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



**End Semester Examination – Nov/Dec – 2017**

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| **Code :** | **15EI2023** | **Duration :** | **3hrs** |
| **Sub. Name :** | **SENSORY AND MOTOR REHABILITATION** | **Max. marks :** | **100** |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Explain the parameters considered in design of assist devices. | CO2 | 10 |
| b. | Explain any one application of assist devices. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Discuss the models in design of assist devices. | CO2 | 10 |
|  | b. | Identify the roles and responsibilities of rehabilitation engineers. | CO3 | 10 |
|  |  |  |  |  |
| 3. | a. | Explain the methods of integrating accelerometer and LDR in assist device. | CO2 | 10 |
|  | b. | Explain the principle and working of any two sensors for rehabilitation. | CO1 | 10 |
| (OR) | | | | |
| 4. | a. | Explain the functions of tread mill robot in rehabilitation training. | CO1 | 10 |
|  | b. | Identify few applications of stepper motor as an actuator. | CO2 | 10 |
|  |  |  |  |  |
| 5. | a. | Elaborate the working of prosthetic arm with myoelectric signals. | CO1 | 15 |
|  | b. | List the advantages of prosthetic arm to disabled. | CO3 | 5 |
| (OR) | | | | |
| 6. | a. | Explain the construction of the robot. | CO1 | 10 |
|  | b. | How does robots useful in rehabilitation? | CO3 | 10 |
|  |  |  |  |  |
| 7. | a. | Mention the advantages of assist devices to old aged subjects. | CO3 | 10 |
| b. | Identify few advantages to the physical therapist. | CO1 | 10 |
|  |  |  |  |  |
| (OR) | | | | |
| 8. | a. | Design the smart assistive device for the following categories:  i. disabled ii. paralyzed subjects iii. children | CO2 | 15 |
| b. | Explain the operation of gyro based wheel chair. | CO1 | 5 |
|  | |  |  |  |
|  | | **Compulsory:** |  |  |
| 9. | a. | Classify the types of wheel chair and mention its functions in detail. | CO3 | 10 |
|  | b. | Identify suitable methods of monitoring the elderly subjects from remote location. | CO3 | 10 |

ALL THE BEST