

**Paper Code: BCA-311**

**Paper ID: 20311**

**Paper: Advance Computer Networks**

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**Pre-requisite : Familiar with Computer Network Concepts**

**Aim:** To equip students with good knowledge on the selected advanced research topics in networking

**Objectives**

- To understand three basic security concepts important to information on the Internet: confidentiality, integrity, and availability.
- To understand the Concepts relating to the people who use that information: authentication, authorization, and no repudiation.

**INSTRUCTIONS TO PAPER SETTERS:**

**Maximum Marks : 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be 12.5 marks

**UNIT - I**

Foundation: Building a Network, Getting Connected: encoding, links, framing error detection, reliable transmission, Ethernet & MAC

Internetworking: Switching & Bridging, Basic Internetworking, Routing, Implementation, Performance.[T1]

**[No. of Hrs: 11]**

**UNIT – II**

Advance Internetworking: The global Internet, Multicast, MPLS, Routing among mobile devices.

End to End Protocols: Simple Demultiplexer, Reliable Byte Stream (TCP), RPC, RTP [T1]

**[No. of Hrs: 11]**

**UNIT – III**

Congestion Control & Resource Allocation: Issues, Queuing Disciplines, TCP Congestion Control Avoidance mechanisms, Quality of Service. Multimedia Networking: Multimedia networking applications, RTSP, RTCP, SIP, H.323. [T1, R1]

**[No. of Hrs: 11]**

**UNIT – IV**

Network Security: Cryptographic Building Blocks, Symmetric Key Encryption, Public Key Encryption, authentication protocols, PGP, TLS, SSL, Firewalls, Intrusion Detection [T1, R1, R2]

**[No. of Hrs: 11]**