S.D.E.

M.C.A. SEM - IV : SUMMER - 2018

SUBJECT: UML AND DESIGN PATTERNS

Day: **Tuesday**
Date: **29/05/2018**

S-2018-4618

Time: **02.00 P.M. TO 05.00 P.M.**
Max. Marks: 80

N.B.:

1) Attempt any **FIVE** questions from Section –I and any **TWO** questions from Section –II.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in **SEPARATE** answer book.

SECTION-I

Q.1 List the UML diagrams used for model dynamic part of system. Briefly describe each of them. **(10)**

Q.2 Explain the following: **(10)**
i) Use case relationship
ii) Aggregation
iii) Class Association
iv) Multiplicity

Q.3 What is intent of Builder design pattern? Discuss use of it with example. **(10)**

Q.4 Which design pattern is used to convert one interface into another? Justify your answer. **(10)**

Q.5 Discuss the use of collaboration diagram in detail with example. **(10)**

Q.6 What is intent of Strategy design pattern? Specify participants in it and describe role of them. **(10)**

Q.7 Write short notes on any **TWO** of the following: **(10)**

a) Chain of responsibility

b) Decorator

c) RUP

SECTION-II

Q.8 Which design pattern is used to change behavior of an object if state of an object changes? Explain your answer with example. **(15)**

Q.9 What is role activity diagram in system modeling? Draw an activity diagram for a process of 'rent a car' in car rental system. **(15)**

Q.10 Explain when to use the Factory method design pattern with example. **(15)**

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