Steps to be followed for illustration.

1. Demonstrate various software reliability models(JM, NHPP, Littlewood Verall, Weibull) for failure intensity rate, mtbf and reliability/availability with randomly generated failure data/downloaded failure data from open repository.
2. Use prediction models (consider mean of 2 previous failures, 3 previous failures, 4 previous failures, calculate u-values for each. Tabulate.
3. Use Kolmogorov Smirnov test to evaluate.
4. Use the least square method and maximum likelihood method the estimate the parameters.
5. Use Prequential method. Select the best fitting model.
6. Improve the accuracy by choosing any techniques – recalibration, grouping, optimum data selection etc.
7. Develop an operational profile and decide on test cases, make the budgeting required for testing and maintenance.
8. Do the reliability testing – use any approaches used – regression – test retest, retest all etc..
9. Develop Markov Model and get the results with to optimize the no.of. test cases
10. Based on the application mention the certification bodies and get the certification.
11. Make a risk analysis and develop a risk matrix.
12. Mention internal and external attributes. Calculate the size, function point count, cyclomatic complexity number, Halstead's numeric, system cohesion & coupling, object oriented metric whichever applicable.
13. Develop a GQM tree for maintainability.
14. Write about the various quality models.