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

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

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| **Code :** | **17EE3008** | **Duration :** | **3hrs** |
| **Sub. Name :** | **DSP BASED CONTROL OF POWER CONVERTERS AND DRIVES** | **Max. Marks :** | **100** |

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

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| **Q. No.** | **Sub Div.** | **Questions** | **Course Outcome** | **Marks** |
| 1. |  | Explain with neat block diagram, TMS320C2812 architecture and functional overview. | CO1 | 20 |
| **(OR)** | | | | |
| 2. | a. | Write a program of Piccolo Code Security Module (CSM) programming using CCS. | CO2 | 10 |
| b. | Infer the characteristics of clocking of TMS320C2812 processor. | CO6 | 10 |
|  |  |  |  |  |
| 3. | a. | Explain the Quadrature Encoded Pulse Circuitry for TMS320C2812 signal processor. | CO3 | 10 |
| b. | Explain the types of Interrupts. | CO3 | 10 |
| **(OR)** | | | | |
| 4. |  | Interpret the uninterrupted auto-sequenced mode of analog to digital converter for the TMS320C2812 signal processor. | CO4 | 20 |
|  |  |  |  |  |
| 5. |  | Determine the Clarke and Park’s transformations of space vector in dq-coordinate system. | CO5 | 20 |
| **(OR)** | | | | |
| 6. |  | Explain the mathematical model of Field Oriented Control of Induction motor. | CO6 | 20 |
|  |  |  |  |  |
| 7. |  | What are Buck Converters? Explain the basic operation, discontinuous mode and continuous mode with neat waveform. | CO1 | 20 |
| **(OR)** | | | | |
| 8. | a. | Design Method of PWM AC/DC isolated Flyback Converters. | CO2 | 10 |
| b. | What are the characteristics of Flyback Converter? | CO3 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Explain the working principle of driver circuit for BLDC motor. | CO4 | 10 |
| b. | List the types of Stepper motor. Explain the working of micro stepping stepper motor. | CO5 | 10 |