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MANIPAL INSTITUTE OF TECHNOLOGY

(A constituent unit of MAHE, Manipal 576104)

VI SEMESTER B.Tech. DEGREE END SEM EXAMINATIONS APR/MAY 2019

SUBJECT: REHABILITATION ENGINEERING (BME 3284)

(REVISED CREDIT SYSTEM)

Open Elective II

Monday, 6th May 2019: 2 PM to 5 PM

TIME: 3 HOURS

MAX. MARKS: 50

Instructions to Candidates:

- 1. Answer all the questions.**
- 2. Draw labeled diagrams wherever necessary.**

1. What are the steps to be followed for effective rehabilitation process in connection with human locomotion disabilities? Clearly say how the quantification of disability is achieved? How the estimation of compensation is done for a successful rehabilitation? 4+3+3
2. Establish the importance of Assistive devices and its technologies in the process of rehabilitation? State how the disability is calculated? Also explain how the calculated disability is utilized in the design of assistive devices? 4+3+3
3. How modeling techniques helps in the design of assistive devices? Clarify the same in the case of physical disability? 5+5
4. Clearly clarify the utility of the following. 5+5
 - (i) Input layer, hidden layer, and output layer.
 - (ii) Weighted input functions and activating functions in neural network models?
5. Explain the basic structure of a neuron and its working? Illustrate how action potentials are getting generated and propagated? 5+5