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



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

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **14EC2034** | **Duration :** | **3hrs** |
| **Sub. Name :** | **FAULT TOLERANT TECHNIQUES** | **Max. Marks :** | **100** |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Distinguish the various fault tolerant strategies with a neat block diagram. | CO3 | 10 |
| b. | List out the classification of failures with an example for each. | CO3 | 10 |
| **(OR)** | | | | |
| 2. | a. | Categorize various types of recovery blocks used in identication of fault detection with a neat diagram. | CO3 | 10 |
| b. | Demonstrate the different dependability concepts in performing a system task. | CO2 | 10 |
|  |  |  |  |  |
| 3. | a. | Illustrate the types of software redundancy with a neat diagram. | CO1 | 10 |
| b. | Appraise solid state diffusion model with a neat diagram. | CO3 | 10 |
| **(OR)** | | | | |
| 4. | a. | Show that how information redundancy is used to verify the correctness of data. | CO1 | 10 |
| b. | Analyze the effect of design techniques used in checkpoint. | CO2 | 10 |
|  |  |  |  |  |
| 5. | a. | Outline the voting approach for hierarchical and non hierarchical in data replication. | CO3 | 10 |
| b. | Inspect the various levels of RAID algorithm with a neat sketch. | CO2 | 10 |
| **(OR)** | | | | |
| 6. | a. | Discuss about vote assignment technique using heuristic first method with an example. | CO1 | 10 |
| b. | Define Markov chain. Explain the key features of Markov chain. | CO1 | 10 |
|  |  |  |  |  |
| 7. | a. | Explain the basic fault tree structure in detail. | CO3 | 10 |
| b. | Discuss the crossbar networks with a neat diagram. | CO1 | 10 |
| **(OR)** | | | | |
| 8. | a. | Elaborate the space and time tradeoff. | CO1 | 10 |
| b. | Discuss on fault tolerant techniques in real time application. | CO1 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Determine the test patterns for the circuit shown below using PODEM algorithm. | CO2 | 14 |
| b. | Discuss the rectangular mesh networks with a neat diagram. | CO2 | 6 |