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MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

V SEMESTER B.Tech. (BME) DEGREE END SEM EXAMINATIONS, NOVEMBER, 2017

SUBJECT: BASIC CLINICAL SCIENCES II (BME 3101)
(REVISED CREDIT SYSTEM)

Wednesday, 15th November, 2017 : 2.00 PM to 5.00 PM

TIME: 3 HOURS

MAX. MARKS: 100

Instructions to Candidates:

- 1. Answer ALL questions from PART- A, PART-B and PART- C. Use separate answer books for PART-A, PART-B and PART-C.**
- 2. Draw neat labeled diagram wherever necessary.**

PART- A. OPHTHALMOLOGY (Max. Marks 40)

- 1) Write short notes on operating microscopes and loupes. Name four ophthalmic surgeries requiring microscopes. 4+4+2
- 2) Write short notes on (i) B-Scan (ii) Direct ophthalmoscope. 5+5
- 3) What is perimeter? What are the two types of perimetry and list differences between them. Name two diseases in which perimetry test is conducted. Write short notes on Goldmann perimetry. 1+3+2+4
- 4a) Describe the principle of optical coherence tomography. Name two diseases where it is used. 3+2
- 4b) Write short notes on Vitrectomy. Name two disease conditions requiring vitrectomy.

PART- B. ORTHOPAEDICS (Max. Marks 30)

- 1) Discuss the anatomy of joints in relation to arthritis. 10
- 2) Define stress and strain. Discuss different methods of internal fixation? 10
- 3) Define orthosis and prosthesis. Describe the materials used for prosthesis. 10

PART-C. SPEECH AND HEARING (Max. Marks 30)

- 1) Differentiate cochlear implant and hearing aid. Explain in detail the cochlear implant. 10
- 2) Define hearing and briefly explain its importance. Explain in detail “Pure Tone Audiometry”. 10
- 3) Explain the application of biomedical engineers in the field of speech and hearing. 10