

*Total number of printed pages=3* **2018**  
**53 (CS 602) SWEN**

## **SOFTWARE ENGINEERING**

Paper : CS 602

Full Marks : 100

Time : Three hours

***The figures in the margin indicate full marks for the questions.***

***Answer any five questions.***

1. (a) What are the software characteristics that are considerably different than those of hardware? Mention *seven* broad categories of computer software that present continuing challenges for software engineers. *3+7=10*

- (b) Describe CMMI capability levels with respect to continuous process meta-model. *10*

*Contd.*

2. (a) What are the various types of process models? Describe the Waterfall Model.

(b) Why Evolutionary Process Models are needed? Describe the Spiral Model.

3+7=10

3. (a) What does "feasibility analysis" imply? Explain the functions executed for accomplishment of Requirements Engineering Process.

3+7=10

(b) Describe the following Software Design Concepts:  
Modularity, Refinement, Patterns, Abstraction.

2½×4=10

4. (a) Why software architecture is important? Draw and explain the generic structure of the architectural context diagram.

2+8=10

(b) Define Objects and Class. Explain the following class relationships: Inheritance, Association, Aggregation and Composition, Dependency.

2+8=10

5. (a) How a software product is normally tested? Explain 'Driver and Stub Modules' used in Unit Testing.

3+7=10

(b) Explain Equivalence Class Partitioning and Boundary Value Analysis approach by considering suitable examples.

5+5=10

6. Write short notes on:

4×5=20

(a) COCOMO

(b) DED

(c) Reliability Metrics

(d) ISO 9000.

\_\_\_\_\_