Enrollment No......................................
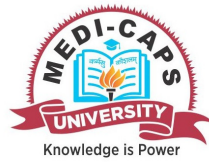
Faculty of Science
End Sem (Even) Examination May-2018
CA3CO13 Software Engineering

Programme: BCA   Branch/Specialisation: Computer Application

Duration: 3 Hrs.   **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

Q.1 i.   Selection of a software development model is based on   **1**
     (a) Requirements   (b) Development team & Users
     (c) Project type and associated risk   (d) All of these

     ii. Which two models doesn't allow defining requirements early in the   **1**
     cycle?
     (a) Waterfall & RAD   (b) Prototyping & Spiral
     (c) Prototyping & RAD   (d) Waterfall & Spiral

     iii. Which one of the following is not a step of requirement engineering? **1**
     (a) Elicitation (b) Design   (c) Analysis   (d) Documentation

     iv. Every attribute is defined by its corresponding set of values is called **1**
     _____
     (a) Domain   (b) Entity
     (c) Relationship   (d) None of these

     v.   _____ are the people involved in or affected by project   **1**
     activities.
     (a) Managers   (b) Stakeholders   (c) Directors (d) Citizens

     vi. According to the COCOMO model, the estimated effort is a   **1**
     _____ function of the size of the project.
     (a) Sublinear   (b) Superlinear   (c) Linear   (d) None of these

     vii. Which of these truly defines Software design?   **1**
     (a) Software design is an activity subjected to constraints
     (b) Software design specifies nature and composition of software
          product
     (c) Software design satisfies client needs and desires
     (d) All of these

     viii. _____ is a measure of the degree of interdependence between   **1**
     modules.
     (a) Cohesion   (b) Coupling
     (c) None of these   (d) All of these

     ix. A simulated module that is called by the module under test is known as **1**
     (a) Test Stub   (b) Test Driver
     (c) Test Proxy   (d) None of these

     x.   White–box testing is concerned with exercising _____ of a module.   **1**
     (a) Internal Logic   (b) Interfaces
     (c) Program results   (d) Input and output values

Q.2 i.   Why software engineering important for the development of software   **2**
     for an organization?
     ii. List the uses of software development process models.   **3**
     iii. Explain RAD model and Spiral model.   **5**
OR   iv. Discuss Agile methodologies.   **5**

Q.3 i.   List the guidelines for writing requirements.   **2**
     ii. Explain the concept of entity, entity set, relationship and relationship **8**
     set with example. Write short note on E- R model?
OR   iii. Explain Data Flow Diagram along with its notations? What is meant **8**
     by context diagram? Explain with an example.

Q.4 i.   Discuss the software development strategies.   **3**
     ii. What are the stages in project estimation? Explain them.   **7**
OR   iii. Explain COCOMO model for software cost estimation.   **7**

Q.5 i.   Discuss the various design principles.   **4**
     ii. What is meant by the term modularity in context with software   **6**
     design? Why modularity is considered desirable?
OR   iii. Explain structured design methodology.   **6**

Q.6   Attempt any two:
     i.   Write short note on top-down integration and bottom-up integration. **5**
     ii. Discuss Alpha testing and Beta testing.   **5**
     iii. Explain black-box testing.   **5**

******

Marking Scheme
CA3CO13 Software Engineering

Q.1   i.   Selection of a software development model is based on   **1**
(d) All of these

ii.   Which two models doesn't allow defining requirements early in the cycle?   **1**
(b) Prototyping & Spiral

iii.   Which one of the following is not a step of requirement engineering?   **1**
(b) Design

iv.   Every attribute is defined by its corresponding set of values is called _____   **1**
(a) Domain

v.   _____ are the people involved in or affected by project activities.   **1**
(b) Stakeholders

vi.   According to the COCOMO model, the estimated effort is a _____ function of the size of the project.   **1**
(b) Superlinear

vii.   Which of these truly defines Software design?   **1**
(d) All of these

viii.   _____ is a measure of the degree of interdependence between modules.   **1**
(b) Coupling

ix.   A simulated module that is called by the module under test is known as   **1**
(a) Test Stub

x.   White–box testing is concerned with exercising _____ of a module.   **1**
(a) Internal Logic

Q.2   i.   Importance of software engineering for the development of software for an organization   **2**

ii.   Uses of software development process models.   **3**

iii.   RAD model   2.5 marks   **5**
Spiral model.   2.5 marks

OR   iv.   Agile methodologies.   **5**

Q.3   i.   Guidelines for writing requirements.   **2**

ii.   Concept of entity, entity set, relationship and relationship set with example.   **8**
example.   4 marks
E- R model   4 marks

OR   iii.   Data Flow Diagram along with its notations   3 marks   **8**
Context diagram   3 marks
Example.   2 marks

Q.4   i.   Software development strategies.   **3**

ii.   Stages in project estimation   2 marks   **7**
Explanation   5 marks

OR   iii.   COCOMO model for software cost estimation.   **7**

Q.5   i.   Design principles.   **4**

ii.   Modularity in context with software design   3 marks   **6**
Why modularity is considered desirable   3 marks

OR   iii.   Structured design methodology.   **6**

Q.6   Attempt any two:

i.   Top-down integration and bottom-up integration.   **5**

ii.   Alpha testing.   2.5 marks   **5**
Beta testing   2.5 marks

iii.   Explain black-box testing.   **5**

******