

USN

--	--	--	--	--	--	--	--	--	--

12SCS253

Second Semester M.Tech. Degree Examination, Dec.2014/Jan.2015
Protocol Engineering

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. What is communication? Explain the different subsystems in communication model. Mention the key tasks of communications. (07 Marks)
b. What is communication software? Illustrate some examples of communication softwares. (05 Marks)
c. Define communication protocol. Draw the flowchart for simple message exchange protocol and explain in brief. (08 Marks)
- 2 a. Explain some of the transmission errors. (05 Marks)
b. What is the need for negative acknowledgement? (05 Marks)
c. Write a note on :
i) Congestion avoidance
ii) Cyclic redundancy checks. (10 Marks)
- 3 a. List the protocol functions and explain them in brief. (10 Marks)
b. Give the OSI reference model and explain the function each layer. (10 Marks)
- 4 a. What is service specification? Give the FSM for service specification for reliable data transfer by using service primitives. Explain in brief service events and their actions. (10 Marks)
b. Briefly describe the protocol entity specification. (10 Marks)
- 5 a. What is protocol specification language? Mention the different protocol specification language. (05 Marks)
b. Give the salient features of SDL. (05 Marks)
c. Briefly describe the QA protocol. (10 Marks)
- 6 a. What is the need for protocol verification and validation? Explain the safety and liveness properties of a protocol. (10 Marks)
b. Explain the following protocol design errors :
i) State deadlock
ii) Unspecified reception. (10 Marks)
- 7 a. Draw a conceptual conformance test architecture and explain each component, in brief. (10 Marks)
b. Write an algorithm "Test subsequence generation using U – method" and explain in brief. (10 Marks)
- 8 a. What is protocol synthesis? Explain the interactive synthesis algorithm. (10 Marks)
b. Briefly describe all the steps in protocol implementation framework. (10 Marks)
