C.U.SHAH UNIVERSITY
Summer Examination-2018

Subject Name : Advance Communication Networking

Subject Code : 4TE08ACN1   **Branch: B.Tech (EC)**

Semester : 8   **Date : 26/04/2018**   **Time : 02:30 To 05:30**   **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   **Attempt the following questions:**   **(14)**

  a)   What do you mean by space switching?
  b)   Draw basic crossbar switch network having N x N array of cross points.
  c)   What is the role of Mobile Switching Center (MSC) in cellular telephone networks?
  d)   What is handoff procedure?
  e)   Give the understanding of datagram packet-switching approach?
  f)   What is adaptive routing algorithm?
  g)   Discuss the principle of flooding with respect to packet switching.
  h)   Give three factors which are responsible for the developments towards ISDN.
  i)   Enlist the SONET devices to establish a basic link.
  j)   Define path and line in SONET connections.
  k)   What are the advantages of frame relay network over packet switching network?
  l)   What is the difference between ad hoc network and infrastructure network?
  m) **True OR false**: A Bluetooth LAN is an ad hoc network.
  n)   Give the difference between piconet and scatternet.

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

Q-2   **Attempt all questions**   **(14)**
  (a)   Explain in detail regarding classification of switching systems.   06

  (b)   What is Time Slot Interchange (TSI) technique? Also explain the concept of   08
            Time- space-time switches using necessary diagram.

Q-3   **Attempt all questions**   **(14)**
  (a)   Give detail regarding virtual circuit packet switching.   08

  (b)   Explain the elements of a switching system.   06

Q-4		**Attempt all questions**	**(14)**
	(a)	Write a brief note on Signaling System #7 (SS7)architecture.	06
	(b)	Explain ISDN protocol architecture in detail.	08
Q-5		**Attempt all questions**	**(14)**
	(a)	Discuss the services supported by ISDN. Also discuss the basic principles on which ISDN should be based.	08
	(b)	Discuss in detail any one of the shortest path algorithms.	06
Q-6		**Attempt all questions**	**(14)**
	(a)	Explain different layers of Synchronous Optical Network(SONET). Also discuss regarding device-layer relationship of SONET.	07
	(b)	Discuss the concept of voice over IP. Also explain H.323 protocol.	07
Q-7		**Attempt all questions**	**(14)**
	(a)	Explain the MAC sublayer operation with respect to standard Ethernet.	07
	(b)	Write a note on ATM LANs.	07
Q-8		**Attempt all questions**	**(14)**
	(a)	Write a brief note on SONET frames.	07
	(b)	Explain the Physical layer operation with respect to fast Ethernet.	07