Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **14CS3037** | **Duration :** | **3hrs** |
| **Sub. Name :** | **Requirements Engineering** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Describe the good practices of requirements engineering. | CO1 | **10** |
| b. | Compare the requirements development and management sub-disciplines of software requirements engineering. How will you define a boundary between these two sub-disciplines ? | CO1 | **10** |
| **(OR)** | | | | |
| 2. | a. | What are the typical roles of a business analyst? What are the essential skillsets needed for requirements analyst? | CO1 | **8** |
| b. | Who is a stakeholder? List the potential stakeholders who can be an internal or external to the project team and to the developing organization of any software product development. | CO1 | **8** |
|  | c. | Who resolves the conflicting requirements from different user classes? | CO1 | **4** |
| 3. | a. | **Read the following descripion and answer the following:**  Consider an automated library circulation system. Every book has a bar code, and every borrower has a card bearing a bar code. When a borrower wishes to check out a book, the librarian scans the bar code on the book and on the borrower’s card, and then enters the **C** at the computer terminal. Similarly, when a book is returned, it is again scanned and the librarian enters **R**. Librarians can add books to the library collection or remove them. Borrowers can go to a terminal and search for all the books in the library collection by a particular author or by specific words in the title or by subject name. Finally, if the borrower wants a book that is currently checked out, the librarian can place a hold on a book so that when it is returned, it will be held for the borrower who requested it. Certain books in the collection may be restricted to reference use within the library building and are not allowed to be checked out.  There are many computer terminals in the library all available to the library staff and the borrowers. The library staff enters a user id and password to allow them to check out, check in, put a book on hold or add or delete books from the collection.   * Identify the business opportunity from the project description of ‘Library System’ and derive the business objectives, success criteria, vision, scope and risks of ‘Video Rental System’. * Draw the context diagram for ‘Library System’. | CO2 | **12** |
|  | b. | Who are the different users involved in software product development? Which user class is very important? Identify the different user classes of “Library System”. | CO2 | **8** |
| **(OR)** | | | | |
| 4. | a. | Draw the dataflow diagram up to 2 levels for ‘Library System’ to automate the entire activities of the library. | CO2 | **15** |
|  | b. | Who is a product champion? What are the expectation from product champions? | CO2 | **5** |
| 5. | a. | Identify and explain any five functional requirements of ‘Library System’. | CO3 | **10** |
|  | b. | What are the components of “Use Case” template and provide complete specification for “borrowing a book” use case? | CO3 | **10** |
| **(OR)** | | | | |
| 6. | a. | What is the purpose of state transition diagram (STD)? Design STD for ‘Library System’. | CO3 | **8** |
|  | b. | Explain the normal and alternative flows of a use case with an example from ‘Library System’. | CO3 | **6** |
|  | c. | What is the difference between ‘Use case’ and ‘Usage Scenario’. Explain using an example. | CO3 | **6** |
| 7. | a. | What is traceability? What are the potential benefits of implementing requirements traceability? | CO4 | **8** |
|  | b. | Explain the four types of requirements tracing. | CO4 | **6** |
|  | c. | What is change control process? What are the roles and responsibilities of change control Board? | CO4 | **6** |
| **(OR)** | | | | |
| 8. | a. | What are the major requirements management activities? | CO4 | **10** |
|  | b. | What is requirements traceability matrix? Explain the corresponding template. | CO4 | **6** |
|  | c. | Explain ‘Suspect Link Indicators’ in Requirements Traceability Matrix. | CO4 | **4** |
|  | | **Compulsory:** |  |  |
| 9. | a. | What are the elements of risk management? What are the details needed to document an individual risk statement? State the potential risks encountered during requirements elicitation phase. | CO4 | **15** |
|  | b. | What is the ultimate objective of process improvement process? What are the ways to accomplish the improvement process? | CO4 | **5** |

ALL THE BEST