

Total No. of Printed Pages:1

**SUBJECT CODE NO: E – 8197**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**M.E. (CSE/SE) Examination Nov/Dec 2017**  
**Computer Network Protocol Design (EL-1 on SE)**  
**(Revised)**

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

- N.B
- 1) Solve any two questions from each section.
  - 2) All question carry equal marks.

**Section A**

- Q.1 a) Describe Poisson Process in detail? Compare deterministic and non – deterministic processes. 10  
b) Describe cross – correlation function. With suitable example. 10
- Q.2 a) Explain discrete - Time Markov chain with example. 10  
b) Describe ‘Transition matrix of Reducible Markov chains. 10
- Q.3 Write short Notes on (**Any Four**) 20
- 1) Queue Throughput
  - 2) M|M|1 Queue
  - 3) Transient Analysis
  - 4) M| D| I| B Queue
  - 5) ARQ performance
  - 6) Covariance matrix.

**Section B**

- Q.4 a) Describe Modulated Poisson Processes. 10  
b) Explain discrete time modelling. 10
- Q.5 a) Describe Self – Similarity and Random Process. 10  
b) Explain Packet Dropping and packet selection Policy. 10
- Q.6 Write short Notes on any four 20
- 1) Max – min fairness scheduling
  - 2) Rate Based Vs credit Based scheduling
  - 3) Poisson Traffic Description
  - 4) ARQ Performance
  - 5) Modeling of Leaky Bucket Algorithm
  - 6) Modeling of Token Bucket Algorithm

2017