Enroll. No._____

MARWADI UNIVERSITY

Faculty of Technology

Information Technology B.Tech

SEM: 4 **MU FINAL EXAM/ MU FINAL REMEDIAL** **May: 2024**

Subject: - Computer Network (01IT1401) **Date:-01/05/2024**

Total Marks:-100 **Time: -12:30 PM to 3:30 PM**

Instructions:

1. **All Questions are Compulsory.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Do not write/sign/indication/tick mark anything other than Enroll No. at a specific place on the question paper.**

Question: 1.

(a) Objective MCQ [10]

1) What does a set of rules define?
   a) SMTP
   b) FTP
   c) IMAP
   d) Protocol

2) Bluetooth is an example of _____
   a) personal area network
   b) local area network
   c) virtual private network
   d) wide area network

3) The _____ translates internet domain and host names to IP address.
   a) domain name system
   b) routing information protocol
   c) network time protocol
   d) internet relay chat

4) The inclusion of the checksum in the TCP segment is _____.
   a) optional
   b) mandatory
   c) depends on the type of data
   d) None of the choices are correct

5) "Every OSPF router sends out _____ packets."
   a) hello
   b) empty
   c) data
   d) none

6) RIP is the example of_____
   a) Distance vector

b) Link state
c) Path vector
d) None

7) The time taken by a packet to travel from client to server and then back to the client is called _____
   a) STT
   b) RTT
   c) PTT
   d) JTT

8) In transport layer, Multiplexing is done at _____
   a) Channel
   b) Receiver site
   c) Sender site
   d) Packet

9) In _____ systems, resources are allocated on demand.
   a) Packet switching
   b) Circuit switching
   c) Line switching
   d) Frequency switching

10) URL stands for _____
   a) unique reference label
   b) uniform reference label
   c) uniform resource locator
   d) unique resource locator

(b) Short Questions [10]

1) The number of layers in ISO OSI reference model is _____
2) 192.168.12.40 is an IP address of which class?
3) Full form of FTP is_____
4) What does PoP stand for?
5) What is the port number of SMTP?
6) TCP is a Connection oriented protocol. True or False
7) The inclusion of the checksum in the TCP segment is not mandatory. True or False
8) The port number of FTP is 21. True or False
9) WWW is the collection of the hyperlinked document on the internet known as? True or False
10) An endpoint of an inter-process communication flow across a computer network is called socket. True or False

Question: 2.

(a) Solve the following example using Cyclic redundancy check [08]
Data=1101101 Divisor =10101

(b) Draw a layer architecture of the TCP/IP model and explain it. [08]

OR

(b) Draw a layer architecture of the OSI reference model and explain it. [08]

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Question: 3.

(a) Describe LAN,WAN, MAN with example. [08]

(b) The following is a dump of a UDP header in hexadecimal format. [04]

CB84000D001C001C

- ✓ What is the source port number?
- ✓ What is the destination port number?
- ✓ What is the total length of the user datagram?
- ✓ What is the length of the data?

(c) Classify connection establishment and connection termination in TCP. [04]

OR

(a) Explain Go back N ARQ and Selective Repeat ARQ in detail. [08]

(b) The following is a dump of a UDP header in hexadecimal format. [04]

0421000B002AE217

- ✓ What is the source port number?
- ✓ What is the destination port number?
- ✓ What is the total length of the user datagram?
- ✓ What is the length of the data?

(c) Classify open loop and close loop principal of congestion control. [04]

Question: 4

(a) Explain IPV4 header with its fields. [08]

(b) Write a note on Domain Name System. [08]

OR

(a) Explain IPV6 header with its fields. [08]

(b) Explain TCP header in detail. [08]

Question: 5.

(a) Compare Persistent and non-persistent HTTP. [06]

(b) Explain Distance vector routing with example. [06]

(c) Explain Delay in detail. [04]

OR

(a) Compare circuit switching and Packet switching. [06]

(b) Explain Link state routing with example. [06]

(c) Justify the statement, “HTTP server is stateless”. [04]

Question: 6.

(a) What is socket? Explain TCP socket in detail. [08]

(b) Explain hierarchical routing in detail. [04]

(c) Write down Data Link layer services. [04]

OR

(a) Explain any two topologies with example. [08]

(b) Explain types of error with example. [04]

(c) Write down Transport layer services. [04]

---Best of Luck---

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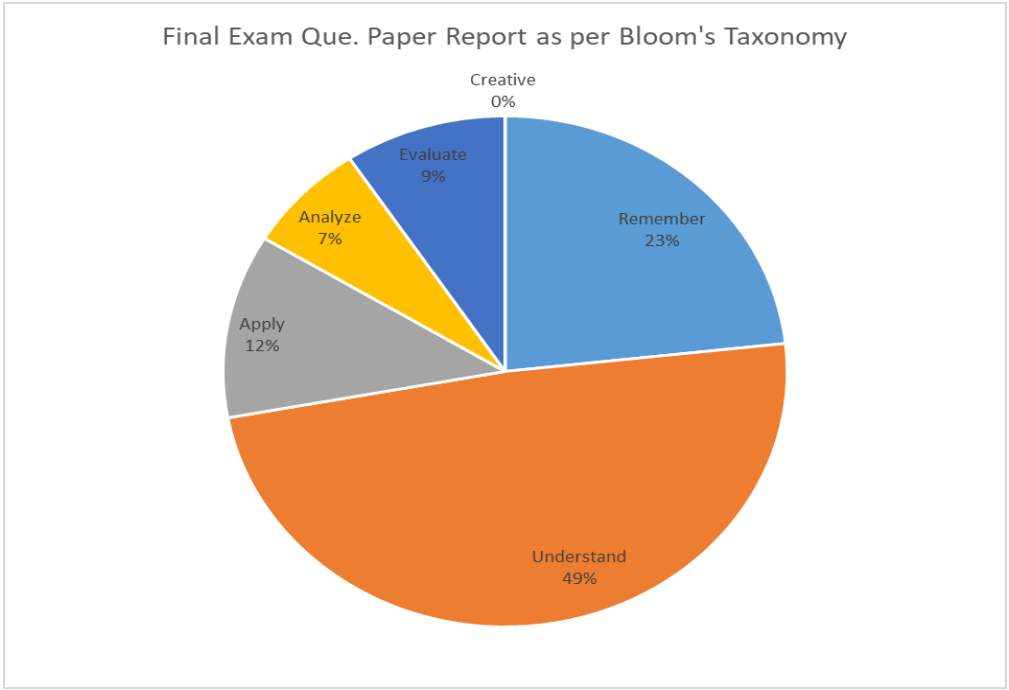
– Bloom'S Taxonomy Report –

Sub: Computer Networks
Sem.:4
Branch: IT

Que. Paper weightage as per Bloom's Taxonomy

LEVEL	% of weightage	Question No.	Marks of Que.
Remember/Knowledge	23.255814	q1(a,b),q3(a,),q5(c),q6(c,or-c)	40
Understand	48.837209	q2(b,or-b),q3(c,or-a,or-c),q4(a,or-a,b,or-b),q5(or-c),q6(a,b,or-b)	84
Apply	11.627907	q5(b,or-b),q6(or-a)	20
Analyze	6.9767442	q5(a,or-a)	12
Evaluate	9.3023256	q2(a),q3(b,or-b)	16
Higher order Thinking/ Creative	0		0

Chart/Graph of Bloom's Taxonomy



Course Outcome Wise Questions

Subject Code	**01IT1401**	Subject	**COMPUTER NETWORK**

CO No.	Course Outcome
CO1	Describe the importance of computer networks and various performance metrics.
	1(A), 1(B), 3(A), 5(A-Or), 5(C)
CO2	Distinguish and relate various protocols in layered architecture of computer networks.
	1(A), 1(B), 2(A), 2(B), 2(B-Or), 3(A-Or), 3(B), 3(B-Or), 3(C), 3(C-Or), 4(A), 4(A-Or), 4(B), 4(B-Or), 5(A), 5(B), 5(C-Or), 6(B-Or), 6(C), 6(C-Or)
CO3	Explain various topological and routing strategies for IP based networks.
	1(A), 1(B), 5(B-Or), 6(A-Or), 6(B)
CO4	Prepare client server application using socket programming
	1(B), 6(A)
CO5	Compare various devices and protocols that builds computer network.

Blooms Taxonomy	Question List
Remember / Knowledge	1(A), 1(B), 3(A), 5(C), 6(C), 6(C-Or)
Understand	2(B), 2(B-Or), 3(A-Or), 3(C), 3(C-Or), 4(A), 4(A-Or), 4(B), 4(B-Or), 5(C-Or), 6(A), 6(B), 6(B-Or)
Apply	5(B), 5(B-Or), 6(A-Or)
Analyze	5(A), 5(A-Or)
Evaluate	2(A), 3(B), 3(B-Or)
Higher order Thinking / Creative	