

# Question Paper

Exam Date & Time: 10-May-2024 (02:30 PM - 05:30 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

OPERATIONS RESEARCH

REHABILITATION ENGINEERING [BME 4303]

Marks: 50

Duration: 180 mins.

### END EXAM

Answer all the questions.

Section Duration: 180 mins

Draw relevant graphs on a separate graph sheet provided.

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| 1A) | State and explain the concept of rehabilitation.   | (3) |
| 1B) | What are the core elements required for a disabled subject?  | (3) |
| 1C) | What are the different services offered to the disabled one's for rehabilitation?                              | (4) |
| 2A) | What are the important qualities required for the rehabilitation team members?                                 | (3) |
| 2B) | What are the situations that necessitate rehabilitation?   | (3) |
| 2C) | Discuss different examples of rehabilitation cases?  | (4) |
| 3A) | Explain clearly the way by which the CNS (Central Nervous System) influences the human gait properties?        | (4) |
| 3B) | Clearly illustrate the basic neuronal function of signals sending to other cells?                              | (3) |
| 3C) | State briefly the way by which the information transfer in human body is taking place?                         | (3) |
| 4A) | Illustrate the work of neurotransmitter?   | (4) |
| 4B) | Explore the situation at the junction of the axon terminal of one neuron and dendrites of the adjacent neuron? | (3) |
| 4C) | Clearly explain the identity of excitatory neurotransmitter?   | (3) |
| 5A) | What is the definition of assistive technologies in rehabilitation engineering?                                | (5) |
| 5B) | Discuss some of the commonly available assistive devices?  | (3) |
| 5C) | State the definition of human locomotion?  | (2) |

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