C. U. SHAH UNIVERSITY
Summer Examination-2022

Subject Name: Computer Networks

Subject Code: 4TE05CNW1   **Branch: B.Tech (CE)**

Semester: 5   **Date: 22/04/2022**   **Time: 11:00 To 02:00**   **Marks: 70**

Instructions:
  (1) Use of Programmable calculator & any other electronic instrument is prohibited.
  (2) Instructions written on main answer book are strictly to be obeyed.
  (3) Draw neat diagrams and figures (if necessary) at right places.
  (4) Assume suitable data if needed.

Q-1   **Define and explain following terms in brief:**

a)	Sliding Window	01
b)	Routing	01
c)	Throughput	01
d)	Protocol	01
e)	Propagation Delay	01
f)	Flow control	01
g)	Burst Error	01
h)	Redundancy	01
i)	Checksum	01
j)	Framing	01
k)	Bit Stuffing	01
l)	Stop-and-Wait Protocol	01
m)	Tunneling	01
n)	Half-duplex	01

Attempt any four questions from Q-2 to Q-8

Q-2   **Attempt all questions**
  a) Draw the layered architecture of OSI reference model and write at least two services provided by each layer of the model.   **07**
  b) Explain Distance Vector Routing Algorithm.   **07**

Q-3   **Attempt all questions**
  a) Describe Go Back N and Selective Repeat protocol.   **07**
  b) Draw and explain Ethernet Frame Structure.   **07**

Q-4 **Attempt all questions**
  a) Discuss Guided and unguided transmission media. **07**
  b) What is a Virtual Circuit Network? How it differs from circuit switching network. Discuss with example. **07**

Q-5 **Attempt all questions**
  a) Explain the hierarchical DNS system. **07**
  b) Explain the working of CSMA/CD protocol in detail. **07**

Q-6 **Attempt all questions**
  a) Consider the 7-bit generator, G=10011, and suppose that D has the value 1010101010. What is the value of R?
  ANS:0100 **07**
  b) Give the well defined port number for the following protocols: 1) SMTP 2) DNS 3) HTTP 4) SSH 5) TELNET 6) HTTPS 7) POP3 **07**

Q-7 **Attempt all questions**
  a) Differentiate between UDP and TCP. **07**
  b) Explain functionality of Repeaters, Bridge, Hub, Switch, Router, and Gateway. **07**

Q-8 **Attempt all questions**
  a) Discuss Pure and Slotted Aloha in detail. **07**
  b) Explain Link State Routing Algorithm. **07**