ROLL NO. _____

Code: AC63/AT63/AC114/AT114 **Subject: SOFTWARE ENGINEERING**

AMIETE – CS/IT (Current & New Scheme)

Time: 3 Hours **DECEMBER 2015** **Max. Marks: 100**

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE: There are 9 Questions in all.

- **Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.**
- **The answer sheet for the Q.1 will be collected by the invigilator after 45 Minutes of the commencement of the examination.**
- **Out of the remaining EIGHT Questions, answer any FIVE Questions. Each question carries 16 marks.**
- **Any required data not explicitly given, may be suitably assumed and stated.**

Q.1 Choose the correct or the best alternative in the following: (2×10)

a. Technical computer based System includes
(i) Hardware
(ii) Software
(iii) Procedures
(iv) Processes

(A) Both (i) and (ii) **(B)** (i) only
(C) (ii) only **(D)** Both (iii) and (iv)

b. How is incremental model different from spiral model?

(A) Progress can be measured in incremental model
(B) Changing requirements can be accommodated in incremental model
(C) Users can see the system early in Incremental Model.
(D) None of these

c. _____ model is not suitable for accommodating changes.

(A) RAD Model **(B)** Prototyping Model
(C) Waterfall Model **(D)** Linear Sequential Model

d. Which model depicts the dynamic behavior of the system?

(A) Context Model **(B)** Behavioral Model
(C) Data Model **(D)** Object Model

e. Agile Software Development is based on
(i) Incremental Development
(ii) Iterative Development
(iii) Linear Development
(iv) Waterfall Model

(A) Both (i) and (iii) **(B)** Both (ii) and (iv)
(C) Both (i) and (ii) **(D)** Both (iii) and (iv)

f. Identify the disadvantage of Spiral Model.

(A) Doesn't work well for smaller projects
(B) High amount of risk analysis
(C) Strong approval and documentation control
(D) Additional Functionality can be added at a later date

g. Which one of the following is not a software process quality?

(A) Productivity **(B)** Portability
(C) Timeliness **(D)** Visibility

h. Number of errors found per person hours expended is an example of a

(A) Measurement **(B)** Measure
(C) Metric **(D)** None of these

i. Which of the following is a dynamic model that shows how the system interacts with its environment as it is used?

(A) System context model
(B) Interaction model
(C) Environmental model
(D) Both system context and interaction

j. Which of the following property does not correspond to a good Software Requirements Specification (SRS)?

(A) Verifiable **(B)** Ambiguous
(C) Complete **(D)** Traceable

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

Q.2	a. What is System Engineering? Explain in detail.	**(12)**
	b. Explain Rational Unified Process (RUP).	**(4)**
Q.3	a. Discuss in detail Functional and Nonfunctional Requirements.	**(12)**
	b. Discuss about Requirement Elicitation and Analysis phase.	**(4)**
Q.4	a. Explain in detail about Extreme Programming and explain how testing is done in Extreme Programming	**(10)**
	b. Discuss Sub-System Interface Specification.	**(6)**
Q.5	a. Discuss Object Oriented style of modular decomposition	**(4)**
	b. Explain Distributed Systems Architecture in detail.	**(12)**
Q.6	a. What is Object Oriented Design Process? Explain the first three stages of the process.	**(12)**
	b. Explain Generator based Reuse.	**(4)**
Q.7	a. Explain the User Interface design process.	**(12)**
	b. What are fault tolerance actions? Explain them briefly	**(4)**
Q.8	a. Explain the planning involved in verification and validation.	**(5)**
	b. Explain System Testing.	**(3)**
	c. Explain COCOMO model briefly	**(8)**
Q.9	a. Discuss ISO 9000 Standards for Quality Management.	**(8)**
	b. What are the attributes of Process improvement attributes.	**(4)**
	c. Write short notes on Configuration Management Planning.	**(4)**