Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **14CS2056** | **Duration :** | **3hrs** |
| **Sub. Name :** | **Design Patterns** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | \_\_\_\_\_\_\_\_\_ is abstract class for all objects that can appear in document structure. | CO1 | 1 |
| b. | Expand MVC. | CO1 | 1 |
| c. | What is a design pattern? | CO1,CO2 | 2 |
| d. | What are the essential elements of design pattern? | CO2 | 2 |
| e. | Consider the following scenario, you are working as TL in a software company, you need to describe a new design pattern which is going to implement in the project to your team member.How will you describe design pattern?. | CO1,CO2 | 14 |
| (OR) | | | | |
| 2. | a. | \_\_\_\_\_\_\_\_\_ is abstract class for all objects that can appear in document structure. | CO1 | 1 |
| b. | \_\_\_\_\_\_\_\_\_\_\_\_\_ is technique to represent hierarchically structured information | CO1 | 1 |
| c. | How will you classify the design pattern space based on purpose and scope? | CO2 | 2 |
| d. | Give the catalogue of design pattern. | C01,CO2 | 2 |
| e. | i)How will you select a design pattern? Explain the steps.  ii)Give the steps how to use a design pattern. | CO1,CO2 | 14 |
| 3. | a. | Which class is used for object that can encapsulate a formatting algorithm? | CO1 | 1 |
|  | b. | \_\_\_\_\_\_\_\_\_\_\_ Factory offers the interface for creating a family of related objects, without explicitly specifying their classes. | CO2 | 1 |
|  | c. | Draw the design pattern relationships. | CO2 | 2 |
|  | d. | Define glyphs. | CO2 | 2 |
|  | e. | Explain the design problem in Lexi’s document editor. | CO1,CO2 | 14 |
| (OR) | | | | |
| 4. | a. | \_\_\_\_\_\_\_\_\_\_\_\_ provide an interface for creating families of related or dependent object. | CO1 | 1 |
|  | b. | Adapter design pattern is also known as\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | CO1 | 1 |
|  | c. | Draw the interaction diagram of Builder Design Pattern. | CO2 | 2 |
|  | d. | How will you graphically represent prototype design pattern? | CO2 | 2 |
|  | e. | What is creational pattern? Write in detail about abstract factory. | CO1,CO2 | 14 |
| 5. | a. | Draw the structure of singleton Pattern. | CO2 | 1 |
|  | b. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is also known as Virtual Constructor | CO1 | 1 |
|  | c. | Mention the participants of factory method and explain the functions of each. | CO2 | 2 |
|  | d. | State the applicability of Singleton pattern. | CO2 | 2 |
|  | e. | Describe adapter design pattern with respect to intent, motivation, applicability, structure, collaborations and implementation. | CO1,CO2 | 14 |
| (OR) | | | | |
| 6. | a. | What is the intent behind Flyweight pattern? | CO1 | 1 |
|  | b. | Write one advantage of structural pattern. | CO1 | 1 |
|  | c. | How will you graphically represent Proxy design pattern? | CO1 | 2 |
|  | d. | State the applicability of Flyweight pattern. | CO2 | 2 |
|  | e. | Explain the structure diagram of various Structural design patterns . | CO1,CO2 | 14 |
| 7. | a. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is also known as wrapper. | CO1 | 1 |
|  | b. | What is the other name of Iterator design pattern? | CO1 | 1 |
|  | c. | Mention the participants of Decorator and explain the functions of each. | CO2,CO1 | 2 |
|  | d. | Mention participants of visitor pattern. | CO2,CO1 | 2 |
|  | e. | Describe Bridge pattern with respect to intent, motivation, applicability, structure, collaborations and implementation. | CO1,CO2 | 14 |
| (OR) | | | | |
| 8. | a. | What is the intent behind strategy design pattern? | CO2 | 1 |
|  | b. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_ defines the domain specific interface that client uses. | CO1 | 1 |
|  | c. | Draw the interaction diagram of Command Design Pattern | CO2 | 2 |
|  | d. | State the applicability of Interpreter pattern.. | CO2 | 2 |
|  | e. | What is Behavioral design pattern? Describe strategy pattern with respect to intent, motivation, applicability, collaborations and implementation. | CO1,CO2 | 14 |
|  | | **Compulsory:** |  |  |
| 9. | a. | \_\_\_\_\_\_\_\_\_ is also known as transaction. | CO1 | 1 |
|  | b. | Iterator design pattern provide a way to access the element of an \_\_\_\_\_\_\_\_\_ object sequentially | CO2 | 1 |
|  | c. | What are the different types of behavioral Design patterns? | CO1,CO2 | 2 |
|  | d. | Give the consequences of iterator design pattern. | CO1,CO2 | 2 |
|  | e. | Give the structure and participants of following design pattern.  i)Command  ii)Memento  iii)Visitor | CO1,CO2 | 14 |

ALL THE BEST