

Code :R7411503

R7

IV B.Tech I Semester(R07) Supplementary Examinations, May/June 2011
PERFORMANCE EVALUATION OF COMPUTER SYSTEMS
(Computer Science & Systems Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions
All questions carry equal marks

1. (a) State and prove addition theorem on probability.
(b) Differentiate between the failure rate and failure density. Explain briefly about instantaneous failure rate.
2. (a) Prove that the MTTF of a series system is much smaller than the MTTF of its components.
(b) Define expectation of a random variable x and explain.
3. Draw the state diagram of the discrete parameter birth-death process and compute the steady state probability vector v .
4. (a) Explain various configurations of SMID array processors.
(b) What are the advantages of using the shuffle interconnection network for the implementation of the polynomial evaluation algorithm?
5. Draw and explain the architecture, I/O system and functional block diagram of the control unit of the Illiac IV system.
6. (a) Briefly describe the following terms associated with a multiprocessor system.
 - i. Loosely coupled Multi processor system.
 - ii. Tightly coupled Multi processor system.
 - iii. Homogeneous Multi processor system.
 - iv. Heterogeneous Multi processor system.
(b) Explain the steps involved in an intracuster memory access.
7. (a) Describe various types of parallel algorithms for multiprocessors.
(b) Explain the cause of a system deadlock and the protection of deadlock with an example.
8. (a) Give the features of Hydra OS.
(b) Demonstrate the effect of memory contention on the performance of c.mmp
