PURBANCHAL UNIVERSITY

2013

Bachelor in Information Technology (B.I.T.)/Sixth Semester/Final

Time: 03:00 hrs. Full Marks: 80/Pass Marks: 32

BIT321CS: Computer Networks & Telecommunication

Candidates are required to give their answers in their own words as far as practicable.

Figure in the margin indicate full marks.

Group A

Answer TWO questions. **2×12=24**

1. What is OSI Reference Model? Explain the function of each layer?
2. How does ATM networks works? Explain in details.
3. What is CIDR? How can you connect 321 systems by using IP from class C without having a router?

Group B

Answer EIGHT questions. **8×7=56**

4. What is firewall? How does it work in LAN? Explain types also.
5. What is fourier analysis? Explain with figure.
6. What are the different types of data link protocols?
7. Differentiate between FDM and PDM.
8. How does BGP and OSPF work?
9. What are the different types of elements of transport protocols?
10. What is SNMP? How does MIB work?
11. What is e-mail? How does SMTP work?
12. What is Routed and Routing protocol? Differentiate between Distance vector routing and link state routing.
13. Write short notes on any TWO:

    (a) Tunneling (b) UDP (c) FDDI

PURBANCHAL UNIVERSITY

2014

Bachelor in Information Technology (B.I.T.)/Sixth Semester/*Final*

Time: 03:00 hrs. Full Marks: 80/Pass Marks: 32

BIT321CS: Computer Networks & Telecommunication

Candidates are required to give their answers in their own words as far as practicable.

Figure in the margin indicate full marks.

Group A

Answer TWO questions. **2×12=24**

1(a) What is connection-oriented service? Compare OSI reference model with TCP/IP reference model. 6

(b) What is bandwidth? Explain types of firewalls. 6

2(a) What is e-mail? How does smtp work? 6

(b) Explain parts of DNS. 6

3(a) What is subnetting? A company is granted a site address 201.70.64.0. The company needs six subnets. Design the subnets. 6

(b) Find the subnetwork address and host id for the following: 4.

(i) 120.14.22.16/17 (ii) 140.11.36.22/24

(iii) 141.181.14.16/19 (iv) 200.34.22.156/28

Group B

Answer SEVEN questions. **7×8=56**

4. List the performance comparison of wired media.

5. What are the applications of cryptography? Explain digital signatures.

6. Explain different types of framing methods used in data link layer.

7. Explain in brief the physical address, logical address and port address.

8. Explain any two dynamic routing algorithms.

9. List the performance comparison between IEEE 802.3, 802.4 and 802.5.

10. What is bridge? Compare transparent bridge with source routing bridge.

11. Explain elements of transport layer protocol.

12. What is traffic shaping? Explain its techniques.

PURBANCHAL UNIVERSITY
2015

Bachelor in Information Technology (B.I.T.)/Sixth Semester/*Final*

Time: 03:00 hrs. Full Marks: 80/Pass Marks: 32

BIT373CO: Computer Network *(New Course)*

Candidates are required to give their answers in their own words as far as practicable.

Figure in the margin indicate full marks.

Group A

Answer TWO questions. **2×12=24**

1. Discuss on layered architecture. Compare ISO-OSI Reference model with TCP/IP Reference model. 12

2(a) Using a sample bit stream and a diagram, illustrate the difference between synchronous and asynchronous transmission. 6

(b) What is the purpose of multiplexing? Compare the strengths and weaknesses of FDM and TDM. 6

3(a) Assuming the generator polynomial x5+x3+x0, what is the CRC code for the following bit sequence? 6

01101110011110111011111010111

(b) What are the various steps in ARQ? Explain with diagram, how does selective repeat sliding window algorithm works. 2+4

Group B

Answer SEVEN questions. **7×8=56**

4. Compare and contrast between distance vector protocol and link state routing protocol. 8

5. Illustrate QOS over Transport layer. 8

6. Differentiate Leaky Bucket Algorithm in compare to Token Bucket Algorithm. 8

7. Compare and contrast IPV4 and IPV6. 8

8. What is the use of digital signature? Compare symmetric cryptography with asymmetric cryptographic methods in brief. 2+6

Contd. ...

9. Define CIDR. A network on the Internet has a subnet mask of 255.255.240.0. What is the maximum number of hosts it can handle? $2^{12} - 2 = 4094$. 3+5

10. How is error detection and correction done? Explain the features of transport layer. 3+5

11. Discuss about three-way handshaking in details. 8

12. What are the desirable characteristics of security mechanism? Explain with suitable examples. 8

13. Write short notes on any TWO: 4+4
    (a) SMTP
    (b) ALOHA
    (c) CSMA/CD

13

PURBANCHAL UNIVERSITY
2016

Bachelor in Information Technology (B.I.T.)/Sixth Semester/*Final*

Time: 03:00 hrs. Full Marks: 80/Pass Marks: 32

BIT373CO: Computer Network *(New Course)*

Candidates are required to give their answers in their own words as far as practicable.

Figure in the margin indicate full marks.

Group A

Answer TWO questions. **2×12=24**

1. Explain leaky bucket algorithm and token bucket algorithm in details. 12

2(a) Discuss sliding window protocol. 6

(b) Explain the frame format of IEEE 802.4 token bus. 6

3(a) Compare OSI reference model and TCP/IP reference model explaining their similarities and differences. 8

(b) Differentiate between asynchronous and synchronous transmission. 4

Group B

Answer SEVEN questions. **7×8=56**

4. List the differences between virtual circuit approach and datagram approach of packet switching.

5. What are the different types of transmission media used in physical layer in computer network? Explain in brief.

6. Mention the function and general format of Media Access Control and Logical Link Control.

7. What do you mean by TCP and UDP? Describe data format of TCP.

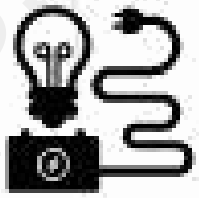
8. Describe file transfer protocol (FTP) in details.

9. The IP addresses of device A and device B are as follow:
   Device A: 172.16.17.30/20
   Device B: 172.16.28.15/20
   Determine if devices A and B are on the same subnet or different subnets.

Contd. ...

10. Discuss the use of firewall in secure network. Also explain in brief about two different types of firewall.

11. Write short notes on any TWO:
    (a) HTTP
    (b) Elements of transport layer
    (c) ICMP



PURBANCHAL UNIVERSITY
2017

Bachelor in Information Technology (B.I.T.)/Sixth Semester/*Final*

Time: 03:00 hrs. Full Marks: 80/Pass Marks: 32

BIT373CO: Computer Network *(New Course)*

Candidates are required to give their answers in their own words as far as practicable.

Figure in the margin indicate full marks.

Group A

Answer TWO questions. **2×12=24**

1. What is IP address, subnet mask and subnetting? A company is granted a site address 192.167.0.0. The company needs six subnets. Design subnets with subnet work, broadcast address, host per subnet. Also find out give IP address is useable or not.
2. What are the functions of each layer in OSI reference model? Explain in detail.
3. What is transmission error? What are the different error detection method? Explain CRC with example.

Group B

Answer SEVEN questions. **7×8=56**

4. Why cryptography is essential in Network Security? Explain private and public key cryptography for message authentication.
5. What is HDLC? Explain service provided by PPP and frame format of PPP.
6. In which situation multiplexing is used? List the performance comparison of FDM and TDM.
7. What is Switching and Routing? Compare virtual circuit with datagram subnet.
8. Explain elements of transport layer protocol.
9. What is HTTP? Why it is called stateless protocol? How does http work?
10. What is transmission media? Explain types of wireless media.
11. Write short notes on: **2×4=8**
    (a) ICMP (b) Firewall
    (c) Switch (d) Wimax