

**B.TECH SEM – VIII (2007 COURSE) (COMPUTER ENGG.) :
WINTER - 2017**

SUBJECT: SOFTWARE DEVELOPMENT METHODOLOGIES

Day: **Friday**
Date: **24/11/2017**

W-2017-2666

Time: **02.30 PM TO 05.30 PM**
Max Marks. 80

N.B

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of the remaining attempt any **TWO** of the following.
- 2) Both the section should be written in **SEPARATE** answer books.
- 3) Draw neat labeled diagrams **WHEREVER** necessary.
- 4) Assume suitable data, if necessary.
- 5) Figures to the **RIGHT** indicate full marks.

SECTION - I

- Q.1**
- a) Explain why systems developed as prototypes should not normally be used as production systems? **(05)**
 - b) What is advanced classes? Describe how to model the semantics of a class. **(05)**
 - c) What is a framework and how does it differ from a pattern? **(04)**
- Q.2**
- a) Suggest the most appropriate generic software process model that might be used as a basis for managing the development of 'A wilderness weather station'. **(07)**
 - b) What are the advantages of providing static and dynamic views of the software process as in the rational unified process? **(06)**
- Q.3**
- Design the structural diagram for 'An insulin pump control system'. Draw the necessary UML diagrams for the same. **(13)**
- Q.4**
- Design the behavioral diagram for 'A patient information system for mental health care'. Draw the necessary UML diagrams for the same. **(13)**

SECTION - II

- Q.5**
- a) Define requirement elicitation. Elaborate on the requirement elicitation process and the tools /techniques used for eliciting requirements. **(05)**
 - b) Describe the Ishikawa's Quality tools. **(05)**
 - c) What is SQA? Describe the functions of SQA organization does in a project. **(04)**
- Q.6**
- a) Compare Formal, Semi-Formal and Informal methods of requirement engineering. **(07)**

P.T.O.

- b) Comment on SSADM methodology. How SSADM differs from Yourdon's SAD methodology. (06)
- Q.7** a) Briefly explain the purpose of each of the sections in a software project plan? (07)
- b) Use the COCOMO – II model to estimate the effort required to build software for a Kiosk that produces 12 screens, 10 reports and will require approximately 80 software components. Assume average complexity and average developer/environment maturity. Use the application composition model with object points. (06)
- Q.8** a) Explain why a high quality software process should lead to high quality of software products. Discuss possible problems with this system of quality management. (07)
- b) Comment on 'Quality assurance and Quality standards with emphasis on ISO 9000'. (06)

* * *