D 70060   (Pages : 2)

Name.................................

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

EIGHTH SEMESTER B.TECH. (09 SCHEME) (ENGINEERING) DEGREE [SUPPLEMENTARY] EXAMINATION, NOVEMBER 2014

EC/PT EC 09 801 – DATA AND COMMUNICATION NETWORKS

Time : Three Hours   Maximum : 70 Marks

Part A

*Answer **all** questions.*

1. State Queen's little theorem.

2. Brief about the concept of virtual circuit sub net.

3. What is piggybacking?

4. Differentiate between pure and slotted ALOHA.

5. Define the term Grade of Service.

(5 × 2 = 10 marks)

Part B

*Answer **four** questions out of six.*

6. Explain Poisson modeling and its failure in detail.

7. Explain shortest path routing algorithm to choose the route between a pair of routers.

8. Write short notes on HDLC protocol.

9. What is FDDI? Explain its properties and characteristics.

10. Explain the concept of DST-100 switch in detail.

11. Discuss the significance of Erlang formula in traffic engineering using an example.

(4 × 5 = 20 marks)

Part C

*Answer **all** questions.*

12. (a) Discuss M/G/1 queue and derive Pollaczek-Khinchine formula.

Or

(b) Define Birth and Death process. Obtain its steady state probabilities. How could it be used to find the steady state solution for M/M/1 model? Why is it called geometric?

Turn over

13. (a) Write short notes on :

    (i) TCP/IP protocol.

    (ii) X.25 protocol.

Or

(b) With neat sketch, explain the various layers of OSI model and their functions.

14. (a) (i) Explain the concept of CSMA/CD protocol.

    (ii) Write short notes on SONET.

Or

(b) Explain the various fields of ATM cell and two transmission approaches used in it.

15. (a) Explain the analysis of blocking models used for the loss system.

Or

(b) Explain two stage and three stage switch network with neat sketch.

(4 × 10 = 40 marks)