UKA TARSADIA UNIVERSITY

B.Tech (CE)/B.Tech (ICT)/B.Tech (IT) (Semester 6)
CE5007(2021-22)
Software Engineering

Date :08/11/2022

Time :1:30PM- 4:30PM

Max. Marks:60

Instructions :
1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Draw diagrams/figures whenever necessary.
5. Figures to the right indicate full marks allocated to that question.
6. Follow usual meaning of notations/abbreviations.

SECTION - 1

Q 1 A) Answer the following . (Any 1) [4]

I) Explain any two characteristics of software engineering.

II) Differentiate waterfall and incremental model.

Q 1 B) Answer the following. (Any 1) [5]

I) Enlist agile process models. Explain any two methods of it.

II) Explain spiral model with an example.

Q 2 A) Answer the following in brief. (Any 2) [4]

I) What is state diagram? Why it is used in software engineering?

II) Differentiate DFD and state transition diagram.

III) Enlist and explain system response time characteristics.

Q 2 B) Answer the following . (Any 1) [5]

I) Draw a DFD diagram for library management system.

II) Explain evaluation of user interface analysis and design.

Q 3 Answer the following in detail. (Any 2) [12]

I) Explain any two types of eliciting requirements.

II) Explain data centered architecture and call and return architecture.

III) Explain requirement engineering tasks.

SECTION - 2

Q 4 A) Answer the following . (Any 1) [4]

I) Explain the steps to handle the system level hazards.

II) Explain top down and bottom up estimation approach.

Q 4 B) Answer the following. (Any 1) [5]

I) Explain COCOMO intermediate model with an example.

II) Describe task network with time line chart and project table.

Q 5 A) Explain characterization functions of domain engineering. [3]

Q 5 B) Explain business process reengineering.   [6]

<div align="center">OR</div>

Q 5 B) Explain engineering of component- based systems.

Q 6 Answer the following in detail. (Any 2)   **[12]**

   I) What are the attributes of a good test? Calculate the cyclomatic complexity for the following program:
      int temp
      if (a>b) temp =a
      else temp=b
      if (c> temp)
      temp=c
      return temp

  II) Describe Halstead's measure with an example.

 III) Explain coverage analysis and reliability used for testing.

UKA TARSADIA UNIVERSITY

B.Tech (IT) (Semester 6)
030080601(2017-18)
Software Engineering

Date :18/04/2023   Time :9:30AM- 12:30PM
                                                   Max. Marks:60

Instructions :
1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Draw diagrams/figures whenever necessary.
5. Figures to the right indicate full marks allocated to that question.
6. Follow usual meaning of notations/abbreviations.

SECTION - 1

Q 1 Answer the following (Any 1)   [6]

I) Enlist and explain advantages and disadvantages of waterfall model.

II) Differentiate concurrent development model and incremental model.

Q 2 A) Answer the following in brief. (Any 3)   [6]

I) What are requirement analysis efforts?

II) Explain the guideline for FAST approach.

III) Explain refactoring in modular.

IV) Describe layered architecture and data flow architecture.

Q 2 B) Explain types of requirement engineering.   [6]

OR

Q 2 B) Explain different type of structural partitioning with diagram.

Q 3 Answer the following in detail. (Any 2)   [12]

I) Draw the DFD diagram for "railway reservation system".

II) Explain concepts of data dictionary with an example.

III) Draw an E-R diagram for "University information system". Specify at least four cardinality and modality
relationships in the diagram also.

SECTION - 2

Q 4 Answer the following (Any 1)   [6]

I) Describe building blocks of CASE with suitable example.

II) Explain the concept of software project management.

Q 5 Answer the following in detail. (Any 2)   [12]

I) Describe cyclomatic complexity and knot count in metrics.

II) Explain psychology of testing.

III) Explain boundary value analysis and state based testing in black box testing.

Q 6 Answer the following in detail. (Any 2)   [12]

I) Describe COCOMO model with its advantages and disadvantages

II) Differentiate square root and rayleigh curve in overall scheduling.

III) Describe software project planning with an appropriate example.

UKA TARSADIA UNIVERSITY

B.Tech (AI&DS)/B.Tech (CE)/B.Tech (ICT)/B.Tech (IT) (Semester 6)
CE5007(2021-22)/CE5007(2022-23)
Software Engineering

Date :18/04/2023   Time :9:30AM- 12:30PM

Instructions :   **Max. Marks:**60

    1. Attempt all questions.
    2. Write each section in a separate answer book.
    3. Make suitable assumptions wherever necessary.
    4. Draw diagrams/figures whenever necessary.
    5. Figures to the right indicate full marks allocated to that question.
    6. Follow usual meaning of notations/abbreviations.

SECTION - 1

Q 1 A) Answer the following . (Any 1) [4]

    I) Justify the statement: "Software is engineered not manufactured".

    II) Enlist the principles of agility.

Q 1 B) Answer the following. (Any 1) [5]

    I) Explain rapid application development model.

    II) Explain extreme programming process.

Q 2 A) Answer the following . (Any 1) [4]

    I) Enlist the golden rules of user interface design and explain any one among it.

    II) Explain principals for consistent interface design.

Q 2 B) Answer the following. (Any 1) [5]

    I) Draw usecase diagram for "Library management system".

    II) Draw data flow diagram for "Food order processing system".

Q 3 A) Answer the following in brief. (Any 3) [6]

    I) Explain problem recognition.

    II) Describe benefits of software prototyping.

    III) Explain fan-out and fan-in in modular design.

    IV) Explain data centred architecture and call and return architecture.

Q 3 B) Explain functional requirements of hotel management system. [6]

OR

Q 3 B) Describe alternative architectural designs.

SECTION - 2

Q 4 A) Answer the following . (Any 1) [4]

    I) Explain top down and bottom up estimation approach.

    II) Consider a software project using organic mode with 60000 line of code. Find out effort estimation and person estimation.
        ab=3.6, bb=1.2, cb=2.5, db=0.32.

Q 4 B) Answer the following. (Any 1) [5]

    I) Describe risk control.

    II) Explain measure of reliability and availability and software safety.

Q 5 A) What is DevOps? Discuss its importance. [3]

Q 5 B) Explain structural modelling and structure points of component- based development. [6]

OR

Q 5 B) Explain reverse engineering.

Q 6 Answer the following in detail. (Any 2) [12]

    I) Explain coding standards and principles with its advantages and disadvantages.

    II) Explain levels of testing.

    III) Describe integration testing.

UKA TARSADIA UNIVERSITY

B.Tech (AI&DS)/B.Tech (CE)/B.Tech (IT)/(Semester 6)
CE5007(2021-22)/CE5007(2022-23)
Software Engineering

Date :25/11/2023   **Time :**1:30PM- 4:30PM
                                                                          Max. Marks:60

Instructions :
   1. Attempt all questions.
   2. Write each section in a separate answer book.
   3. Make suitable assumptions wherever necessary.
   4. Draw diagrams/figures whenever necessary.
   5. Figures to the right indicate full marks allocated to that question.
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SECTION - 1

Q 1 A) Answer the following . (Any 1)   [4]

   I) Define: Agility. Explain agile process.

   II) Enlist the advantages and disadvantages of waterfall model.

Q 1 B) Answer the following. (Any 1)   [5]

   I) Explain adaptive software development of agile process.

   II) Explain generic view of software engineering.

Q 2 A) Answer the following . (Any 1)   [4]

   I) Explain following terms in context of class model with suitable example:
         a.   N-array association
         b.   Aggregation
         c.   Composition
         d.   Generalization

   II) Enlist and explain basic components of state transition diagram.

Q 2 B) Answer the following. (Any 1)   [5]

   I) Draw data flow diagram for "Library management system".

   II) Draw activity diagram for "Hospital management system".

Q 3 A) Answer the following in brief. (Any 3)   [6]

   I) Describe elaboration and negotiation in requirement engineering tasks.

   II) Explain Quality Function Deployment for elicitation requirement.

   III) Explain abstraction in design concepts.

   IV) Explain vertical partitioning with its advantages and disadvantages.

Q 3 B) What is SRS? Write functional requirements of issuing book from library.   [6]

OR

Q 3 B) Explain various characteristics of good SRS.

Q 4 A) Answer the following . (Any 1) [4]

   I) Explain effort estimation with an example.

   II) Describe risk components and drivers in risk identification.

Q 4 B) Answer the following. (Any 1) [5]

   I) Describe schedule and staffing in planning a software project.

   II) Explain software quality assurance and its importance.

Q 5 A) Enlist the benefits of DevOps. [3]

Q 5 B) Explain continuous development and continuous testing of DevOps life cycle. [6]

<div align="center">OR</div>

Q 5 B) Discuss BPR model of business process reengineering.

Q 6 Answer the following in detail. (Any 2) [12]

   I) Explain unit testing in programming.

   II) Explain test criteria and test case design with an example.

   III) Explain white box testing with any one type of it.

UKA TARSADIA UNIVERSITY

B.Tech (IT) (Semester 6)
030080601(2017-18)
Software Engineering

Date :18/04/2023

Time :9:30AM- 12:30PM

Max. Marks:60

Instructions :
1. Attempt all questions.
2. Write each section in a separate answer book.
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6. Follow usual meaning of notations/abbreviations.

SECTION - 1

Q 1 Answer the following (Any 1) [6]

I) Enlist and explain advantages and disadvantages of waterfall model.

II) Differentiate concurrent development model and incremental model.

Q 2 A) Answer the following in brief. (Any 3) [6]

I) What are requirement analysis efforts?

II) Explain the guideline for FAST approach.

III) Explain refactoring in modular.

IV) Describe layered architecture and data flow architecture.

Q 2 B) Explain types of requirement engineering. [6]

OR

Q 2 B) Explain different type of structural partitioning with diagram.

Q 3 Answer the following in detail. (Any 2) [12]

I) Draw the DFD diagram for "railway reservation system".

II) Explain concepts of data dictionary with an example.

III) Draw an E-R diagram for "University information system". Specify at least four cardinality and modality relationships in the diagram also.

SECTION - 2

Q 4 Answer the following (Any 1) [6]

I) Describe building blocks of CASE with suitable example.

II) Explain the concept of software project management.

Q 5 Answer the following in detail. (Any 2) [12]

I) Describe cyclomatic complexity and knot count in metrics.

II) Explain psychology of testing.

III) Explain boundary value analysis and state based testing in black box testing.

Q 6 Answer the following in detail. (Any 2) [12]

I) Describe COCOMO model with its advantages and disadvantages

II) Differentiate square root and rayleigh curve in overall scheduling.

III) Describe software project planning with an appropriate example.

UKA TARSADIA UNIVERSITY

B.Tech (AI&DS)/B.Tech (CE)/B.Tech (ICT)/B.Tech (IT) (Semester 6)
CE5007(2021-22)/CE5007(2022-23)
Software Engineering

Date :18/04/2023   Time :9:30AM- 12:30PM

Max. Marks:60

Instructions :

1. Attempt all questions.
2. Write each section in a separate answer book.
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SECTION - 1

Q 1 A) Answer the following . (Any 1)   [4]

    I) Justify the statement: "Software is engineered not manufactured".

    II) Enlist the principles of agility.

Q 1 B) Answer the following. (Any 1)   [5]

    I) Explain rapid application development model.

    II) Explain extreme programming process.

Q 2 A) Answer the following . (Any 1)   [4]

    I) Enlist the golden rules of user interface design and explain any one among it.

    II) Explain principals for consistent interface design.

Q 2 B) Answer the following. (Any 1)   [5]

    I) Draw usecase diagram for "Library management system".

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Q 3 A) Answer the following in brief. (Any 3)   [6]

    I) Explain problem recognition.

    II) Describe benefits of software prototyping.

    III) Explain fan-out and fan-in in modular design.

    IV) Explain data centred architecture and call and return architecture.

Q 3 B) Explain functional requirements of hotel management system.   [6]

OR

Q 3 B) Describe alternative architectural designs.

SECTION - 2

Q 4 A) Answer the following . (Any 1)   [4]

    I) Explain top down and bottom up estimation approach.

    II) Consider a software project using organic mode with 60000 line of code. Find out effort estimation and person estimation.
ab=3.6, bb=1.2, cb=2.5, db=0.32.

Q 4 B) Answer the following. (Any 1)   [5]

    I) Describe risk control.

    II) Explain measure of reliability and availability and software safety.

Q 5 A) What is DevOps? Discuss its importance.   [3]

Q 5 B) Explain structural modelling and structure points of component- based development.   [6]

OR

Q 5 B) Explain reverse engineering.

Q 6 Answer the following in detail. (Any 2)   [12]

    I) Explain coding standards and principles with its advantages and disadvantages.

    II) Explain levels of testing.

    III) Describe integration testing.

UKA TARSADIA UNIVERSITY

B.Tech (AI&DS)/B.Tech (CE)/B.Tech (IT)/(Semester 6)
CE5007(2021-22)/CE5007(2022-23)
Software Engineering

Date :25/11/2023   Time :1:30PM- 4:30PM
                                                                   Max. Marks:60

Instructions :
   1. Attempt all questions.
   2. Write each section in a separate answer book.
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SECTION - 1

Q 1 A) Answer the following . (Any 1)   [4]

   I) Define: Agility. Explain agile process.

   II) Enlist the advantages and disadvantages of waterfall model.

Q 1 B) Answer the following. (Any 1)   [5]

   I) Explain adaptive software development of agile process.

   II) Explain generic view of software engineering.

Q 2 A) Answer the following . (Any 1)   [4]

   I) Explain following terms in context of class model with suitable example:
         a.   N-array association
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         c.   Composition
         d.   Generalization

   II) Enlist and explain basic components of state transition diagram.

Q 2 B) Answer the following. (Any 1)   [5]

   I) Draw data flow diagram for "Library management system".

   II) Draw activity diagram for "Hospital management system".

Q 3 A) Answer the following in brief. (Any 3)   [6]

   I) Describe elaboration and negotiation in requirement engineering tasks.

   II) Explain Quality Function Deployment for elicitation requirement.

   III) Explain abstraction in design concepts.

   IV) Explain vertical partitioning with its advantages and disadvantages.

Q 3 B) What is SRS? Write functional requirements of issuing book from library.   [6]

OR

Q 3 B) Explain various characteristics of good SRS.

Q 4 A) Answer the following . (Any 1)   [4]

   I) Explain effort estimation with an example.

   II) Describe risk components and drivers in risk identification.

Q 4 B) Answer the following. (Any 1)   [5]

   I) Describe schedule and staffing in planning a software project.

   II) Explain software quality assurance and its importance.

Q 5 A) Enlist the benefits of DevOps.   [3]

Q 5 B) Explain continuous development and continuous testing of DevOps life cycle.   [6]

OR

Q 5 B) Discuss BPR model of business process reengineering.

Q 6 Answer the following in detail. (Any 2)   [12]

   I) Explain unit testing in programming.

   II) Explain test criteria and test case design with an example.

   III) Explain white box testing with any one type of it.

UKA TARSADIA UNIVERSITY

B.Tech (AI&DS)/B.Tech (CE)/B.Tech (ICT)/B.Tech (IT) (Semester 6)
CE5007(2021-22)/CE5007(2022-23)
Software Engineering

Date :18/04/2024

Time :9:30AM- 12:30PM

Max. Marks:60

Instructions :
1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Draw diagrams/figures whenever necessary.
5. Figures to the right indicate full marks allocated to that question.
6. Follow usual meaning of notations/abbreviations.

SECTION - 1

Q 1 A) Answer the following . (Any 1) [4]

I) Justify the statement "Software does not wear out".

II) Explain scrum framework.

Q 1 B) Answer the following. (Any 1) [5]

I) Explain spiral model by considering "Patient Monitoring System".

II) Describe concurrent development model with its advantages.

Q 2 A) Answer the following . (Any 1) [4]

I) Explain process in context of interface design model.

II) Explain an application of interface design steps.

Q 2 B) Answer the following. (Any 1) [5]

I) Draw data flow diagram for "Online shopping system".

II) Draw usecase diagram for "Railway Ticket Booking system".

Q 3 Answer the following in detail. (Any 2) [12]

I) Enlist and explain the functional requirements of "Job Portal System".

II) Enlist and explain the architectural styles.

III) Explain component level design.

SECTION - 2

Q 4 A) Answer the following in brief. (Any 2) [4]

I) Explain building process of the effort estimation model.

II) Explain risk exposure.

III) Explain cost of quality.

Q 4 B) Answer the following . (Any 1) [5]

I) Explain risk identification.

II) Discuss software quality assurance and its importance.

Q 5 A) What is DevOps? Discuss its importance. [3]

Q 5 B) Explain continuous development and continuous testing of DevOps life cycle. [6]

OR

Q 5 B) Discuss the concept of business process reengineering.

Q 6 Answer the following in detail. (Any 2) [12]

I) Describe coding standards and principles with its advantages and disadvantages.

II) Explain data flow based test coverage criteria with an example.

III) Describe Halstead's measure with an example.

UKA TARSADIA UNIVERSITY

B.Tech (AI&DS)/B.Tech (CE)/B.Tech (ICT)/B.Tech (IT) (Semester 6)
CE5007(2021-22)/CE5007(2022-23)
Software Engineering

Date :19/11/2024

Time :1:30PM- 4:30PM

Max. Marks:60

Instructions :
1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Draw diagrams/figures whenever necessary.
5. Figures to the right indicate full marks allocated to that question.
6. Follow usual meaning of notations/abbreviations.

SECTION - 1

Q 1 A) Enlist and explain process framework activities in common process framework.   [3]

Q 1 B) Draw and explain waterfall model.   [6]

OR

Q 1 B) Explain incremental model with neat diagram.

Q 2 A) Enlist and explain the basic components of use case diagram.   [3]

Q 2 B) Draw the data flow diagram for "Books order processing system".   [6]

OR

Q 2 B) Draw the state diagram for "Online movie recommendation system."

Q 3 Answer the following in detail. (Any 2)   [12]

I) Explain the concepts of data-centered architecture and call-and-return architecture, highlighting their differences.

II) Describe the functional requirements of an Employee Management System, including detailed explanations of each requirement.

III) Choose three architectural styles and describe their principles and applications.

SECTION - 2

Q 4 A) Explain the concept of software project estimation.   [3]

Q 4 B) Consider a software project using semi-detached mode with 70000 lines of code. Find out effort estimation and duration estimation.
ab=3.2, bb=1.52,cb=2.8,db=0.65.   [6]

OR

Q 4 B) Differentiate COCOMO intermediate and basic model with an example.

Q 5 A) Enlist and explain the difficulties faced with DevOps implementation.   [3]

Q 5 B) Describe business process reengineering.   [6]

OR

Q 5 B) Enlist and explain the components of domain engineering.

Q 6 Answer the following in detail. (Any 2)   [12]

I) Explain unit testing in programming.

II) Explain test criteria and test case design with an example.

III) Describe regression and smoke testing with their benefits.