Indian Statistical Institute, Bangalore
M.S. (QMS) First Year
First Semester – Reliability Maintainability and Safety II
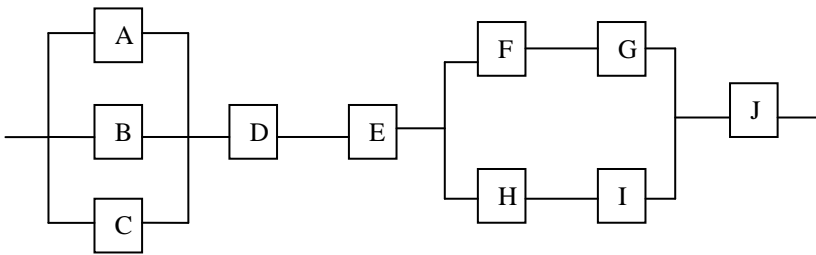
Mid Term Exam   Duration: 2 Hrs   Date: February 22, 2017   Max Marks: 50

1. Write down the likelihood function for progressive type-I internal censoring scheme, if the time to failure follows exponential distribution. Use standard notations.   [10]

2. Calculate the system reliability for the following system. Assuming that all units has reliability of 0.9.   [10]

3. The following data are the time to failure of six components.   [10]

6341, 14982, 32524, 47841, 66843, 89463.

Assuming exp (λ) , estimate
(i) λ
(ii) 90% confidence interval for λ.

4. Write short note on the following:-   [5 x 4 = 20]
(a) Process FMEA
(b) r out of n system
(c) Redundancy
(d) Type I & Type II censoring