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Second Semester M.Tech. Degree Examination, June/July 2011
Protocol Engineering

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

1. a. Let us assume that you are using IPv4 protocol. How many number of addresses (IP) it can provide for classes 'A' and 'B'? (05 Marks)
b. What is communication software? Illustrate some communication softwares. (05 Marks)
c. Write short note on petrinet model. (05 Marks)
d. List the key tasks of communication. (05 Marks)
2. a. With a diagram, explain the TCP protocol. How data transmission takes place? (08 Marks)
b. What is meant by protocol engineering? Explain phases of protocol engineering. (06 Marks)
c. Briefly explain OSI model and its layer roles. (06 Marks)
3. a. With a diagram, explain HDLC protocol and its fields. (10 Marks)
b. Briefly discuss the QOS requirements of a multimedia application. (05 Marks)
c. Explain various types of messages used by RSVP protocol to establish and maintain reserved paths. (05 Marks)
4. a. Explain some of the transmission errors. (05 Marks)
b. Write short note on congestion avoidance. (05 Marks)
c. What is the need of negative acknowledgement? (05 Marks)
d. Define following protocols :
i) ARP ii) RARP iii) ICMP iv) BOOTP v) RIP (05 Marks)
5. a. Explain some of the salient features of SDL. (06 Marks)
b. Give the description of a communication system using SDL by mentioning different components of SDL specifications. (07 Marks)
c. Write short note on xon-xoff protocol. (07 Marks)
6. a. What are possible errors that occur during the protocol design and development? (06 Marks)
b. Explain protocol verification using finite state machine. (06 Marks)
c. Define following items:
i) Deadlocks ii) Unspecified receptions iii) Live locks. (04 Marks)
d. What are protocol compilers? (04 Marks)
7. a. Briefly discuss different conformance test architectures. (06 Marks)
b. What are different types of test sequence methods? (07 Marks)
c. Explain different parts of TTCN. (07 Marks)
8. a. Mention the performance parameters of protocol with examples. (05 Marks)
b. Discuss the interoperability testing of a connection establishment protocol with a list suite. (05 Marks)
c. What is synthesis? Explain various phases and its roles. (05 Marks)
d. Explain the protocol implementation requirements. (05 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.