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( 6th Semester )

**BACHELOR OF COMPUTER APPLICATIONS**

Paper No. : BCA-6E3

**( Fundamentals of TCP/IP )**

( PART : A—OBJECTIVE )

( Marks : 25 )

*The figures in the margin indicate full marks for the questions*

**I.** Choose the correct answer by putting a Tick (✓) mark  
in the brackets provided : 1×10=10

1. The authority responsible for assigning IP  
addresses and managing domain name space is

(a) ISOC ( )

(b) IETF ( )

(c) IESG ( )

(d) IANA ( )

2. Which one of the following is not a characteristic  
of TCP/IP?

(a) Higher error rate handling ( )

(b) Low data overhead ( )

(c) Good failure recovery ( )

(d) Platform dependence ( )

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3. In which class of IP, the host ID and Network ID have the same number of octets?

(a) Class A ( )

(b) Class B ( )

(c) Class C ( )

(d) Class D ( )

4. The value of Time to Live (TTL) in an IP header is typically set to

(a) 3 to 5 seconds ( )

(b) 10 to 20 seconds ( )

(c) 15 to 30 seconds ( )

(d) 20 to 30 seconds ( )

5. In FTP, the control port is

(a) 20 ( )

(b) 21 ( )

(c) 22 ( )

(d) 23 ( )

6. Which one of the following devices operates at OSI layer 4 to 7?

(a) Gateway ( )

(b) Bridge ( )

(c) Router ( )

(d) Switch ( )

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( 3 )

7. The overall size limitation of RIP packet is
- (a) 128 octets ( )
  - (b) 64 octets ( )
  - (c) 512 octets ( )
  - (d) 1024 octets ( )
8. Which one of the following is not the router of OSPF network?
- (a) Internal router ( )
  - (b) Area border router ( )
  - (c) Backbone router ( )
  - (d) Boundary router ( )
9. The port number 79 is used by
- (a) finger ( )
  - (b) whois ( )
  - (c) FTP ( )
  - (d) UDP ( )
10. First email was created in 1971 by
- (a) Newman Ray ( )
  - (b) Ray Tomlinson ( )
  - (c) Bolt Tomlinson ( )
  - (d) Newman Bolt ( )

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II. State whether the following are *True (T)* or *False (F)* by putting a Tick (✓) mark : 1×5=5

1. The epitome of linked state routing protocol is routing information protocol (RIP).

( T / F )

2. TCP/IP is not an open communication.

( T / F )

3. The OSI reference model was developed by international standard organization.

( T / F )

4. The IP address which is reserved for software loopback is 127.0.0.0.

( T / F )

5. The full form of BITNET is because its time network.

( T / F )

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( 5 )

**III.** Answer the following questions : 2×5=10

1. What is unicast? How does it differ from multicast?

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2. Describe how a routing loop can form in a network with three nodes.

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3. What are the functions of inget and input FTP commands on Unix OS?

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4. Differentiate between intranet and extranet.

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5. What are subnetting and supernetting?

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2017

( 6th Semester )

BACHELOR OF COMPUTER APPLICATIONS

Paper No. : BCA-6E3

( Fundamentals of TCP/IP )

Full Marks : 75

Time : 3 hours

( PART : B—DESCRIPTIVE )

( Marks : 50 )

The figures in the margin indicate full marks for the questions

1. (a) What is FTP? Explain the role of control port in active mode FTP. 3+7=10

Or

(b) What is Telnet? Which TCP port will the Telnet server listen? Explain the different γ-utilities available in Linux. 2+1+7=10

2. (a) What is TCP? How does it differ from UDP? Explain TCP header with suitable diagram. 2+2+6=10

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( Turn Over )

Or

(b) Define IP address. Describe the different classes of IP addresses. Write any two differences between IPv4 and IPv6. 3+5+2=10

3. (a) Define router. What are the main purposes of a routing protocol? Explain distance vector routing. 2+2+6=10

Or

(b) Explain Link state routing protocol. How does it differ from distance vector routing protocol? 5+5=10

4. (a) What is open network? Explain the different layers in OSI reference model. 3+7=10

Or

(b) Explain the evolution of Internet. 10

5. (a) What is Address Resolution Protocol (ARP)? Explain the operations of ARP in Internet. 3+7=10

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( Continued )

( 3 )

*Or*

- (b) Explain the concept of Domain Name System (DNS). Explain the hierarchical organization of DNS including Top Level Domains (TLDs). 5+5=10

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