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



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **17CS2018** | **Duration :** | **3hrs** |
| **Sub. Name :** | **SOFTWARE 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 step wise process in software development life cycle to develop the software. | | CO1 | 10 |
| b. | Write the formula to compute the time and effort required to complete the software product. | | CO5 | 10 |
| **(OR)** | | | | | |
| 2. |  | Analyze the following two models of software development with respect to the suitability of application. | |  |  |
|  | a) | Waterfall model. | CO1 | 10 |
|  | b) | Spiral model. | CO1 | 10 |
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| 3. | a. | Sketch with a suitable diagram to describe the elements of the analysis model. | | CO1 | 10 |
| b. | Compute the class diagram for the following problem statement. “Consider a retail bank which collects money from customers and in return gives them an interest at pre-determined rate. The system developed should calculate interest daily for each account having balance more than zero at the correct interest rate. This interest calculated would be cumulatively stored in a table, which will be updated every day. Remember that the balance on which interest is calculated daily will change because the customer may deposit or withdraw money. Every month the cumulative interest calculated will be credited to the customer. After this point of time the cumulative interest stored should be set to zero because the customer has benefited for the period specified. Before the interest is credited to the customer’s account, tax should be debited from the interest according to prevalent government laws”. | | CO2 | 10 |
| **(OR)** | | | | | |
| 4. | a. | Sketch the E-R diagram for the following situation. “The University conducts many courses and students can register for those courses. The Registrar of the university will introduce any new courses. Also the Registrar maintains the curriculum and students details. The examination will be conducted for the students and the degree is issued for the students who have completed the course successfully”. | | CO2 | 10 |
| b. | State the process of requirement engineering and explain the problems encountered during requirement elicitation. | | CO2 | 10 |
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| 5. |  | With neat diagrams, explain the commonly used architectural styles for software that are built for computer-based systems. | | CO3 | 20 |
| **(OR)** | | | | | |
| 6. | a. | Select a small coded component and represent it using an activity diagram and data flow diagram. | | CO3 | 10 |
| b. | Briefly describe any two elements of the design model. | | CO3 | 5 |
| c. | Discover the golden rules to be followed by the designer while designing the interface. | | CO3 | 5 |
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| 7. |  | Write short notes on the following: | |  |  |
| a. | Basis path testing | | CO4 | 10 |
| b. | Control structure testing | | CO4 | 5 |
| c. | Black box testing | | CO4 | 5 |
| **(OR)** | | | | | |
| 8. | a. | Explain the process of risk mitigation, monitoring and management. | | CO6 | 10 |
| b. | Distinguish between FP based and LOC based estimation techniques. | | CO5 | 10 |
|  | |  | |  |  |
|  | | **Compulsory**: | |  |  |
| 9. |  | Cargo booking software will manage the goods of supplier (admin) in the warehouse. This software will have supplier login and warehouse login for different warehouses. This product will allow the supplier to keep an eye on the goods that he has in warehouses. The warehouse login will allow the warehouses to accept goods, check the condition of goods; if it’s damaged, then the system will reorder the same good and it will create a gate pass for the cargo. The system calculates weight and others things of cargo, and will make entry of it. The admin has overall rights over the system and can moderate the process.  Modules:   * Admin Login * Order cargo * Shift Cargo from one warehouse to another * View Reports * Track Cargo (Cargo is in which Warehouse) * Warehouse Login * Checking Weight * Checking for damage * If Damaged then reorder * Storing Cargo * View the order * Dispatch cargo and create gate pass   Explain the design process and SRS for the above system using the suggested process model. | | CO2 | 20 |