C 60552   · **(Pages : 2)**   Name..................................

Reg. No............................

EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, APRIL 2014

(2009 Scheme)

EC/PTEC 09 801 – DATA AND COMMUNICATION NETWORKS

Time : Three Hours   Maximum : 70 Marks

Part A

*Answer **all** questions.*

1. Define Irreducibility.

2. Define Markov Chain.

3. What supervisory condition exists with HDLC that is not included with SDLC?

4. What is FDDI?

5. Define blocking probability.

(5 × 2 = 10 marks)

Part B

*Answer any **four** questions.*

6. State and explain Quasi reversibility of M/GI/∞ Queue.

7. What is a Jackson network?

8. What is an ARQ? Explain.

9. Explain slotted aloha and pure aloha.

10. What are delay models? Explain their significance.

11. Explain Lee's approximation.

(4 × 5 = 20 marks)

Part C

*Answer **all** questions.*

12.   (a) Explain Poisson process. Consider a network of queues with Poisson external arrivals and Markov routing. Assume that some queues are M/M/1 and others are M/GI/∞. Find the invariant distribution of the network.

Or

(b) Prove that the equivalent bandwidth of a source increases with its variance and decreases with the acceptable average delay through the queue.

Turn over

13. (a) Explain the functions of each layers of an ISO-OSI seven-layer model.

Or

(b) Explain TCP IP and FTP protocols.

14. (a) Explain the various subfields used with ATM header field and Information field.

Or

(b) Explain the construction and routing of Benes Network.

15. (a) Discuss in detail about GoS and Erlang Formula.

Or

(b) Explain AT and T No.5 ESS and DMS – 100 switches.

(4 × 10 = 40 marks)