two:		
	i.	Difference b/w TCP and UDP. At least 5 differences for each	5
	ii.	Three protocols with description	5
	iii.	Diagram of digital signature Working of digital signature.	2 marks 3 marks
