# Indian Statistical Institute, Bangalore

## M.S. (QMS) First Year
## Second Semester - Reliability, Maintainability and Safety-II

Final Exam Time: 3 hours Date:29 /04/2016 Maximum Marks: 50

1. [4 + 4 = 8]
   (a) Define accelerated life testing.
   (b) Explain various methods of acceleration used in accelerated life testing.

2. [3+4 = 7]
   (a) Define a counting process.
   (b) Explain Homogeneous Poisson process and its properties.

3. The time between failures in operating hours of an equipment is as follows:
   413, 14, 58, 37, 100, 65, 9, 169, 447, 184, 36, 201, 118, 34.
   Prepare a plot of average ROCOF against time and offer comments about the process. [8]

4. [3+4 = 7]
   (a) Define maintainability.
   (b) If the repair time follows exponential distribution, obtain the maintainability function.

5. Explain different types of warranty policies. [5]

6. Write short note on the following [3x5 = 15]
   (a) r out of n system
   (b)Progressive censoring
   (c) NHPP model