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Total number of printed pages – 2

B. Tech
PCCS 4402

Seventh Semester Examination – 2013

PRINCIPLES AND PRACTICES IN SOFTWARE ENGINEERING

BRANCH : CSE

QUESTION CODE : C-250

Full Marks – 70

Time : 3 Hours

*Answer Question No. 1 which is compulsory and any **five** from the rest.*

The figures in the right-hand margin indicate marks.

1. Answer the following questions : 2×10
- (a) Define the scope and necessity of software engineering.
 - (b) What are the important features of a structured program ?
 - (c) What problems would occur if no life-cycle model is followed ?
 - (d) What are the different stages through which a software product undergoes during its lifetime ?
 - (e) What is the Six Sigma quality initiative ?
 - (f) Among development phases of software life-cycle, which phase typically consumes the maximum effort ?
 - (g) What is clean room testing ?
 - (h) What are the characteristics of a good software design ?
 - (i) Write down the importance of data dictionary in the context of good software design.
 - (j) What is the purpose of a use case ?
2. (a) What are the shortcomings of the classical waterfall model ? 5
- (b) What is a software prototype and Identify three reasons for the necessity of developing a prototype during software development ? 5



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3. (a) What the important properties of a good SRS document ? 5
 (b) Explain the role of a system analyst. 5
4. What is the purpose of Data Flow diagram ? Draw a data flow diagram using SRD technique for the following problem :
 "Consider a program which registers students for different programs. The students fill a form and submit it. This is sent to the departments for confirmation. Once it is confirmed, the form and the fees is sent to the account section." 10
5. (a) What problems arise if two modules have high coupling ? 5
 (b) What is data modelling ? Give five examples for data modelling. 5
6. (a) Explain the different types of diagrams and views supported in UML. 5
 (b) What are the features represented by a class diagram ? 5
7. (a) List and explain different types of testing done during the testing phase. 5
 (b) Differentiate between verification and validation in the contest of software testing. 5
8. Differentiate between : 2.5×4
 - (a) ISO 9000 certification vs. SEI/CMM
 - (b) Model-oriented and Property-oriented approaches in the context of requirements specification
 - (c) Function-oriented and Object-oriented design approach
 - (d) Activity diagram vs. State chart diagram.

