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**MANIPAL INSTITUTE OF TECHNOLOGY**  
(A constituent unit of MAHE, Manipal 576104)

**V SEMESTER B.Tech. (BME) DEGREE END SEM EXAMINATIONS, NOVEMBER 2019**

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

**Thursday, 14<sup>th</sup> November, 2019 : 2.00 PM to 5.00 PM**

**TIME: 3 HOURS**

**MAX. MARKS: 50**

**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 20)**

- 1) Draw a neat labelled diagram of the cut section of the eye. Add a note on aqueous humour production and drainage. 3+2
- 2) Define LASER. 1+2+2  
Mention 2 reactions laser produces on ocular tissues.  
Mention 2 uses of lasers in Ophthalmology.
- 3) Write short notes on 2½+2½  
(i) Slit lamp. (ii) Ophthalmoscopy.
- 4) What is ERG & EOG? Which are the different waves seen in ERG and what is their origin? Name 2 ophthalmic conditions where ERG is indicated. 1+2+2

**PART- B. ORTHOPAEDICS (Max. Marks 15)**

- 1) Define fracture. Classify fractures. Enumerate any 4 complications of fractures. 1+2+2
- 2) Define prosthesis. What are the types of prosthesis? Draw the diagram of below knee prosthesis and mention its parts. 1+2+2
- 3) Define isotonic and isometric exercises. Write a short note on cervical traction. 2+3

**PART-C. SPEECH AND HEARING (Max. Marks 15)**

- 1) Explain pure tone audiometer with a neat block diagram. 5
- 2) Explain cochlear implant and its importance over hearing aid. 5
- 3) Explain alternative augmentative communication. 5