

Code No: 137SG

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, March - 2021

## DESIGN PATTERNS

(Computer Science and Engineering)

Time: 3 Hours

Max. Marks: 75

Answer any Five Questions  
All Questions Carry Equal Marks

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- 1.a) Discuss about the key elements in the description of a design pattern.  
b) What are three reasons for studying design patterns? Discuss. [8+7]
- 2.a) Discuss about embellishing the user interface in detail.  
b) Explain about supporting multiple window systems in designing a document Editor. [7+8]
- 3.a) What are Creational patterns? List all the creational patterns and write their key strategies.  
b) Discuss the consequences of Abstract Factory and Prototype patterns. [8+7]
- 4.a) Differentiate between adapter and bridge design pattern.  
b) What are the known uses of composite structural pattern? Explain. [7+8]
- 5.a) Discuss about the features of structural patterns in detail.  
b) How does the Decorator pattern help to decompose the problem? Explain. [7+8]
- 6.a) Explain the structure & participants of command pattern with one example.  
b) Discuss about the collaborations and consequences of Interpreter Pattern. [7+8]
- 7.a) What is the intent and consequences of the Strategy pattern?  
b) Under what conditions should an Observer pattern not be used? Write an example demonstrating the use of observer pattern. [7+8]
8. Explain the following patterns  
a) Singleton  
b) Proxy. [7+8]

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