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

**Karunya University**

**(Karunya Institute of Technology and Sciences)**

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – April/May-2013**

**Subject Title: REHABILITATION ENGINEERING Time: 3 hours**

**Subject Code: 12EI339 Maximum Marks: 100**

**Answer ALL questions (5 x 20 = 100 Marks)**

1. **Compulsory:**

Describe in detail about the following with suitable block diagrams:

1. Voice synthesizer. (10)
2. Vestibular implants. (10)

2. Enumerate the prosthetic and orthotic devices which are used for the Hand and Arm replacement procedures with suitable sketches.

(OR)

3. a. Elucidate the importance of mobility aids for the physically challenged persons. (15)

b. List out the materials used for prosthetic and orthotic devices. (5)

4. Write notes about how the following visual aids support the visually impaired people.

a. Intra ocular lens. (10)

b. Braille reader. (10)

(OR)

5. Discuss in details about the construction and functioning of Ultrasonic and Laser canes with appropriate diagrams.

6. Investigate the Functional Electrical Stimulation with suitable illustrations and its implications in rehabilitation therapy.

(OR)

7. Illustrate the location for stimulation on the muscle and nerve stimulators and mention the importance of choosing the exact location.

8. How is a rehabilitation system chosen for a patient? Mention the significant legal aspects involved in this process.

(OR)

9. Recite the physiological aspects involved in function recovery and rehabilitation therapy.