

# C.U.SHAH UNIVERSITY

## Winter Examination-2015

Subject Name: Voice Over Internet Protocol

Subject Code: 5TE03VOI1

Branch: M.Tech(EC)

Semester:3

Date: 24/12/2015

Time: 2:30 To 5:30

Marks: 70

### Instructions:

- (1) Use of Programmable calculator and 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.
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### SECTION – I

- Q-1 Define following: (07)**
- a. Private Branch Exchange (PBX)
  - b. PSTN
  - c. Convergence of Technologies
  - d. Virtual Private Networks
  - e. Time Division Multiplexing (TDM)
  - f. Quantization
  - g. Formants
- Q-2 Attempt all questions (14)**
- a. Compare Internet Telephony versus Telephony over the Internet.
  - b. Explain the importance of VoIP, considering current technological scenario.
- OR**
- Q-2 Attempt all questions (14)**
- a. Discuss Classes of Speech.
  - b. Discuss Speech Properties.
- Q-3 Attempt all questions (14)**
- a. Explain sampling of voice.
  - b. Explain quantization of voice and types of quantization.
- OR**
- Q-3 a. Explain Pulse Code Modulation (G.711).  
b. Explain Operation of Vocoder. Explain Formant Vocoder.**



## SECTION – II

- Q-4** **Define:** (07)
- a. Subscriber loop
  - b. Side Tone
  - c. Supervisory signaling
  - d. Glare in telephony
  - e. Trunk Line
  - f. Access Network
  - g. Bit robbing

- Q-5** **Attempt all questions** (14)
- a. Discuss the Advantages and Disadvantages of VoIP.
  - b. Explain operation of Seizing a Trunk using E&M Signaling.

**OR**

- Q-5**
- a. Write a short note on ISO/OSI Network Model.
  - b. Discuss VoIP Security Protocols H.235.

- Q-6** **Attempt all questions** (14)
- a. Discuss TCP/IP Network Model.
  - b. Write a note on Real-Time Control Protocol (RTCP).

**OR**

- Q-6** **Attempt all Questions**
- a. What is Packet Timing Jitter Problem? How to Solve that Problem?
  - b. Discuss the parameters for Tuning for VoIP QoS.

