

MCA/D08
Software Engineering
MCA -104

Time : 3 Hours

MM:50

Note:- Question no 1 is compulsory. In addition to compulsory question Attempt Four more questions by selecting One Question from each unit.

UNIT-I

- 1 Differentiate between the following:**
- (a) Software Product, Software Process and Software Product
 - (b) Correctness and Reliability
 - (c) Cohesion and Coupling
 - (d) Verification and Validation
 - (e) Flow Chart and Structure Chart
 - (f) Alpha Testing and Beta Testing
 - (g) Behavioral and Non-Behavioral Requirements
 - (h) Inspections and Reviews
- 3each**

UNIT-II

- 2(a) What are the basic obstacles to the software developers? Explain each of them.** **3**
- (b) Discuss the role of engineering in software development.** **5**
- (c) Differentiate the following:**
Principles, Methods, Techniques, Methodologies and Tools **4**
- 3(a) Discuss major factors responsible for software quality.** **7**
- (b) Give an overview of various quality standards.** **7**

UNIT-II

- 4(a) Comment on the statement:**
“Proper Project Plan is an important ingredient for a successful project” **6**
- (b) Explain major factors that influence the cost of software product.** **8**
- 5(a) Discuss several problems caused by poor definition or analysis that only become visible during acceptance.** **4**
- (b) What are the central problems in software requirements analysis?** **4**
- (c) Discuss the structure and various components of SRS document.** **6**

UNIT-III

- 6(a) “System Design has a major impact on the testability and modifiability of a system and also affects its efficiency. “Discuss”. 4
- (b) Explain major factors on which design quality depends. 5
- (c) Discuss the role of the following in software design:
 Problem Partitioning
 Abstraction
- 7(a) Comment on the statement:
 “Coding phase affect both testing and maintenance profoundly.” 4
- (b) What are the major concepts that help in making a program more readable? 4
- (c) Explain the following terms:
 Fault Avoidance and Tolerance
 Exception Handling
 Defensive Programming 6
- UNIT-IV**
- 8(a) How does testing affect reliability of final product? Discuss. 4
- (b) Comment on the statement:
 “Testing plays a critical role in quality assurance for software systems.” 4
- (c) Describe various testing strategies required for testing a software system. 6
- 9(a) What are maintenance side effects? 4
- (b) Describe technical and non-technical factors which affect software system maintenance costs. 5
- (c) Explain the following:
 Reverse Engineering
 Software Re-engineering 5