

**AMIETE – CS/IT (Current & New Scheme)**

Time: 3 Hours

**June 2018**

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)**

- Legacy systems are socio-technical computer- based system that have been developed in the \_\_\_\_\_  
(A) Past, using older or obsolete technology  
(B) Present, using current technology  
(C) Future, using existing technology  
(D) All of these
- CASE Tool is  
(A) Computer Analysis Software Engineering  
(B) Constructive Aided Software Engineering  
(C) Computer Aided Software Engineering  
(D) Component Analysis Software Engineering
- The static system model exploit which type of relationship?  
(A) Time Cost (B) Activity Cost  
(C) Quality Cost (D) None of these
- User requirements are expressed as \_\_\_\_\_ in Extreme programming  
(A) Functionalities (B) Implementation tasks  
(C) Scenarios (D) All of these
- In object oriented design of software, objects have  
(A) Attributes name and operation  
(B) Operations and name only  
(C) Attributes and name only  
(D) All of these
- A software engineer must design the modules with the goal of high cohesion and low coupling.  
(A) True (B) False  
(C) Not applicable (D) None of these
- What is /are the main component /components of user interface?  
(A) Action language (B) Presentation language  
(C) Both (A) and (B) (D) Only (B)

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

- h. All fault-tolerant techniques rely on  
 (A) Integrity (B) Dependability  
 (C) Redundancy (D) Both (A) and (B)
- i. The type of software testing in which each module is tested along in an attempt to discover any errors in its code, is known as  
 (A) Unit testing (B) Integration Testing  
 (C) Acceptance testing (D) Mutation testing
- j. Who plays the role of policy maker in Change Management?  
 (A) Project manager (B) Consumer  
 (C) SCM manager (D) None of these

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

- Q.2** a. What are the two categories of systems? Brief them in detail. (6)  
 b. What are the five Risk Management steps in a sound Risk Management Process? Brief them in detail. (10)
- Q.3** a. List out the various types of non-functional requirements and brief them. (6)  
 b. Discuss in detail the simple guidelines need to be followed to minimise misunderstandings when writing user requirements. (10)
- Q.4** a. Discuss the activities involved during the process of developing a formal specification of a sub-system. (8)  
 b. What do you mean by software prototyping? List out possible ways a software prototype can be used in a software development process. (8)
- Q.5** a. Why the architectural design of software is important? Explain. (8)  
 b. What are the basic facilities that must be provided by an object request broker? (8)
- Q.6** a. Explain the difference between an object and an object class. (6)  
 b. What are the essential elements of design patterns? (5)  
 c. List out any four problems with software reuse. (5)
- Q.7** a. Discuss in detail about Interface evaluation. (10)  
 b. List out any six software engineering techniques used for developing fault-free software for small and medium sized systems. (6)
- Q.8** a. Explain, why program inspections are an effective technique for discovering errors in a program? What types of errors are unlikely to be discovered through inspections? (8)  
 b. Why should several estimation techniques be used to produce a cost estimate for a large complex software system? (8)
- Q.9** a. Explain why a high-quality software process should lead to high-quality software products? Discuss possible problems with this system of quality management. (10)  
 b. What is the difference between generic and specific goals in the CMMI? (6)