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Enrolment
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UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, May 2020

Course: Design Patterns
Program: B. Tech. CSE DevOps
Course Code: CSSC4002P

Semester: VIII
Time 03 hrs.
Max. Marks: 100

SECTION A

- 1. Each Question will carry 5 Marks**
- 2. Instruction: Complete the statement / Select the correct answer(s)**

S. No.	• Question	CO
Q 1	<p>What is true about generic software product design process?</p> <p>a. It begins with SRS b. It ends with Product Design Problem c. Analysis is done and end product is project mission statement d. None of the mentioned</p>	CO1
Q2	<p>Generic software engineering design process defined by which of these steps?</p> <p>a. Generic software engineering design process's first job after analysis is detailed design. b. Attention is turned later to architectural design. c. Architectural design is followed by Detailed design. d. a, b</p>	CO1
Q3	<p>Which of the following is considered incorrect with respect to the quality?</p> <p>a) Architecture is critical to the realization of many of the qualities of interest in a system b) All qualities are architecturally sensitive c) All of the mentioned d) None of the mentioned</p>	CO2
Q4	<p>MVC evolves to _____ model.</p> <p>A. PAC Model B. Slinky Model C. Arch Model D. None of the mentioned</p>	CO1
Q5	<p>Analyzing and evaluating architecture follow _____.</p> <p>A. ADL's provide valuable analytical capabilities but tend to concentrate on run-time properties of the system B. Maintainability has many facets C. Maintainability is the main aspect D. All of the above</p>	CO1
Q6	<p>Which of the following benefits provide patterns?</p> <p>a) Increasing Development Efficiency b) Promoting Communication c) Streamlining Documentation d) All of these</p>	CO1

SECTION B

- 1. Each question will carry 10 marks**
- 2. Instruction: Write short / brief notes**

Q 7	Using Suitable code explain MVC design patterns. Discuss its advantages and disadvantages	CO2
Q 8	Facade pattern hides the complexities of the system and provides an interface to the client using which the client can access the system. This type of design pattern comes under structural pattern as this pattern adds an interface to existing system to hide its complexities Create a Shape interface and concrete classes implementing the Shape interface. Create facade class ShapeMaker is defined as a next step that uses the concrete classes to delegate user calls to these classes. Create a FacadePatternDemo, a demo class, that use ShapeMaker class to show the results.	CO2
Q9	An Abstract Factory Pattern is also known as Kit. Create a UML diagram for calculating the loan payment for different banks like HDFC, ICICI, SBI etc.	CO3
Q 10	What is Chain of Responsibility concept? Can we apply this to create Patterns? What category of patterns it will belong to. Does it has any advantages and disadvantages?	CO3
Q 11	Compare all broad Categories of Design Patterns	CO4

Section C

- 1. Each Question carries 20 Marks.**
- 2. Instruction: Write long answer.**

Q12	Differentiate Software Design from Software architecture. Explain applicability, advantages and disadvantages for both. OR Explain following Architectural Styles 1) Layered 2) Event Driven Support your answer with code snippet or Uml diagram	CO4
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