

# DEPARTMENT OF INFORMATION TECHNOLOGY

**CLASS : IIIB.Tech ,1sem**

**Subject : Software Engineering**

**Name of the Faculty:** Ch. Srinivasulu

## ASSIGNMENT-5

### UNIT-V

1. (a) Discuss the Mandel's design principles that allow the user to maintain control?  
(b) Discuss the design principles that "reduce user's memory in user interface"?  
(c) Discuss the Design principles that "Make the interface consistent". Elaborate?
2. (a) What is meant by usability? Discuss how to assess the usability?  
(b) State and explain the different models that come into play when a user interface is to be analyzed and designed.
3. (a) What are the goals of the user interface design?  
(b) What is meant by user interface? What are the three areas that user interface design focuses? Explain them.
4. (a) Discuss the importance of user interface design?  
(b) Discuss about task elaboration and object elaboration in user interface design?
5. (a) How do we determine the format and aesthetics of content displayed as part of the user interface?  
(b) Discuss the importance of analysis of the work environment in user interface design?
6. (a) Explain about user interface analysis?  
(b) State some examples that illustrates why response time variability of user interface can be an issue?

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## ASSIGNMENT-6

### UNIT –VI

1. (a) Differentiate between verification and validation. Do both make use of test case design methods and testing strategies?  
(b) Who will test the software, either developer or an independent test group? Discuss the advantage and drawback of each one.
2. (a) List some of the problems that might be associated with the creation of an independent test group?  
(b) The software analysis and design are constructive tasks and software testing is considered to be destructive from the point of view of developer. Discuss.  
(c) What is the overall strategy for software testing? Explain it clearly?
3. (a) Explain Unit Testing? Why a highly coupled module is difficult to unit testing?  
(b) Discuss in detail about integration testing? What are its types?  
(c) Discuss about the Bottom-up & Top-down approaches with implementations?
4. (a) Regression testing is an important strategy for reducing “side effects”. Discuss?  
(b) What is meant by black box testing? Explain graph-based testing method with example?  
(c) What is meant by BVA? Discuss the guidelines to create BVA test cases?
5. (a) Discuss about software tools for test case design?  
(b) Discuss about security testing and performance testing?  
(c) Explain the process of debugging and State and explain various debugging tactics?
  
6. (a) What is meant by software quality? Discuss clearly the McCall’s software quality factors?  
(b) Discuss about ISO 9126 quality factors?  
(c) Compute the function point value for a project with the following information domain characteristics, Number of external inputs : 32, Number of external outputs : 60, Number of external inquires : 24, Number of external interface files : 2, Number of internal logical files : 8, Assume that all complexity adjustment values are average?  
(d) Why do we need metrics for design model? Describes in detail the architectural design metrics?

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## ASSIGNMENT-7

### UNIT-VII

1. (a) Describe the difference between process and project metrics in your own words?  
(b) Discuss about software tools for project and process metrics?  
(c) What is an indirect measure? And how are such measures common in software metrics works?
2. (a) Explain the size-oriented metrics with an example. Explain about function-oriented metrics?  
(b) Tabulate the similarities and differences between size-oriented and function-oriented metrics?  
(c) What is object-oriented metrics and how it is different from LOC and FP metrics?  
(d) The software used to control a photocopier requires 32,000 lines of C and 4200 lines of small talk. Estimate the number of function points for the software inside the copier?
3. (a) Distinguish between metrics and measurements?  
(b) Write short notes on (a) Direct metrics (b) Indirect metrics (c) Public metrics (d) Private metrics?  
(c) Discuss any four useful indicators for software quality?  
(a) What is meant by Defect Removal Efficiency (DRE)? How it can be assessed?  
(b) Discuss about software tools for risk management?  
(c) Explain about technology risk?
4. (a) Explain about product size risks?  
(b) Discuss the seven principles of risk management which were identified by SEI?  
(c) What do you understand by risk identification? What are the popular techniques developed for this purpose?
5. (a) Distinguish between generic risks and product specific risks?  
(b) Discuss clearly about risk projection?  
(c) What is meant by risk assessment? What are the different steps to be performed in risk assessment? Explain.
6. (a) Explain in detail the process of Risk Mitigation, Monitoring and Management or RMMM?  
(b) With a sample risk information sheet, explain the RMMM plan?
7. (b) With a sample risk information sheet, explain the RMMM plan?

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## ASSIGNMENT-8

### UNIT-VIII

1. (a) Discuss the components of the cost of Quality? Explain about the importance of Quality Assurance?  
(b) What is software quality control?
2. (a) What is meant by SQA ? Discuss in detail SQA activities?  
(b) Discuss about product standards and process standards?  
(c) Is it possible to assess the quality of software if the customer keeps changing? What is supposed to do?
3. (a) Discuss in detail the defect amplification with reviews and without reviews?  
(b) Discuss in detail about Formal Technical Reviews (FTR) performed by software engineers?  
(c) When will be the formal technical reviews are conducted? And what are its objectives?
4. (a) A Formal Technical Review (FTR) effective only if everyone has prepared in advance. How do you recognize a review participant who has not prepared? What do you do if you are the review leader?  
(b) What is meant by FTR? Discuss about review reporting and record keeping?  
(c) Discuss clearly the statistical SQA with sample example?
5. (a) Define six sigma. Give steps in it?  
(b) What is meant by software reliability? Discuss the measures of it.  
(c) Discuss about ISO 9000 Quality standards? Discuss about software quality management tools?