DAYANANDA SAGAR UNIVERSITY

USN No:

III Semester BCA Examinations – December 2018 / January 2019

Course Title: Computer Networks | **Course Code:** 16CA201
Duration: 03 Hours | **Date:** 17-12-2018
Time: 10:00 AM to 01:00 PM | **Max Marks:** 60

Note:
1. **Answer 5 full questions choosing one from each Section**
2. **Each Section carries 12 Marks**
3. **Draw neat sketches wherever necessary**
4. **Missing Data may be suitably assumed**

SECTION – 1

1.a. Define Computer Networks and Protocol. (02 Marks)

1.b. Explain about OSI reference model in detail. (10 Marks)

OR

2.a. Explain various Network topologies in brief. (06 Marks)

2.b. Apply the various encodings like NRZ-I, Manchester encoding for below data stream. (02 Marks)
(i) 0010 0001 (ii) 0110 1000

2.c. Explain Multiplexing techniques like TDM and FDM. (04 Marks)

SECTION – 2

3.a. Explain Framing in brief. (04 Marks)

3.b. Explain about. (08 Marks)
(i) FDDI (ii) CRC

OR

4.a. Explain CSMA/CD in detail. (05 Marks)

4.b. Explain Stop and Wait Error control technique with different cases. (05 Marks)

4.c. In Goback5 and Selective Repeat if every 5th packet is lost and suppose we have to send 10 packets, estimate how many retransmissions are required? (02 Marks)

(P.T.O)

SECTION – 3

5.a.	Distinguish between Packet and Circuit switching.	(02 Marks)
5.b.	Explain about the terms (i) Subnetting (ii) Global address (iii) Datagram Forwarding	(09 Marks)
5.c.	Define ICMP.	(01 Mark)

OR

6.a.	Define Virtual circuit switching.	(02 Marks)
6.b.	Explain the following protocols (i) RIP (ii) OSPF	(10 Marks)

SECTION – 4

7.a.	Write the function of Transport layer.	(02 Marks)
7.b.	Explain about Flow control in TCP.	(05 Marks)
7.c.	Explain about Retransmission in TCP.	(05 Marks)

OR

8.a.	Distinguish TCP and UDP.	(02 Marks)
8.b.	Describe about Congestion control in detail.	(10 Marks)

SECTION – 5

9.a.	Why do we need application layer protocols?	(02 Marks)
9.b.	Explain about (i) SNMP (ii) FTP	(10 Marks)

OR

10.a.	Summarize about various E-mail protocols.	(08 Marks)
10.b.	Define DNS and HTTP.	(04 Marks)

Course: 16CA201 - Computer Networks Event: ODD SEM BCA (DEC 2017)

DAYANANDA SAGAR UNIVERSITY

USN No:

III Semester B.C.A. Examinations – December 2017

Course Title: Computer Networks **Course Code:** 16CA201
Duration: 03 Hours **Date:** 19-12-2017
Time: 10:00 AM to 01:00 PM **Max Marks:** 60

Note: **1. Answer 5 full questions choosing one from each section**
2. Draw neat sketches wherever necessary
3. Missing Data may be suitably assumed

SECTION – 1

1.a. Explain the fundamental characteristics and components of data communication system. (02 Marks)

1.b. When is the use of multiplexing justified? Mention and explain different types of multiplexing. (06 Marks)

1.c. Explain the below networking devices: (04 Marks)
(i) Bridge (ii) Router
(iii) Active hub and passive hub (iv) Gateways

OR

2.a. Why are protocols needed? Explain the five layers of TCP/IP model. (04 Marks)

2.b. Draw the waveform of NRZ-L, NRZ-I, Alternate Mark Inversion, Manchester coding using below data stream. (08 Marks)
(i) 101000110 (ii) 111111111

SECTION – 2

3.a. What are Link layer services? Explain in detail. (06 Marks)

3.b. Explain CSMA/CD in detail. (06 Marks)

OR

4.a. Explain CSMA/CA in detail. (07 Marks)

4.b. What do you mean by Media Access control? (01 Mark)

4.c. Explain the terms: (04 Marks)
(i) Flow control (ii) Error control

(P.T.O.)

SECTION – 3

5.a.	What is the difference between Circuit Switching and Packet Switching?	(05 Marks)
5.b.	What is Routing? Explain Datagram forwarding in detail.	(04 Marks)
5.c.	Explain the terms: (i) ARP (ii) RIP (iii) OSPF	(03 Marks)

OR

6.a.	Explain the Virtual Circuit switching in detail.	(05 Marks)
6.b.	What do you mean by global address? Explain the classful addressing.	(04 Marks)
6.c.	Explain the terms: (i) ICMP (ii) BGP (iii) IPV6	(03 Marks)

SECTION – 4

7.a.	Explain the Role of Transport layer.	(02 Marks)
7.b.	Imagine a TCP connection is transferring a file of 6000 bytes. The first byte is numbered 10010. What are the sequence numbers for each segment if data are sent in five segments with the first four segments carrying 1000 bytes and the last segment carrying 2000 bytes?	(06 Marks)
7.c.	What are PORT numbers? What is the difference between IP address and Port number?	(04 Marks)

OR

8.a.	What are the roles of Multiplexing and Demultiplexing in Transport layer?	(03 Marks)
8.b.	Explain Congestion Control in TCP.	(05 Marks)
8.c.	"In Fast Retransmit scheme the timer value is set fairly higher than the RTT". Explain.	(04 Marks)

SECTION – 5

9.a.	What is the need of Application layer Protocols. Explain HTTP protocol in detail.	(04 Marks)
9.b.	Explain the below protocols: (i) FTP (ii) SMTP	(08 Marks)

OR

10.a.	What are the Principles of Application layer Protocols. What are API's?	(04 Marks)
10.b.	Explain the below protocols: (i) Electronic Mail (ii) SNMP	(08 Marks)

INTERNAL ONLINE ASSESSMENT 3

COMPUTER GRAPHICS AND MULTIMEDIA (16CA225)

Ending at B(-1, 7) against the window having its lower left corner at L(-3,1) and upper right corner at R(2, 6). Find the two intersection points. *

- (-3, 11/3) and (-8/5, 6)
- (14/3, 2) and (6, -8/5)
- (11/3, -3) and (6, -8/5)
- (-3, 10/3) and (-8/5, 7)

Clip the line PQ having co-ordinates P(4, 1), and Q(6,4) against the clip window 4/4 having vertices A(3, 2) , B(7,2), C(7,6) and D(3,6) using Regioncode based line clipping algorithm. Find the two intersection points.

- (14/3, 2)
- (16/3, 2)
- (2, 16/3)
- (2, 14/3)

Voice recognition accuracy is given by _____

- (Number of substituted words/ Number of test words) x 100
- (Number of inserted words/ Number of Test words) x 100
- (Number of correctly recognised words/ Number of test words) x 100
- (Number of no responses/ Number of test words) x 100

RAID level 0 and 1 functionality respectively is _____

- Disc mirroring and Disc stripping
- Disc stripping and Drive mirroring
- Bit interleaving and Disc interleaving
- Block interleaving and Sector interleaving

_____ and _____ are the basic elements of all messages. *

- Message body without attachments
- Embedded and Linked objects
- Text and Rich text
- Message body with attachments

Sampling theorem dictates that sampling must be carried out at

- Spatial frequency
- Linear frequency

- Nyquist frequency
- Quantized frequency

An example for transparent objects with no temporal qualities and with temporal qualities respectively are _____

- Audio and Video
- Graphics and Video
- Graphics and Sound
- Images and Audio

The X.500 architecture is based on a _____ number of models *

- 1
- 2
- 3
- 4

The information about the change from one scene to the next is lost in

- Structures multimedia authoring
- Programmable authoring
- Dedicated authoring systems
- Timeline based authoring

_____ Causes blurring of the image and _____ causes edges to be emphasised. *

- Band pass and Low pass filter
- Laplacian and High pass filter
- Lowpass and High pass filter
- Laplacian and Weiner filter

A collection of _____ and _____ contributes a management domain. *

- MPDU and P3
- MTA and UA
- P2 and P3
- MTA and MTS

JPEG and MPEG are dedicated to a single data type rather than covering a variety of data types. *

- True
- False

Speech is _____ signal.*

- Digital
- Sinusoidal

- An analog
- Square

The last four bytes of TIFF header format represents _____ .*

- Version number
- Directory entry
- Byte order
- IFD

TIFF has been used as the model for RIFF. *

- True
- False

_____ Is crucial for sharing of data among multiple applications and for exchanging information between applications. *

- Application standards
- File format standards
- Data and File format standards
- Data standards

A track close to the head will be read first and then a more distant track although the distant track was requested first is called _____

- Midtransfer seek
- Overlapped seek
- Scatter seek
- Elevator seek

The General formatting of RTF includes _____

- Hyphens, Backslashes, Non breaking spaces
- Bold, italics, underline
- Footnotes, Annotation, Bookmarks
- Paragraph justification, indents and spacing between paragraphs

Which of the following statements are false according to TWAIN specification objective? *

- Multidata format
- Supports multiple platforms and multiple devices
- Easy to use
- Forward compatibility