Enrollment No......................................

Faculty of Science
End Sem (Even) Examination May-2019
BC3EC07 Software Engineering

Programme: B.Sc. (CS)   Branch/Specialisation: Computer Science

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.   Project risk factor is considered in _____   **1**
         (a) Spiral model   (b) Waterfall model
         (c) Prototyping model   (d) None of these

   ii.   An iterative process of system development in which requirements are converted to working system that is continuously revised through close work between system analyst and the user is called   **1**
         (a) Waterfall model   (b) Iterative model
         (c) Spiral Model   (d) None of these

  iii.   Which one of the following is NOT desired in a good Software Requirement Specifications (SRS) document?   **1**
         (a) Functional Requirements
         (b) Non-Functional Requirements
         (c) Goals of Implementation
         (d) Algorithms for Software Implementation

   iv.   At highest level, the DFD is referred as   **1**
         (a) Scope diagram   (b) context diagram
         (c) Level 1 DFD   (d) Level 2 DFD

   v.   Which of the following is not considered as a risk in project management?   **1**
         (a) Specification delays   (b) Product competition
         (c) Testing   (d) Staff turnover

   vi.   COCOMO stands for   **1**
         (a) COnsumed COst Model   (b) COnstructive COst MOdel
         (c) COmmon COntrol Model (d) COmposition COst MOdel

P.T.O.

vii. Which of the following is/are the type of Cohesion? **1**
(a) Functional   (b) Layer
(c) Communicational   (d) All of these

viii. Which of these is true of refactoring? **1**
(a) It can be applied to any programming language
(b) It changes the functions of the program itself
(c) Most editing environments do not support simple refactoring
(d) None of these

ix. Black-box testing is sometimes called **1**
(a) Data flow testing   (b) Loop testing
(c) Behavioural testing   (d) Glass box testing

x. White Box Testing is not concern with _____. **1**
(a) Statement Coverage
(b) Decision Coverage
(c) Cause and Effect Coverage
(d) Multiple Condition Coverage

Q.2 i. What is RAD Model? **2**
ii. Write any three reasons for failure of software projects? **3**
iii. Discuss Agile Methodology for software development. **5**
OR iv. What are the challenges in large projects? Explain in detail. **5**

Q.3 i. What do you mean by non-functional requirements? **2**
ii. Discuss the needs and benefits of SRS document. **8**
OR iii. Discuss the various alternatives to NL specifications. **8**

Q.4 i. How does the project management process improves the software product? **3**
ii. What is project management? Explain the phases of project management. **7**
OR iii. What are function points? List and explain the different elements of function points? **7**

Q.5 i. What are the characteristics of good design? **4**

ii. Can a module be both highly cohesive and highly coupled at the same time? Why or why not? Give reasons for your answer. **6**
OR iii. Write a short note on coding principles and refactoring. **6**

Q.6 Attempt any two:
i. How are modules with top-down and bottom-up integration tested? **5**
ii. What is white box testing? Explain any two techniques using example. **5**
iii. What do you mean by black box testing? Explain any two techniques of black box testing. **5**

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Marking Scheme
BC3EC07 Software Engineering

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Q.1 i. Project risk factor is considered in _____   **1**
(a) Spiral model

ii. An iterative process of system development in which requirements **1**
are converted to working system that is continuously revised
through close work between system analyst and the user is called
(c) Spiral Model

iii. Which one of the following is NOT desired in a good Software **1**
Requirement Specifications (SRS) document?
(d) Algorithms for Software Implementation

iv. At highest level, the DFD is referred as **1**
(b) Context diagram

v. Which of the following is not considered as a risk in project **1**
management?
(c) Testing

vi. COCOMO stands for **1**
(b) COnstructive COst MOdel

vii. Which of the following is/are the type of Cohesion? **1**
(d) All of these

viii. Which of these is true of refactoring? **1**
(a) It can be applied to any programming language

ix. Black-box testing is sometimes called **1**
(c) Behavioural testing

x. White Box Testing is not concern with _____. **1**
(c) Cause and Effect Coverage

Q.2 i. RAD Model? **2**

ii. Any three reasons for failure of software projects **3**

iii. Agile Methodology   4 marks **5**
Diagram   1 mark

OR iv. Challenges in large projects (min. 10 points) **5**
0.5 mark for each   (0.5 mark *10)

Q.3 i. Non-functional requirements **2**

ii. Needs of SRS document.   4 marks **8**
Benefits of SRS document   4 marks

OR iii. Alternatives to NL specifications. **8**
2 marks for each   (2 marks * 4)

Q.4 i. Project management process improves the software product **3**
ii. Project management   1 mark **7**
Phases of project management.
1 mark for each phase (1 mark *6)   6 marks

OR iii. Function points   1 mark **7**
Different elements of function points   6 marks

Q.5 i. Characteristics of good design **4**
0.5 marks for each   (0.5 mark * 8)

ii. Can a module be both highly cohesive and highly coupled at the **6**
same time? Why or why not?   1 mark
Reasons for your answer.   5 marks

OR iii. Coding principles   3 marks **6**
Refactoring.   3 marks

Q.6 Attempt any two:
i. Modules with top-down integration tested   2.5 marks **5**
Modules with Bottom-up integration tested   2.5 marks

ii. White box testing   2 marks **5**
Any two techniques using example.   3 marks

iii. Black box testing   2 marks **5**
Any two techniques of black box testing.   3 marks

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