

IV B.Tech. II Semester Regular Examinations, April/May -2006
INTERNET INTRANET MULTIMEDIA
(Electronics & Telematics)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Why are multiple routers required in an internet? [6]
(b) Suppose a given router can connect to at most 'M' networks. Develop an equation for the number of routers required to interconnect 'N' networks. [10]
2. (a) What is the need of ARP (Address Resolution Protocol) in the TCP/IP suite? [6]
(b) What are the basic message types used in ARP? What are their contents, and how are they used? [10]
3. (a) The Internet Protocol specifies certain types of error that it cannot handle. What are these errors?
(b) How are the problems created by the errors mentioned above resolved by the TCP/IP protocol suite? [8+8]
4. Draw and explain the basic architecture of an intranet, along with its key hardware and software components. [16]
5. (a) What is authentication? How is it different from authorization?
(b) Briefly discuss digital signatures and how they are implemented. [8+8]
6. (a) What are the basic components involved in multimedia? What is an authoring tool? [6]
(b) Write about various people involved in successful development of multimedia project and explain about their roles. [10]
7. Write about the Basic software tools used for creating the multimedia content of the multimedia project i.e. for creating various multimedia building blocks such as text, images, sound, graphics and animation. [16]
8. What is meant by orchestration or meta scheduling. Explain the QOS architecture by specifying the QOS parameters and several approaches for providing QOS guarantees in high speed network. [16]

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1. (a) What is a router? Why is it required? Describe the entries in a typical router table. [9]
(b) With the help of a diagram illustrate how a router enables the aim of a Universal Service. [7]
2. (a) How is an ARP message encapsulated in an Ethernet frame? What is the significance of a type field in an Ethernet frame header?
(b) On the event of a frame arrival, how does a computer differentiate an IP datagram from an ARP message? [8+8]
3. (a) What is the structure of a frame when an ICMP message is sent. [6]
(b) Give any three cases in which an ICMP error messages can be sent during IP messaging. How can ICMP be used to trace the route taken by a lost packet? [10]
4. (a) Compare a firewall and a proxy server.
(b) Explain two different examples of back-end services that can be provided on an intranet. [8+8]
5. Write short notes on
(a) Certificate based authentication
(b) Key cryptography
(c) Password based authentication [16]
6. Explain windows multimedia PC platform with its applications and also discuss about its application. [16]
7. (a) Differentiate between a digital audio and MIDI sound?
(b) Describe any five basic digital audio editing operations that most multimedia producers need. [6+10]
8. Write about the musical Instrument synthesizers in creating Digital music? Explain in detail about MIDI protocol. [16]

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1. With the help of an illustrative diagram explain how a combination of virtual and physical address schemes can result in interconnecting heterogeneous computers for a Global internet. Specify the protocols used at each stage. [16]
2. (a) Why it is necessary to bind addresses specified in a protocol address? [6]
(b) Explain the various techniques used for address resolution. [10]
3. (a) The Internet Protocol specifies certain types of error that it cannot handle. What are these errors?
(b) How are the problems created by the errors mentioned above resolved by the TCP/IP protocol suite? [8+8]
4. (a) What is a DNS (Domain Name Server)? Why is it required for an intranet? Enumerate the conditions under which it is not essential for use in an intranet
(b) Give any four applications which an intranet provides, but a normal LAN does not. [8+8]
5. (a) What is cryptography? What is encryption/decryption? What is a digital signature? [2+2+2]
(b) Explain in detail how encryption / decryption and digital signatures useful in making information on the Intranet confidential or secure. [10]
6. Explain about the hardware requirements of a multimedia system .What are software requirements of a multimedia system. [16]
7. What are different types of authoring tools and explain about various features you expect in detail. [16]
8. What objectives do you want to have in an MPEG motion video compression standard? Discuss the architecture of MPEG video compression standard. [16]

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1. (a) Illustrate how the various TCP/IP Internet Protocols have influenced internet architecture by developing a virtual network system. [10]
(b) What is a multi-homed host(computer), and why is it used? [6]
2. (a) With the help of a diagram, explain the functions of each layer in the TCP/IP model. [10]
(b) How does the TCP/IP model differ from the ISO reference model? [6]
3. (a) Draw the format for an ARP message when used to bind Internet protocol addresses to Ethernet hardware addresses.
(b) Explain a sample ARP exchange by computers on an internet. [8+8]
4. (a) What is an ActiveX control? Explain how it is used on an intranet?
(b) Explain how Java code is platform independent. [8+8]
5. (a) What are the forms that a hardware security device can take, and how are they beneficial when compared to software security devices? [10]
(b) Write a short note on private key management. [6]
6. Write down various steps involved in production, planning and delivery phases for successful development and deployment of a multimedia product. [16]
7. (a) What are various computer color models? What do you mean by color palettes?
(b) Write about palette flashing and dithering. [8+8]
8. Define synchronization? Explain in detail how you can achieve intermedia and intramedia synchronization for multimedia system? [16]
