

**IV B.Tech. II Semester Supplementary Examinations, July -2005**  
**TELEMATICS**  
**(Information Technology)**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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1. Explain how the gauge of the wire effects the distance in connecting the systems and what is the minimum and maximum allowable current in the circuit?
2. How many switches are required to interconnect N callers in two stage matrices used to provide multiple paths .
3. What are the functions of the User Agent of E-mail systems? What are the typical mail handling commands?
4. Distinguish between MPEG-1, MPEG-2? Explain how Multiplexing of two-streams is carried in MPEG-2?
5. (a) Explain in detail the architecture of ISDN with a neat block schematic diagram.  
(b) What are the elementary functions of an ISDN? Explain them in detail
6. (a) Explain about B channel, D channel, H channel in ISDN?  
(b) Explain the three kinds of connections that can be set up over a B channel?
7. Write short notes on
  - (a) Basic User - Network Interface in ISDN.
  - (b) Primary User - Network Interface in ISDN.
  - (c) U - Interface in ISDN.
8. (a) Explain about Bearer Capability Information Element in ISDN Q.931 message format?  
(b) Explain Call Control Protocol Architecture in ISDN?

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1. Give the advantages and disadvantages of automatic dialing system over manual system.
2. What are the advantages of multistage switching over single stage switching. Explain multistage switching with diagram .
3. Give sample URLs, that uses http, ftp, gopher, telnet, mailto ? What are the features of HTML.
4. How the digital video is represented in the system? Give the common configurations of graphic adapters?
5. Explain in detail the user network interface configurations employed in ISDN with neat block schematic diagrams. Compare their merits and demerits.
6. (a) What is the rational behind specifying different functional grouping and interfaces in ISDN ? would you think that U-interface may be relevant to India ? why?  
(b) Describe an ISDN U-interface frame structure.
7. (a) Explain about framing and multiplexing in Basic User Network Interface?  
(b) Explain Contention resolution for multidrop configurations in Basic User Network Interface in ISDN?
8. (a) What are the various Q.931 formats and explain in detail.  
(b) Distinguish between circuit-mode and packet-mode connection control.

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1. Explain how number of interconnecting wires and number of switches can be reduced in central switching?
2. What are the advantages of multistage switching over single stage switching. Explain multistage switching with diagram .
3. What is the need of MIME (Multipurpose Internet Mail Extensions)? What are the features supported by RFC1521?
4. What is meant by quantization and sampling? How the digitized speech is interfaced to the computer system?
5. Write short notes on the following with reference to ISDN :
  - (a) ISDN channel Structure
  - (b) ISDN user-network interface
  - (c) PSPDN (Packet Switched public data network ).
6.
  - (a) Explain the frame structure and frame alignment of basic rate user network Interface in an ISDN physical layer.
  - (b) Explain the contention resolution algorithm and its functions, briefly.
7. Explain about Bearer Channel Data Link control using I.465 / V. 120 in ISDN?
8. Discuss the major methods by which supplementary services can be controlled in ISDN?

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1. What is a subscriber loop? What are the limitations of automatic dialing system?
2. Explain the principle of cross bar switch and its features in telephone system.
3. What are the limitations of FTP based E-Mail? What are the basic functions expected to be supported by E- Mail system?
4. What is the function of video server? Give over view of video on demand?
5. What is internetworking? Give the function of Repeaters, bridges, multi port routers, transport gateways and application gateways?
6. (a) Explain about ISDN protocol architecture?  
(b) Explain about Circuit Switching and Semi permanent connections in ISDN?
7. (a) Discuss the evaluation criteria for Link coding techniques in ISDN?  
(b) Explain in detail about NRZ - L and multilevel binary encoding techniques in ISDN?
8. Explain about functional terminals and stimulus terminals and explain the protocols used at these terminals for the supplement any services control in ISDN?

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