Roll No											

PRESIDENCY UNIVERSITY
BENGALURU

SET A

SCHOOL OF INFORMATION SCIENCE
END TERM EXAMINATION - JAN 2024

Semester : Semester III - 2022
Course Code : CSA2004
Course Name : Computer Networks
Program : BCA

Date : 03-JAN-2024
Time : 1:00 PM - 4:00 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. What is bridge in data communication and networking?
(CO1) [Knowledge]
2. Which layers of the TCP/IP protocol suite are involved in a link-layer switch?
(CO2) [Knowledge]
3. Which services operate together to give the network layer the ability to create end-to-end connections between devices on various networks?
(CO3) [Knowledge]
4. Sketch the format of IPv6 packet.
(CO4) [Knowledge]
5. Define FTP and what is its primary function?
(CO4) [Knowledge]

PART B

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

6. What are the types of guided and unguided media? Explain Briefly.
(CO1) [Comprehension]
7. Outline the concepts of data and signals in the context of computer networks, and discuss the potential sources of transmission impairment that can affect the quality of data transmission.
(CO2) [Comprehension]
8. How do you measure the performance of network layer?
(CO3) [Comprehension]

9. Explain IPv4 addressing in detail, covering aspects such as the structure of an IPv4 address and the concept of classes. Discuss the strategies devised for transition from IPv4 to IPv6.

(CO3) [Comprehension]

10. Describe the purpose and functionality of the Domain Naming System (DNS) in computer networks and describe the hierarchical structure and message format of the DNS.

(CO4) [Comprehension]

PART C

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

11. As part of a smart city project, you are constructing the network infrastructure that will allow different sensors and devices to interact with one another to optimize city services. Describe the effective use of distance-vector and link-state routing algorithms to handle a variety of network traffic types while taking scalability and real-time data processing into account.

(CO3) [Application]

12. Suppose you are working on a real-time video streaming program that uses Transmission Control Protocol to transfer data. Talk about the services and features of TCP. Discuss about the TCP segment format and connection. Considering the real-time nature of the content, how does the flow control mechanisms and reliability of TCP affect the performance of your video streaming application?

(CO4) [Application]