



SCHOOL OF COMPUTER SCIENCE AND ENGINEERING
CAT 2 EXAMINATION
FALL SEMESTER 2026-2027

Programme Name & Branch : B.TECH CSE
Course Code and Course Name : BACSE203 & Computer Networks
Faculty Name(s)

Thandeeswaran R, Chandra Mohan B, Prakash G, Manikandan G, Sarwesh P, S M Farooq, Badrinath N, Ragavan K, Padmavathy T, Saranya P, Gopinath M, Rajan Shrivastava, Rakhi Mol V, Jim Solomon Raja D, Rajasekar V R, Erapaneni Gayatri, Thiruvankadam T

Class Number(s) : VL2026270101760, 1744, 1675, 1680, 1684, 1688, 1697, 1702, 1707, 1711, 1716, 1719, 1722, 1726, 1730, 1732, 1738

Date of Examination : 28-09-2026 11.00 AM – 12.30 PM FN2

Exam Duration : 90 minutes

Maximum Marks: 50

General instruction(s):

- Answer All Questions
- M - Max mark; CO – Course Outcome; BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)

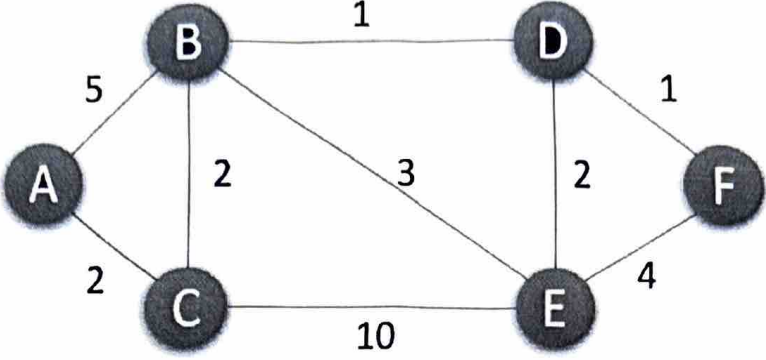
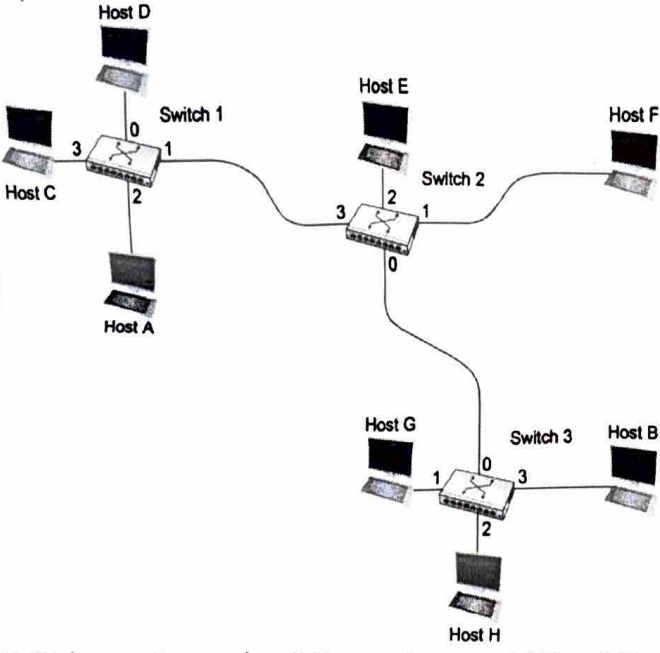
CO3. Design and configure efficient networks using switching, IP, routing, NAT multicast, and IPv6, to optimize scalability and performance

CO4. Examine the essential factors for reliable transport layer services, flow control, connection management and analyze the consequences of congestion on their performance

Q. No	Question	M	CO	BL
1.	0100 0101 0000 0000 0000 0000 0101 0100 0000 0000 0000 0011 0101 1000 0101 0000 0010 0000 0000 0110 0000 0000 0000 0000 0111 1100 0111 1110 0011 0011 1010 1011 0100 0000 1111 0000 1111 0000 1010 A) What is the source IP address and destination IP address (4 Marks) B) What is the size of the data? (1 Mark) C) Is the packet don't fragment or more fragment type? (1 Mark) D) Are there any options? (1 Mark) E) How many more routers can the packet travel to? (1 Mark) F) What is the type of service? (1 Mark) G) What is the type of protocol? (1 Mark)	10	3	3
2.	Assume that VIT network administrator has been assigned the 180.20.0.0/16 block and needs to sub-net the network to accommodate different campus facilities and departments. Design the following requirements: A) VIT Hostel requires 50 sub-nets, each should be 64 addresses. B) VIT AP require 20 sub-nets, each should be 128 addresses. C) VIT Bhopal require 20 sub-nets, each should be 256 addresses. D) VIT Chennai require 20 sub-nets, each should be 512 addresses. E) Is it possible to assign 50 sub-nets, each should be 1024 addresses?. Justify, your answer.	10	3	4



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3.	Find the Routing Table of 'A' to all other nodes using Link State Routing. 	10	3	5
4.	A) Write the Forwarding Table of Switch 1, 2 and 3 (6 Marks).  B) Write any two major difference between VCI and Datagram technique (2 Marks). C) Differentiate: Forwarding Table Vs Routing Table? (2 Marks)	10	3	4
5.	A) Demonstrate the segmentation in the TCP when it receives a packet of 10000 Bytes (5 Marks). B) Which functionalities are available in TCP to claim it as reliable protocol? Justify your answer with technical facts (3 Marks). C) Why UDP is defined as best effort protocol? (2 Marks)	10	4	4
