

DiplETE – CS (Current & New Scheme)

Time: 3 Hours

December 2016

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. A systems development strategy wherein the system developers are given the flexibility to select from a variety of appropriate tools and techniques to best accomplish the tasks at hand. This is believed to strike an optimal balance between productivity and quality for systems development.

(A) Top-Down	(B) Bottom-Up
(C) Agile	(D) Legacy
- b. The process of identifying, evaluating, and controlling what might go wrong in a project before it becomes a threat to the successful completion of the project or implementation of the information system.

(A) Processor and memory	(B) Risk management
(C) Time and space	(D) Data and space
- c. A repository of project proposals that cannot be funded because they are a lower priority than those that have been approved for system development.

(A) Planned	(B) Backlog
(C) Redundant	(D) Unplanned
- d. A model-driven, process-centered technique used to either analyse an existing system or define business requirements for a new system, or both.

(A) Unstructured analysis	(B) Rapid Architected Analysis
(C) Data Flow analysis	(D) Structured analysis
- e. The use of technology that reads the program code for an existing database, application program, and/or user interface and automatically generates the equivalent system model.

(A) Requirement Discovery	(B) Reverse engineering
(C) Rapid Architected Analysis	(D) Fact Finding
- f. A relationship between an actor and a use case in which an interaction occurs between them.

(A) Extends	(B) Includes
(C) Association	(D) Inheritance
- g. A property of an attribute that defines what values the attribute can legitimately take on.

(A) Domain	(B) Identification
(C) Cardinality	(D) Degree

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- h. The concept wherein methods and/or attributes defined in an object class can be reused by another object class.
 (A) Encapsulation (B) Abstraction
 (C) Inheritance (D) Generalization
- i. A system design technique that decomposes the system's processes into manageable components.
 (A) Information Engineering (B) Modern structured design
 (C) Object Oriented Design (D) Prototyping
- j. The overall flow of screens and messages for an application.
 (A) Dialogue (B) Paging
 (C) Scrolling (D) Menu driven

Answer any FIVE Questions out of EIGHT Questions.

Each question carries 16 marks.

- Q.2** a. Please explain what the consequences are if an information system lacks a system owner. (8)
- b. What are the three business goal-oriented perspectives or views of an information system that systems owners and system users tend to focus on? What are the three technological perspectives that system designers and builders tend to focus on? (8)
- Q.3** a. What are the 10 underlying principles for systems development? (8)
- b. What is computer assisted software engineering(CASE)? List some examples of CASE. (8)
- Q.4** a. What is the goal of the scope definition phase? (8)
- b. What is a commonly used technique for prioritizing system requirements? (8)
- Q.5** a. What are the different types of relationships employed in a use case diagram, and what is their purpose? (8)
- b. Why is it necessary to create an implementation dependent model of a system? (8)
- Q.6** a. What are the three major activities in performing object-oriented analysis? (8)
- b. Prototyping has many strengths, but it also has a number of weaknesses and hazards. Discuss some of these weaknesses and hazards. What strategies could be implemented to reduce the risk of their occurring? (8)
- Q.7** a. Give the overriding commandments of the user interface design. (8)
- b. What are steps of the user interface design process? (8)
- Q.8** a. What is navigability? Please give an example of a navigability relationship. (8)
- b. What are the two advantages to learning and using design patterns? (8)
- Q.9** a. What is alpha testing, beta testing and audit testing? (8)
- b. Why is relying on system knowledge important in debugging of the program? (8)