B.E. Eighth Semester (Computer Science & Engineering) (C.B.C.S.) Summer 2024

Object Oriented Analysis & Design - 8 KS 01 / 8 KE 01

P. Pages : 2 **AF - 3435**

Time : Three Hours *1799* Max. Marks : 80

Notes :
1. Assume suitable data wherever necessary.
2. Illustrate your answer necessary with the help of neat sketches.
3. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION – A

1. a) What are Agile Methods and Attitudes? Explain Agile Principles. What is Agile Modeling? 7

   b) What is an UP? What are the four major phases of UP? What are the UP Disciplines? 7

OR

2. a) What is Iterative and Evolutionary Development? What are the Benefits of Iterative Development? 7

   b) What is UML? What are the three perspectives to apply UML? Explain with examples. 7

3. a) What is use-case model? Draw a use-case model for ATM Machine. 7

   b) What are the Types of Categories of Inception Requirements? How are Requirements Organized in UP Artifacts? 6

OR

4. a) What are Actros, Scenarios, and Use Cases? What are Three Kinds of Actors? 7

   b) What are Three Common Use Case Formats? What do the Sections Mean? Explain Preface Elements. 6

5. a) What is domain model? What are the categories Classes in domain model? How to show multiplicity. 6

   b) What is Associations? Explain Common Associations List. Explain Attributes with example. 7

OR

6. a) Explain System Sequence Diagrams with example. 7

   b) Explain Iterative and Evolutionary SSDs Process. What is a System Operation? 6

SECTION – B

7. a) What is mean by layers? What are the benefits of layer model. 7

b) What is UM package what are the symbols to represents UM packages with examples. 7

OR

8. a) Explain Benefits of Using Layers. Explain motivation for Model-View Separation. 7

b) What is the Logical Architecture? And Layers? What is Software Architecture? 7

9. a) What's the Connection Between Responsibilities, GRASP, and UML Diagrams? Explain Object Design with GRASP. 7

b) How UML is different from Design Principles? Explain GRASP principle with example. 6

OR

10. a) What are Responsibilities? Explain Responsibilities Driven Design. 6

b) What is Visibility? Explain visibility Between Objects. How to defining a class with method signatures and attributes. 7

11. a) Explain State Machine diagram notation with example. 7

b) Explain Events, States, and Transitions with example. 6

OR

12. a) What is use-case diagram? Explain with example. 7

b) Explain the include Relationship. Explain the extend Relationship. Explain the Generalize Relationship. 6

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B.E. Eighth Semester (Computer Science & Engineering) (C.B.C.S.) Summer 2024

Professional Ethics & Management - 8 KS 02 / 8 KE 02

AF - 3436

P. Pages : 2

Time : Three Hours

Max. Marks : 80

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Notes :
1. Due credit will be given to neatness and adequate dimensions.
2. Assume suitable data wherever necessary.
3. Illustrate your answer necessary with the help of neat sketches.
4. Use of Mobile Phone is strictly prohibited.
5. Use of pen Blue/Black ink/refill only for writing the answer book.

1. a) Explain the senses of Engineering & Professional Ethics. 6

b) Give distinction between Ethics, Morals and Laws. How they are co-related. 7

OR

2. a) Explain the Ethical issues for engineers. 6

b) Explain in brief: Utilitarianism, Duty , Right & Virtue. 7

3. a) What are the code of Ethics for engineers in India? Explain in brief. 7

b) Give difference between Engineering & other profession's. 6

OR

4. a) Describe professional attributes in detail. 7

b) Explain Ethical Dilemma? What makes it Right -Wrong or Better - Worse? 6

5. a) Define & Explain Rights of an Engineer. E, P, Rech. 7

b) Explain whistle blowing & when it should be attempted? 7

OR

6. a) Explain confidentiality and proprietary information from professional ethics perspective. 7

b) Explain conflict of interest in detail with its type. F NF, R, Predeterminist 7

7. a) Explain Intellectual Property Rights (IPR) with its type? 7

b) Explain in brief the IP chain of Activities. 6

OR

8. a) Define Trademark. What can be registered as Trademark? 6

b) Explain copyright's & related rights. Give benefit's of copyright. 7

9. a) Write a note on computer crimes. 7

b) Describe the challenges in information Age. 6

OR

10. a) List & explain IEEE code of conduct & code of Ethics. 7

b) What do you mean by privacy issues in professional Ethics perspective? 6

11. a) Describe the Responsibilities of Engineer's towards Environment. 7

b) Explain in brief Engineering & Ecology. 7

OR

12. a) Give a note on Engineering as social experimentation. 7

b) Explain safety & Risk Management in Engineering. 7

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B.E. Eighth Semester (Computer Science & Engineering) (C.B.C.S.) Summer 2024

Professional Elective-V - System & Software Security - 8 KS 03

AF - 3440

P. Pages : 2

Time : Three Hours

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Max. Marks : 80

Notes : 1. Due credit will be given to neatness and adequate dimensions.
2. Illustrate your answer necessary with the help of neat sketches.

1. a) Explain the following terms : 7
   i) Buffer overflow
   ii) Time-of-check to time-of-use error.

   b) Explain why genetic diversity is a good principle for secure development. Cite an example of lack of diversity that has had a negative impact on security. 6

OR

2. a) Explain in what circumstances penetrate-and-patch is a useful program maintenance strategy. 7

   b) What are the countermeasures for developers specifically for security? 6

3. a) List the different ways of protecting against email attack. FT, L, S, Ad, Load, PGP 7

   b) What is phishing? Explain with suitable example. 7

OR

4. a) What are the various types of security vulnerability? 7

   b) How Browser attack succeed? 7

5. a) List and explain various security features of operating system. 7

   b) Illustrate the design of operating system to protect objects. 6

OR

6. a) What is rootkit. Explain with its types. 7

   b) Explain trusted system in detail. 6

7. a) Differentiate between modification and fabrication in cyber security? 7

   b) What is port scanning and how does it work? 6

OR

8. a) Explain Wired equivalent Privacy (WEP)? 7

b) Explain Onion Routing in detail. 6

9. a) What is Database Disclosure and Explain its type. 7

b) What is Reliability and integrity in Databases? Explain it with the help of examples. 7

OR

10. a) Explain in DBMS 7
   i) Integrity
   ii) Element integrity
   iii) Auditability

b) Explain Data Suppression and modification for preventing disclosure. 7

11. a) Explain pros and cons for moving data into cloud. 7

b) Explain OAuth Authorization in detail. 6

OR

12. a) Explain the differences between public, private, and community clouds. What are some of the factors to consider when choosing which of the three to use? 7

b) Discuss Cloud Security Tools and its techniques. 6

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B.E. Eighth Semester (Computer Science & Engineering) (C.B.C.S.) Summer 2024

Professional Elective-VI - Distributed Ledger Technology - 8 KS 04 / 8 KE 04

P. Pages : 2

Time : Three Hours

* 1 8 0 5 *

AF - 3441

Max. Marks : 80

Notes :
1. Due credit will be given to neatness.
2. Assume suitable data wherever necessary.
3. Diagrams should be given wherever necessary.
4. Illustrate your answer necessary with the help of neat sketches.

1. a) How distributed Ledger Technology Could reduce the traditional reliance on a central ledger? Also explain risks associated with it. **7**

b) What are the technical design elements of DLT arrangements? explain in details. **6**

OR

2. a) Explain different nodes in DLT with their technical roles. **6**

b) Explain in detail the Institutional design elements for DLT arrangements. **7**

3. a) What is the functionality & nature of an arrangement? Explain in detail. **6**

b) What social costs might arise from operating the arrangement in a distributed environment? **8**

OR

4. a) Explain key factors for effective implementation of DLT. **8**

b) Explain potential implications for efficiency. **6**

5. a) Explain Markle tree in detail. **7**

b) Explain Groofycoin in detail. **6**

OR

6. a) Explain digital signature scheme with it's three algorithms. **7**

b) Explain SHA 256 in detail. **6**

7. a) What is proof of work? How Bitcoin achieves it? **7**

b) What did you understand by centralized & Decentralized system? Explain in detail. **7**

OR

8. a) What does consensus mean m the context of Bitcoin? Explain. **7**

b) What did you understand by impossibility results? Explain. **7**

9. a) Explain hot & cold storage in detail. 7

b) What did you understand by account based ledger & transaction based ledger? Explain. 6

OR

10. a) What are the three goals that we have to keep m our mind while storing & managing keys? 7

b) Explain online wallets in detail. 6

11. a) What do you understand by mining? Explain. 6

b) What is Application-Specific integrated circuits (ASIC)? Explain. 7

OR

12. a) How to find valid block? Explain. 7

b) What are the different hard warms for mining? Explain. 6

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