

MASTER OF COMPUTER APPLICATIONS (CBCS - 2020 COURSE)
M.C.A. Sem-III :SUMMER- 2022
SUBJECT : SOFTWARE DESIGN PATTERNS

Day : Saturday
Date : 4/6/2022

S-22737-2022

Time : 10:00 AM-01:00 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) Describe importance of Design Patterns.
b) Draw structure of Builder design pattern and describe role of each participant.
- Q.2** a) State J2EE design patterns used in business layer and explain any one of them.
b) State the intent of Abstract Factory pattern. Draw the structure of it and describe role of each participants.
- Q.3** a) Explain the usage of Template Method design pattern.
b) State and describe applications of Interpreter design pattern.
- Q.4** Write short notes on the following (Attempt any **THREE**)
a) Singleton
b) Façade
c) Front Controller
d) Mediator

SECTION – II

- Q.5** a) Describe the usage of Adapter design pattern with its structure and role of each participant.
b) When to use Factory Method design pattern? Justify your answer.
- Q.6** a) In logistic system whenever there is movement of an object it is need to be informed to its subscriber. Which design pattern you choose and why?
b) Investigate when to use Proxy Design pattern? Illustrate your choice with example?
- Q.7** a) When behaviour of object is depending on the state of the object; which design pattern you choose. Describe structure and role of each participant in it.
b) State the intent of Flyweight design pattern and describe applications of Flyweight.

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