



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/M.Tech IT(SE)/SEM-1/MSE-103/2010-11**

**2010-11**

**SOFTWARE ENGINEERING**

*Time Allotted : 3 Hours*

*Full Marks : 70*

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for any *ten* of the following :  $10 \times 1 = 10$

- i) Project risk factor is considered in
  - a) waterfall model                      b) spiral model
  - c) CMM                                      d) prototype model.
- ii) RAD stands for
  - a) Rapid Application Development
  - b) Repeated Application Development
  - c) Relative Application Development
  - d) Ready Application Development.



- iii) The DFD depicts
  - a) flow of data
  - b) flow of control
  - c) both (a) & (b)
  - d) none of these.
- iv) Estimation of software development effort for organic software in COCOMO is
  - a)  $E = 2 \cdot 4 (\text{KLOC})^{1.05} \text{ PM}$
  - b)  $E = 3 \cdot 4 (\text{KLOC})^{1.06} \text{ PM}$
  - c)  $E = 2 \cdot 0 (\text{KLOC})^{1.05} \text{ PM}$
  - d)  $E = 2 \cdot 4 (\text{KLOC})^{1.07} \text{ PM}.$
- v) In function point analysis, number of complexity adjustment factors is
  - a) 10
  - b) 20
  - c) 14
  - d) 12.
- vi) Temporal cohesion means
  - a) cohesion between temporary variable
  - b) cohesion between local variable
  - c) cohesion with respect to time
  - d) coincidental cohesion.
- vii) Software mistakes during coding known as
  - a) failures
  - b) defects
  - c) bugs
  - d) errors.
- viii) Function testing is known as
  - a) structural testing
  - b) behavioural testing
  - c) regression testing
  - d) none of these.



- ix) Beta testing is carried out by
- a) users
  - b) developers
  - c) testers
  - d) all of these.
- x) During validation
- a) process is checked
  - b) product is checked
  - c) developer's performance is evaluated
  - d) the customer checks the product.
- xi) Process of transforming a model into source code is
- a) Reverse engineering
  - b) Forward engineering
  - c) Re-engineering
  - d) Restructuring.

**GROUP – B**

**( Long Answer Type Questions )**

Answer any *four* of the following.  $4 \times 15 = 60$

2. a) Define McCabe's cyclomatic complexity with proper example. 5
- b) What is risk ? Why is risk analysis done ? 5
- c) What is structure chart ? Explain with example. 5
3. a) Differentiate between black box testing and white box testing with proper example. 5
- b) Write down different methods of unit testing. 5
- c) Distinguish between verification and validation. 5



4. a) What is data dictionary ? Explain it with an example. 5
- b) Write down the difference between cohesion & coupling with example. 5
- c) What is software reliability ? 5
5. a) What is Software Quality Assurance ? 5
- b) What are code inspection and coding standards ? 5
- c) What is CASE TOOL ? Explain with example. 5
6. a) Compare between GUI and Text based user interface. 5
- b) Mention different characteristics of “Good user interface”. 5
- c) Compare between flowchart and structure-chart. 2
- d) What is decision table, explain with example. 3
7. a) What are transform analysis and transaction analysis ? 4
- b) A project size of 200 KLOC is to be developed. Software development team has average experience on similar type of project. The project schedule is not very tight. Calculate the “Effort”, “Development time”, “Average staff size” and “Productivity of the project”. 7
- c) Explain different kind of feasibility study. 4

---