

DipIETE – CS (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)

- Which of the following is not a software quality standard or method?
(A) ISO 9000 (B) Six Sigma
(C) SEI-CMM (D) COCOMO
- Which of the following testing is done through friendly set of customers?
(A) alpha (B) beta
(C) gamma (D) acceptance
- Correct working of changes in patches or configuration of the software, is verified via?
(A) performance testing (B) regression testing
(C) verification (D) validation
- What is the value of KLOC for a software product written in 8 pages, each page consisting of exactly 250 lines of code in it?
(A) 2 (B) 3
(C) 4 (D) 0
- What is the value of minimum number of path, for a domain through the routine?
(A) 0 (B) 1
(C) 2 (D) 3
- A domain that is linear, complete, consistently closed & simply connected can be called as:
(A) good (B) ugly
(C) nice (D) bad
- Which of the following is not a testing tool?
(A) SMARTS (B) Jmeter
(C) TET(Test Environment Toolkit) (D) RAD
- A file consisting of, list of all files in database, their record, names and type of each field, without actual data from database is called?
(A) database file (B) data repository
(C) data matrix (D) data dictionary

- i. Relational Algebra was first described by?
(A) Boehm (B) William Stalling
(C) E.F. Codd (D) John Henry Holland
- j. During software designing developer always try _____ level of “Cohesion” _____ Level of “Coupling” for best outcome.
(A) Low, High (B) High, Low
(C) Low, Low (D) High, High

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

- Q.2** a. Explain dichotomies in testing. (6)
- b. Explain waterfall model. What are the shortcoming of this approach and how it can be eradicated? (10)
- Q.3** a. What is cohesion and coupling? Explain their types and relation between them. (10)
- b. Explain data dictionary. (6)
- Q.4** a. What is the advantage of data flow testing? How is it achieved? (8)
- b. What is a data flow model? Explain its various components. (8)
- Q.5** a. Explain component based development. (8)
- b. Explain domains and their types. (8)
- Q.6** a. Explain path product, path sum and path expression. (10)
- b. What is path reduction in terms of software testing? What are its applications? (6)
- Q.7** a. What are decision tables and their advantages? (8)
- b. How is use of relational algebra (specifically predicates and relational operators) helps in logical testing? (8)
- Q.8** a. What is white box testing? Explain path-coverage based testing? (10)
- b. Explain object oriented testing tools and their advantages? (6)
- Q.9** a. What are types of requirement gathered for software development? (8)
- b. Write short notes on: (4×2)
- (i) Black box testing
- (ii) Regression testing