

**BACHELOR OF ELECTRICAL ENGINEERING EXAMINATION, 2022**  
(4th Year, 2nd Semester )  
**PRINCIPLES OF SOFTWARE ENGINEERING**

Time : Four hours

Full Marks : 70

Answer *Any five* questions (5×14)

Numbers on the right side indicates the marks allotted for that question

- (i) Differentiate between verification and validation. [5]  
(ii) Explain boundary value analysis. [4]  
(iii) Justify the importance of testing process [5]
- (i) Explain classical Waterfall Model. [8]  
(ii) What are the problems we face in classical waterfall model? [6]
- (i) What is the necessity of unit testing? Write down all unit test considerations. [7]  
(ii) Explain about system testing. [7]
- Explain in detail the following s/w process models with a neat diagram.  
(i) Evolutionary process model. [7]  
(ii) Incremental Process model. [7]
- (i) Discuss the differences between black box and white box testing. [7]  
(ii) Explain the different integration testing approaches. [7]
- (i) What are the responsibilities of a software project manager? [7]  
(ii) Assume that the size of an organic type software product has been estimated to be 32,000 lines of source code. Assume that the average salary of a software developer is Rs. 15,000 per month. Determine the effort required to develop the software product, the nominal development time, and the cost to develop the product. [7]
- How the software requirements are gathered? Who does the requirement gathering? What is the outcome of requirement analysis and specification phase? [10+2+2]
- (i) What are the different processes of code review? Explain any two of them. [10]  
(ii) How internal documentation is done in the coding phase? [4]