

V- SEM CSE/IT/2019(W)
CST-502-SOFTWARE ENGINEERING

Full Marks: 80

Time : 3 Hours

Answer any FIVE Questions including Q No. 1 & 2

Figures in the right hand margin indicates marks

1.	Answer ALL the questions.	2x10
(a)	Define software product.	
(b)	Why PERT charts are used?	
(c)	What is critical path?	
(d)	Why spiral model is known as a meta model?	
(e)	Define verification and validation.	
(f)	Mention the various activities project planning consists of.	
(g)	What is the use of structured analysis?	
(h)	Why Work Breakdown Structure is used?	
(i)	What is LOC?	
(j)	Define software quality. Mention some of the associated quality factors.	
2.	Answer any SIX questions.	5X6
(I)	Explain different types project estimation techniques.	
(II)	What is COCOMO? Explain the different types of COCOMO models used in the field of software development.	
(III)	What is debugging? Explain the different standard approaches and guidelines used in debugging process.	
(IV)	What is cohesion? What are the different classes of cohesion? Describe.	
(V)	What is UID? Explain the different types of User Interfaces used.	
(VI)	Discuss the various ways in which a software organization can be structured?	
(VII)	Discuss the various configuration management activities.	
3.	Explain classical waterfall model used in software development.	10
4.	Define DFD. Explain the different symbols used in DFD. Write the steps to develop the DFD model of a system with an example.	10
5.	Explain the white box testing approach used to test the software product.	10
6.	Define SRS document. Explain its organization and state the characteristics of good and bad SRS documents.	10
7.	What is software reliability? Explain the different types of software reliability matrix used.	10

Full Marks: 80

Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
 - a. Differentiate between program and software product.
 - b. What are the responsibilities of Project Manager?
 - c. Define cohesion and coupling.
 - d. What do you mean by unit testing?
 - e. Define error seeding.
 - f. What is project planning?
 - g. Name two approaches of software design.
 - h. What is project scheduling?
 - i. Define software reliability.
 - j. What is prototype?
2. Answer **Any Six** Questions 6 x 5
 - a. Explain why the spiral life cycle model is considered to be a meta model.
 - b. Define COCOMO. Explain the basic features of COCOMO model.
 - c. Explain the characteristics of a good interface. Classify the user interface.
 - d. What is SRS? Explain the characteristics of a good SRS document and its contents.
 - e. Explain different types of integration testing approaches used in software testing.
 - f. Discuss about various project size estimation metrics.
 - g. What is data flow diagram? Write the function of each symbols used in DFD. Discuss the shortcomings of DFD model.
3. Explain the function of each phase of classical waterfall model, used in software development. 10
4. Define system debugging. Discuss about various approaches and guidelines for debugging a software system. 10
5. What is risk? Describe various activities associated with risk management in software development. 10
6. What is the aim of testing? Discuss different methodologies used for white box testing. 10
7. What is software quality and how is it achieved? Discuss software quality management system. 10

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
 - a. Define structured analysis.
 - b. What do you mean by Debugging?
 - c. Define software quality management system.
 - d. What is Gantt chart?
 - e. State how performance of a system is evaluated.
 - f. What is scheduling?
 - g. What are transform and transaction analysis?
 - h. Define Fan-in and Fan-out.
 - i. Define project planning.
 - j. What is Error seeding?
2. Answer **Any Six** Questions 6 x 5
 - a. List out software life cycle models. Explain working of Classical water fall model.
 - b. What are the risks associated with software project management? Explain Risk Management.
 - c. Explain the contents of a good SRS document and write the characteristics of a good SRS document.
 - d. What are the symbols used in DFD? Write the steps for developing DFD model of a system by taking a suitable example.
 - e. What is Integration testing? Explain Phased and Incremental integration testing.
 - f. State and explain Cod review concepts.
 - g. Explain the organisational structure and Team structure used by software developing firms.
3. Define User Interface. State the characteristics of a good interface. Explain different types of user interface. 10
4. Why Software testing is required? Explain Black box and White box testing. 10
5. What do you mean by Software reliability? Describe different types of reliability matrices used in software engineering. 10
6. What are the characteristics of a good Software design? Explain Cohesion and Coupling. 10
7. State and explain the working of COCOMO Model. 10

V-SEM./CSE/IT/2021(W)
TH-III Software Engineering

Full Marks: 80

Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
 - a. Define phase containment error.
 - b. Write two advantages of Prototype model?
 - c. Define risk.
 - d. Which software product is treated as organic type?
 - e. Define fan-in and fan-out.
 - f. Why SRS is called as black-box specification of the system
 - g. What do you mean by a metaphor in UID?
 - h. Define debugging.
 - i. Distinguish between alpha and beta testing.
 - j. Define software reliability
2. Answer **Any Six** Questions 5X6
 - a. Discuss about different matrices used for project size estimation.
 - b. Differentiate between hardware and software reliability.
 - c. Discuss about different integration testing.
 - d. What is code inspection? How it is different from code walk through?
 - e. Define DFD. explain different level of DFD with example.
 - f. Suppose a project was estimated to be 400 KLOC. Calculate the effort and development time for each of the three model i.e., organic, semi-detached & embedded
 - g. Explain team structure with diagram.
3. Define SRS. Write about different category of user of SRS document. Discuss the 10
characteristic of a good SRS document.
4. Define cohesion and coupling. Explain their classification. 10
5. What is testing? Discuss about white box testing. 10
6. Discuss about different types of user interface. 10
7. Briefly discuss the spiral model of software development. why spiral model is 10
known as a meta model.

5TH SEM / CSE / IT/ 2022(W)

TH3 SOFTWARE ENGINEERING

Full Marks: 80

Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
 - a. Distinguish between a program and a software product.
 - b. What are the basic attributes for estimating a project?
 - c. Why SRS document is known as black box specification of a system?
 - d. Define Fan-in and Fan-out in Module Designing.
 - e. Why GANT chart is used?
 - f. Write a advantage and disadvantages of a command language Interface.
 - g. Name different types of System Testing.
 - h. What is context diagram?
 - i. Define Software reliability.
 - j. Define test suit.
2. Answer **Any Six** Questions 6 x 5
 - a. Discuss about Spiral Model.
 - b. Describe empirical estimation techniques.
 - c. Explain different Integration testing.
 - d. Define coupling? Explain classification of coupling.
 - e. Differentiate between Hardware reliability and Software reliability.
 - f. Discuss different types of menu used in menu based user interface.
 - g. Define SRS.Discuss the characteristics of a Good SRS Document.
3. What is a prototype? Discuss about Prototype model? Under what circumstances it is beneficial to construct a prototype? 10
4. Define DFD? Explain different level of DFD.Draw DFD for Root Mean Square calculating Software. 10
5. What is testing? Discuss about various black box testing with example. 10
6. Define UID? Explain different types of User interface. 10
7. What is COCOMO model of estimation? Discuss features of different COCOMO model. 10

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Th-3 Software Engineering

Full Marks: 80

Time- 3 Hrs

Answer any five Questions including Q No.1& 2
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1. Answer **All** questions 2 x 10
 - a. Define phase containment error.
 - b. What do you mean by the “99% complete” syndrome in software development?
 - c. What are the different activities of project manager?
 - d. Why Gantt chart is used?
 - e. Define fan-in and fan-out.
 - f. Why SRS is called as black-box specification of the system.
 - g. Define structure analysis.
 - h. Define debugging.
 - i. List different menu used in menu based interface
 - j. Define software reliability

2. Answer **Any Six** Questions 6 x 5
 - a. Discuss about function point metric .
 - b. Briefly discuss the spiral model of software development. Why spiral model is known as a meta model.
 - c. Write characteristics of Good software Engineer.
 - d. What is code inspection? How it is different from code walk through?
 - e. Define DFD. Explain different symbol used in DFD.
 - f. Define SRS. Write about different category of user of SRS document
 - g. Explain team structure with diagram.

3. Discuss about different Empirical Estimation Techniques. 10
4. Define cohesion and coupling. Explain their classification. 10
5. What is testing? Discuss about black box testing with example. 10
6. Discuss about different types of user interface. 10
7. What is prototyping? Under what circumstances it is beneficial to construct a prototype model. Discuss the prototyping mode of software development. 10