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MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

II SEM M.Tech (BME) DEGREE MAKE-UP EXAMINATIONS, JUNE 2018.

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

Tuesday, 12th June, 2018, 9 am to 12 noon

TIME: 3 HOURS

MAX. MARKS: 100

Instructions to Candidates:

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

PART-A, SPEECH & HEARING

(Max. Marks 50)

- Q1) Compare cochlear implant and hearing aids. 10
- Q2) Explain the importance of hearing evaluation. 10
- Q3) Explain 2×5
(i) pure tone (ii) white noise (iii) DSP (iv) AAC (v) Spirometer.
- Q4) Explain the role of biomedical engineers in the field of speech and hearing 10
- Q5) Explain 5+5
(i) pure tone audiometer (ii) artificial larynx

PART-B, PHYSIOTHERAPY

(Max. marks 50)

- Q1) Explain the physiology of Balance; explain the instrumentation for assessment and treatment of balance disorders. 10
- Q2) Explain the role of following. 5+5
(i) Continuous passive motion unit (CPM). (ii) Functional electrical stimulator
- Q3) Explain the physiological and therapeutic effects of Heat 10
- Q4) Explain the role of following instruments in physiotherapy 2.5×4
(i) Goniometer. (ii) TENS. (iii) Treadmill. (iv) Dynamometer.
- Q5) Explain electromyography (EMG) and its role in medical science. Add a note on Instrumentation for EMG 10