

III B.Tech. II Semester Regular Examinations, April/May -2005
SOFTWARE ENGINEERING
(Common to Computer Science & Systems Engineering and Electronics & Computer Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Explain the software process models.
2. Define software metrics. Why is it important and what are the steps involved?
3. What is meant by a consistent SRS? Construct an example of an inconsistent SRS and justify your answer.
4. (a) What is Warnier-Orr diagram? And explain with an example how it is different from Warnier diagram.
(b) Explain with an example the Entity structure step and the Entity action step in Jackson System Development (JSD).
5. (a) State and explain the criteria proposed for judging a design methods ability to achieve modularity.
(b) State and explain the forms that the Design description of an object can take place.
6. (a) Explain how human skill level will have influence in user interface design?
(b) Explain how the users of a system can be categorized?
(c) Explain the term "System perception" according to interface design models.
7. (a) Distinguish between reverse engineering and re-engineering process.
(b) Explain the characteristics, components and applications of a good quality software.
8. (a) Why is completeness more difficult to achieve as abstraction level increases?
(b) Why interactivity must increase if completeness is to increase?
(c) Explain the differences between restructuring and forward engineering.

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1. Describe the following:
 - (a) Software engineering.
 - (b) Software configuration.
 - (c) Software engineering paradigms.
2. What are indirect measures and why are such measures widely used in software metrics works?
3. What are viewpoint-oriented methods of requirements analysis? What are their advantages and disadvantages?
4.
 - (a) "Data Modeling can be viewed as a subset of OOA.". comment on this statement and justify your comments.
 - (b) "Object Oriented Analysis is radically different from the conventional Structured analysis approach", comment on this statement.
5.
 - (a) Differentiate between Transform analysis and Transaction analysis with suitable examples.
 - (b) Clearly indicate the similarities and differences between Object Oriented Design (OOD) and Structured Design.
6.
 - (a) Explain the concepts of objects, operations and messages
 - (b) Describe the five OO design issues suggested by Meyer
 - (c) Explain the concepts of class, instance and Inheritance with example.
7.
 - (a) Discuss in detail about Statistical Quality Assurance.
 - (b) Discuss about the Cost of Quality.
8.
 - (a) Why is completeness more difficult to achieve as abstraction level increases?
 - (b) Why interactivity must increase if completeness is to increase?
 - (c) Explain the differences between restructuring and forward engineering.

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1. Explain the recent advances in one of the leading edge software application areas among :
 - (a) Web based application.
 - (b) Virtual Reality.
2. Explain the terms measures, metrics and indicators.
3. “The activities in a requirements analysis process are highly interactive with continual feedback from each activity to the other activities”. Explain the validity of this statement.
4. (a) Differentiate between Object Oriented Analysis (OOA) and Data Modeling.
(b) Explain the following terms in Data Modeling with an example
 - i. Naming attributes
 - ii. Descriptive attributes
 - iii. Reference attributes
5. (a) Explain the relationship in software design in technical aspects and management aspects.
(b) What is formal technical review? Explain how it will assess software design quality.
6. (a) State some guidelines which focus on Data input in User Interface Design.
(b) What is Software Procedure? Explain with an example.
7. Explain various software quality standards and discuss how to assure them.
8. (a) Why is completeness more difficult to achieve as abstraction level increases?
(b) Why interactivity must increase if completeness is to increase?
(c) Explain the differences between restructuring and forward engineering.

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1. Explain the evolving role of Software.
2. Describe briefly
 - (a) Statistical software process improvement.
 - (b) Function point.
 - (c) Feature point.
3. Explain why, for large systems development, it is recommended that the prototypes should be throw-away prototypes.
4.
 - (a) "Data Modeling can be viewed as a subset of OOA.". comment on this statement and justify your comments.
 - (b) "Object Oriented Analysis is radically different from the conventional Structured analysis approach", comment on this statement.
5. Consider the interactive application of Library management system and develop a design model and a user model.
6.
 - (a) Explain the object oriented design methods. How do you identify classes and objects?
 - (b) How do you refine the operation after identification of objects.
7.
 - (a) Explain about the automated tools used in software maintenance.
 - (b) Discuss the software metrics that can be applied to the qualitative assessment of software quality and the side effects that occur during maintenance phase.
8.
 - (a) Discuss about loop testing.
 - (b) Discuss about software maintenance costs.
