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Invigilator's Signature :	

## CS/M.Tech (ECE)/SEM-3/MMC-301/2009-10 2009 CONVERGENCE IN COMMUNICATION

Time Allotted: 3 Hours Full Marks: 70

**TECHNOLOGY** 

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer Question No. 1 and any four from the rest.

- 1. a) What is ICT? Explain the significance of convergence in implementing ICT for next generation networks.
  - b) Briefly mention various communication technologies that are heading forwards convergence. 5+5
- 2. a) What are the basic components of VoIP?
  - b) Draw the block diagram of VoIP network indicating each component.
  - c) Name various signaling protocols of VoIP. Make as brief comparison of them. 3 + 6 + 6

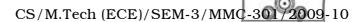
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## CS/M.Tech (ECE)/SEM-3/MMC-301/2009-10

- 3. a) Mention various entities of H.323 and briefly discuss each of them.
  - b) Discuss the H.323 call setup using H.225 RAS and show the timing diagram. 7+8
- 4. a) Mention the various services offered by IMS and discuss its key attributes.
  - b) Briefly discuss various functional elements of IMS and show them in a layered structure.
  - c) Discuss various objectives of IMS. 5 + 7 + 3
- 5. a) Describe five facets to establish and terminate SIP supported multimedia communication.
  - b) Mention various advantages of SIP.
  - c) Draw and explain the SIP call set-up using a redirect server. 5 + 4 + 6
- 6. a) Mention various steps for converting voice signal into IP packets.
  - b) Compare VoIP and IMS.
  - c) Discuss SIP addressing scheme. 5 + 5 + 5

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7. Write short notes on any *three* of the following:  $3 \times$ 

- a) Gatekeeper
- b) H.323 signalling family
- c) VoIP accessibility and portability
- d) HSS
- e) Charging in IMS.

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