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Question Paper Code: U4F06

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Computer Science and Design

21UCD406 AGILE METHODOLOGIES

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer All Questions

PART A - (10 x 2 = 20 Marks)

1. List the types of software models. CO1-U
2. Illustrate the phases involved in spiral model. CO1-U
3. What are the 5 SCRUM values? CO1-U
4. What is burn down chart? CO1-U
5. Define the Osmotic communication. CO1-U
6. Write short notes on Spaghetti code. CO1-U
7. What are the thinking tools of the lean value, “empowering the team”? CO1-U
8. Describe the two thinking tools that Lean provides to help you get your brain around integrity. CO1-U
9. Give an example to illustrate Interface Segregation Principle. CO1-U
10. Mention the core classes in xUnit architecture CO1-U

PART – B (5 x 16= 80 Marks)

11. (a) Explain in detail the phases involved in Software Development Life Cycle. CO1-U (16)
- Or
- (b) Explain in detail about the Spiral model with neat diagram. CO1-U (16)

12. (a) A company wants to develop an e-commerce website for promoting its products. They approach a software development team to develop it. The team decides to go with the Scrum methodology. Write the user stories with acceptance criteria for any four types among the five given below. CO2-App (16)
- Behavior-driven stories
 - Rules-driven stories
 - Content-driven stories
 - Improvement stories
 - Integration stories
- Or
- (b) A team using Agile methodology is developing a website for uploading the achievements of pets of customers through videos. The website should have the option for the viewers to provide a 5-star rating for the videos they are watching. Write user stories with acceptance criteria for any four types among the five given below. CO2-App (16)
- Behavior-driven stories
 - Rules-driven stories
 - Content-driven stories
 - Improvement stories
 - Integration stories
13. (a) Explain the planning and team practices of XP. CO1-U (16)
- Or
- (b) Write notes on the following: CO1-U (16)
Code smells, Spaghetti code, Lasagna code, hooks, and edge cases
14. (a) Describe how XP teams and Lean teams utilize a technique called Five Whys to figure out the root cause of a problem. CO1-U (16)
- Or
- (b) Explain in detail the values of Kanban methodology. CO1-U (16)

15. (a) Our banking application supports two account types – “current” and “savings”. These are represented by the classes *CurrentAccount* and *SavingsAccount* respectively. CO2-App (16)

The *BankingAppWithdrawalService* serves the withdrawal functionality to its users. Unfortunately, there is a problem with extending this design.

The Banking App Withdrawal Service is aware of the two concrete implementations of account. Therefore, the Banking App Withdrawal Service would need to be changed every time a new account type is introduced.

Apply the open/closed principle and justify your answer with appropriate class diagrams.

Or

- (b) Apply the Interface Segregation principle for a burger place where a customer can order a burger, fries, or a combo of both. Identify the Code Smells for ISP violations and fix them. CO2-App (16)

