Total No. of Questions: 6 *Total No. of Printed Pages:3*

Enrollment No.....

Faculty of Science

End Sem (Odd) Examination Dec-2017

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. The _____ layer establishes, maintains, and synchronizes the interactions between communicating devices. **1**

(a) Session (b) Physical (c) Transport (d) Network

ii. The TCP/IP _____ layer is equivalent to the combined session, presentation, and application layers of the OSI model. **1**

(a) Data link (b) Network (c) Physical (d) Application

iii. Which of the following primarily uses guided media? **1**

(a) Cellular telephone system (b) Local telephone system

(c) Satellite communications (d) Radio broadcasting

iv. _____ are used for cellular phone, satellite, and wireless LAN communications. **1**

(a) Radio waves (b) Microwaves

(c) Infrared waves (d) None of these

v. Which error detection method consists of just one redundant bit per data unit? **1**

(a) Simple parity check (b) Two-dimensional parity check

(c) CRC (d) Checksum

vi. Bluetooth is the wireless technology for **1**

(a) Local area network (b) Personal area network

(c) Both (a) and (b) (d) None of these

vii. An IPv4 address consists of _____ bits. **1**

(a) 4 (b) 8 (c) 32 (d) 64

P.T.O.

viii. The Open Shortest Path First (OSPF) protocol is an intradomain routing protocol based on _____ routing. **1**
(a) Distance vector (b) Link state
(c) Path vector (d) None of these

ix. UDP is called a _____transport protocol. **1**
(a) Connectionless, reliable
(b) Connection-oriented, unreliable
(c) Connectionless, unreliable
(d) None of the above

x. A full domain name is a sequence of labels separated by _____. **1**
(a) Semicolons (b) Dots
(c) Colons (d) None of these

Q.2 Attempt any two:

i. Discuss various types of Network Hardware and Network Software. **5**

ii. Explain the various layers present in OSI reference model and their functions. **5**

iii. Explain the various layers present in TCP model and their functions. **5**

Q.3 Attempt any two:

i. Compare twisted pair cable, coaxial cable, fiber cable base on the following: **5**
(a) Bandwidth availability
(b) Noise immunity
(c) Propagation delay
(d) Leasing and maintenance

ii. Explain unguided media with examples. **5**

iii. Explain Public Switched Telephone Network. **5**

Q.4 Attempt any two:

i. Briefly explain the concept of Error Correcting and Detecting Code with suitable examples. **5**

ii. Explain the mechanism of Data Link Layer **5**

iii. Explain protocols of Data Link Layer **5**

Q.5 Attempt any two:

i. Differentiate between Connectionless Service and Connection-Oriented Service. **5**

ii. What is Routing? Explain different types of Routing algorithm. **5**

iii. Explain the following term : **5**
(a) Congestion Control (b) IP Address

Q.6 Attempt any two:

i. Describe the elements of Transport protocol. **5**

ii. Discuss Congestion Control Algorithm. **5**

iii. Write short notes on the following: **5**
(a) Cryptography (b) Digital Signature

******

CA3CO10 Computer Networks

Marking Scheme

Q.1	i.	(a) Session	**1**
	ii.	(d) Application	**1**
	iii.	(b) Local telephone system	**1**
	iv.	(c) Microwaves	**1**
	v.	(c) CRC	**1**
	vi.	(b) Personal area network	**1**
	vii.	(c) 32	**1**
	viii.	(b) Link state	**1**
	ix.	(c) Connectionless, unreliable	**1**
	x.	(b) Dots	**1**
Q.2		Attempt any two	
	i.	Types of Network Hardware (At least 3 in details) – 2.5 marks Types of Network Software (At least 3 in details) – 2.5 marks	**5**
	ii.	Layers present in OSI reference model and their functions explanation – 4 marks Diagram – 1 mark	**5**
	iii.	Layers present in TCP/IP model and their functions explanation – 4 marks Diagram – 1 mark	**5**
Q.3		Attempt any two	
	i.	Comparison twisted pair cable, coaxial cable, fiber cable base on the following: (a) Bandwidth availability (b) Noise immunity (c) Propagation delay (d) Leasing and maintenance **4 comparison – 4 marks** **Presentation – 1 mark**	**5**
	ii.	Unguided media with examples. **Explanation – 3 marks and example – 2 marks**	**5**
	iii.	Public Switched Telephone Network. **Detailed explanation – 3 marks and** **Technology, example – 2 marks**	**5**
Q.4		Attempt any two	
	i.	Concept of Error Correcting and Detecting Code with examples. **At least three codes in details with example (5 marks)**	**5**
	ii.	Mechanism of Data Link Layer **At least three mechanism in details with example (5 marks)**	**5**
	iii.	Protocols of Data Link Layer **At least three protocols in details with example (5 marks)**	**5**
Q.5		Attempt any two	
	i.	Difference Connectionless Service and Connection-Oriented Service. **At least five difference (5 marks)**	**5**
	ii.	Routing explanation – 2 marks At least two example – 3 marks	**5**
	iii.	(a) Congestion Control explanation in detail – 2.5 marks (b) IP Address explanation with example – 2.5 marks	**5**
Q.6		Attempt any two:	
	i.	Elements of Transport protocol. **At least three elements in details with example (5 marks)**	**5**
	ii.	Congestion Control Algorithm. **At least three algorithm in details with example (5 marks)**	**5**
	iii.	(a) Cryptography explanation with example – 2.5 marks (b) Digital Signature explanation with example – 2.5 marks	**5**

******