

Reg. No.									
----------	--	--	--	--	--	--	--	--	--



MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

II SEM M.Tech (BME) DEGREE END-SEMESTER EXAMINATIONS, APRIL 2018.

**SUBJECT: ALLIED HEALTH SCIENCES (BME 5202)
(REVISED CREDIT SYSTEM)**

Tuesday, 17th April, 2018, 9 am to 12 noon

TIME: 3 HOURS

MAX. MARKS: 100

Instructions to Candidates:

1. Answer all 5 questions from part A and all 5 questions from part B. Use separate answer books.
2. Draw labeled diagram wherever necessary

PART-A, SPEECH & HEARING

(Max. Marks 50)

- | | |
|---|----|
| Q1) Define pure tone audiometer. Explain in detail the instrumentation and purpose of pure tone audiometry. | 10 |
| Q2) Explain immittance audiometry in detail. | 10 |
| Q3) Define Hearing aids. Explain in detail the working principle of analog and digital hearing aid. | 10 |
| Q4) Explain cochlear implant. With neat diagram label its parts and function. | 10 |
| Q5) Explain auditory brainstem response with neat diagram. | 10 |

PART-B, PHYSIOTHERAPY

(Max. marks 50)

- | | |
|---|-----|
| Q1) Explain the instrumentation for electrical muscle stimulation, wave forms and types of currents used for the same. Add a note on role of electrical muscle stimulation in rehabilitation. | 10 |
| Q2) Write short note on
(i) Transcutaneous electrical nerve stimulation (TENS).
(ii) Interferential therapy. | 5+5 |
| Q3) Explain the phases and sub phases of gait. Mention all the temporal and spatial variables. | 5+5 |
| Q4) Explain the pain gate mechanism, Mention the physiotherapy modalities which works on the basis pain gate mechanism. | 10 |
| Q5) Explain the instrumentation for Nerve conduction study. Add a note on uses of nerve conduction studies. | 10 |