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MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

V SEMESTER B.Tech. (BME) DEGREE MAKE-UP EXAMINATIONS, DEC/JAN- 2016-17

SUBJECT: BASIC CLINICAL SCIENCES II (BME 301)
(REVISED CREDIT SYSTEM)

Tuesday, 27th December, 2016 : 2.00 to 5.00 pm

TIME: 3 HOURS

MAX. MARKS: 100

Instructions to Candidates:

1. Answer any **FOUR** full questions from **PART- A**, any **THREE** full questions from part **B** and any **THREE** full questions from **PART- C**. Use separate answer books for **PART-A**, **PART-B** and **PART-C**.
2. Draw labeled diagram wherever necessary.

PART- A. OPHTHALMOLOGY (Max. Marks 40)

- 1) Draw a neat labelled diagram of the cut section of the eye. 10
- 2) Describe the mechanism of Glaucoma. Name 3 instruments used in its diagnosis. 4+3+3
Name 3 instruments used in its treatment.
- 3) What is the principle of Ultrasonography? Discuss the types of ultrasound machines used for diagnosis in Ophthalmology 2+8
- 4) Write short notes on: 5+5
(i) Slit Lamp. (ii) Intraocular lens (IOL)
- 5) Describe the process of Cryotherapy. Enumerate 5 uses of cryotherapy in ophthalmology. 5+5

PART- B. ORTHOPAEDICS (Max. Marks 30)

- 1) Classify joints. Discuss about joint replacement prostheses. 10
- 2) Define orthosis. Discuss about floor reaction orthosis. 10
- 3) Discuss fracture healing and how to enhance healing of fractures. 10
- 4) Classify external fixators. Enumerate its advantages and disadvantages. 10

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

- 1) What are hearing aids? Explain the components of hearing aid with its function. 10
- 2) What is cochlear implant? Explain its components and working principle. 10
- 3) What are ear protective devices? Explain different types and over all purpose of EPD. 10
- 4) Explain the role of biomedical engineers in the field of speech and hearing. 10