

S.D.E.

M.C.A. SEM - IV : WINTER - 2017
SUBJECT: UML AND DESIGN PATTERNS

Day: **Tuesday**
Date: **19/12/2017**

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

W-2017-4427

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** What is an activity diagram? Comment on the use of it. **(10)**
- Q.2** What do you know about static modeling? List and briefly describe UML diagram used for the same. **(10)**
- Q.3** Illustrate the use of State diagram to model behavior aspect of an application. **(10)**
- Q.4** Explain Factory Method pattern with its intent, structure and applicability. **(10)**
- Q.5** Which design pattern you use to design an application where publisher subscriber mechanism is used? Justify your answer. **(10)**
- Q.6** Explain adapter design pattern with example. **(10)**
- Q.7** Write short notes on any **TWO** of the following: **(10)**
- a) Template method
 - b) Singleton
 - c) Aggregation and composition

SECTION-II

- Q.8** In a course registration system an institute offers various courses/subjects and student is expected to enroll for them as per their interest. Identify use cases and draw use case diagram for this. **(15)**
- Q.9** Illustrate the Proxy design pattern with example. **(15)**
- Q.10** When there is need of Abstract Factory design pattern? Illustrate it with example. **(15)**