

DiplETE – CS (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)

- a. The utility software that is in between application software and systems software is known as
(A) Human ware (B) ADE
(C) Middleware (D) Interface
- b. System design is carried out
(A) whenever the user management feels it should be done
(B) as soon as system requirements are determined
(C) whenever a system analyst feels it is urgent
(D) after final system specifications are approved by the organization
- c. Requirement specification is carried out
(A) simultaneously with requirements determination
(B) independent of requirements determination
(C) after requirements are determined
(D) before requirements are determined
- d. In a _____, one module of the new information system is activated at a time
(A) Success factors (B) Phased Conversion
(C) System Development Life Cycle (D) CASE tool
- e. The degree to which class is connected to or relies upon other classes is called
(A) coupling (B) sequence
(C) package (D) design
- f. Multiple inheritance _____
(A) Cannot have virtual functions
(B) Can include virtual classes
(C) Supports only base class default constructors
(D) None of these

- g. In processing, controls must be established in a system, in order to
(A) Block or trap faulty data from entry into processing
(B) Prohibit tampering with information by unauthorized person
(C) Verify that all data have been processed
(D) All of these
- h. _____ can be defined as data that has been processed into a form that is meaningful to the recipient and is of real or perceived value in current or prospective decisions.
(A) System (B) Service
(C) Information (D) Technology
- i. _____ can be defined as most recent and perhaps the most comprehensive technique for solving computer problems.
(A) System Procedure (B) System Record
(C) System Data (D) System Analysis
- j. The major task involved in decision analysis phase of system development is:
(A) To communicate the requirements statements
(B) To recommend a system solution
(C) To establish system improvement objectives
(D) To define acceptance test cases

Answer any FIVE Questions out of EIGHT Questions.

Each question carries 16 marks.

- Q.2** a. Differentiate between system analysis and system design. What is the responsibility of system analyst with respect to information technology? (8)
- b. Explain the different classes of Information System Applications. (8)
- Q.3** a. Explain the software development life cycle with an example. (8)
- b. Explain the concept of Object Oriented Analysis and Design. What are its purposes? What is Object Modeling? (8)
- Q.4** a. What is Rapid Architected Analysis? Describe the two different techniques for applying rapid architected analysis. Give examples for both the techniques. (8)
- b. Why is the decision analysis phase needed? What are some ways to identify Candidate Solutions? (8)
- Q.5** a. Explain various steps in use case modeling. Give an example for illustration. (8)
- b. Explain the following terms related to Data Modelling: (2×4)
- (i) Entities (ii) Attributes
(iii) Relationships (iv) Cardinality

- Q.6** a. What is polymorphism? When is it applied? (4)
- b. What do you understand by –“The Buy” Solution from Systems Design for Integrating Commercial Software? (4)
- c. Describe the steps for organizing the objects & identifying their relationships using class diagram. Give an illustration. (8)
- Q.7** a. Explain the features of any three Graphical User Interface Styles and Considerations. (6)
- b. Explain in brief the role of automated tools for User Interface Design and Prototyping. (4)
- c. What are the four types of UML diagrams? (6)
- Q.8** a. Explain the term Control Classes, Persistence Classes, and System Classes in brief. (8)
- b. Compare the differences between strategy pattern and adapter pattern. (8)
- Q.9** a. What are some of the tasks suggested in technical support? Why will system enhancement occur? (8)
- b. Briefly explain the commonly used installation strategies of conversion plan. (8)