

MASTER OF COMPUTER APPLICATIONS (CBCS - 2020 COURSE)
M.C.A. Sem-III : WINTER : 2021
SUBJECT: SOFTWARE DESIGN PATTERNS

Day : Tuesday
Date : 11-01-2022

W-22737-2021

Time : 02:00 PM-05:00 PM
Max. Marks: 60

N.B.

- 1) Q.4 from Section – I is **COMPULSORY**.
 - 2) Answer any **TWO** questions from Q.1, 2, 3 in Section – I.
 - 3) Answer any **TWO** questions from Q.5, 6, 7 in Section – II.
 - 4) All question carry **EQUAL** marks.
 - 5) Answers to both the sections should be written in the **SAME** answer book.
 - 6) Draw neat and labelled diagrams **WHEREVER** necessary.
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SECTION – I

- Q.1** a) What is design pattern? Describe role of it in software design.
b) Describe role of Prototype design pattern with intent, structure and applicability.
- Q.2** a) When to use Adaptor design pattern? Justify your answer.
b) Draw a structure of Flyweight design pattern and state role of each participate.
- Q.3** a) When to use Command design pattern? Describe the role of each participant in it.
b) State the JEEE design pattern used in presentation layer. Explain any one of them.
- Q.4** Write short notes on the following (Attempt any **THREE**)
a) Template method
b) Decorator
c) Interpreter
d) Visitor

SECTION – II

- Q.5** a) State the intent of Singleton design pattern and describe an application of it with example.
b) When to use Bridge design pattern? Explain it with real life examples.
- Q.6** a) There are various strategies of payments in Hotel booking system; which design pattern you use to implement payment strategies.
b) Illustrate role of Observer design pattern with example.
- Q.7** a) Explain the role of Abstract Factory design pattern with its need and applicability.
b) When to use Proxy design pattern? Illustrate role of its participants with structure.

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