Roll No											

PRESIDENCY UNIVERSITY
BENGALURU

SET B

SCHOOL OF ENGINEERING
END TERM EXAMINATION - JAN 2024

Semester : Semester III - 2022

Course Code : CSE2011

Course Name : Data Communications and Computer Networks

Program : B.Tech.

Date : 05-JAN-2024
Time : 9:30AM - 12:30 PM
Max Marks : 100
Weightage : 50%

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS **5 X 2M = 10M**

1. Identify the field in IPv4 datagram that ensures a datagram do not circulate forever in the network.
(CO1,CO2) [Knowledge]
2. What exactly is BGP?
(CO2,CO1) [Knowledge]
3. What is the use of two dimensional parity in error detection? With example.
(CO3,CO4) [Knowledge]
4. Differentiate periodic and non-periodic signals.
(CO3,CO4) [Knowledge]
5. What are the advantages of using UDP over TCP?
(CO2,CO1) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS **5 X 10M = 50M**

6. List the differences between TCP and UDP. Explain the port numbers at Transport layer with examples of HTTP and DNS. Explain addresses used in application and transport layer.
(CO1) [Comprehension]
7. Discuss the IPV4 header format along with classes of IP addres.
(CO2) [Comprehension]

8. Multiple access protocols defines the set of rules each station or node must follow while sharing a channel.What are the different Multiple access protocol categories. With th help of neat diagrams, explain any one type in each of the multiple access protocol categories.

(CO3) [Comprehension]

9. Transport layer is known as the heart of OSI with two primary protocols. List the differences between TCP and UDP. Explain the port numbers at Transport layer with examples of HTTP and DNS.

(CO1,CO2) [Comprehension]

10. a) Illustrate the components of Data Communication system.
b) Explain the Characterstics of Data Communication system.

(CO4) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS **2 X 20M = 40M**

11. a) Illustrate how a DNS resolves query using recursive method.
b) Discuss the different fields of TCP segment structure.

(CO2,CO1) [Application]

12. a). A bit stream 10011101 is transmitted using the standard CRC method. The generator polynomial is x3+1.

i) What is the actual bit string transmitted?

ii) Suppose he 3rd bit from the left is inverted during transmission. How will the receiver detect this error?

b). Suppose that a message **1001 1100 1010 0011** is transmitted using Checksum (4-bit word). What is the value of the checksum?

(CO4,CO3) [Application]