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**MANIPAL INSTITUTE OF TECHNOLOGY**  
**(Manipal University)**  
**Manipal – 576 104**



**V SEMESTER B.Tech. (BME) DEGREE END SEM EXAMINATIONS, NOV/DEC- 2015**

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

**Wednesday, 25<sup>th</sup> November, 2015 : 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 labeled diagram of the cut section of the eye. **10**
- 2) Describe the mechanism of Glaucoma. Name three instruments used in its diagnosis. Name 3 instruments used in its treatment. **4+3+3**
- 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 (i) Slit lamp (ii) Intraocular lens (IOL). **5+5**
- 5) Discuss Fundus Fluorescein angiography (FFA). Name four conditions where its used. **6+4**

**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? Classify different types of hearing aids. **10**
- 2)** Explain the role of biomedical engineers in the field of speech and hearing. **10**
- 3)** What are EPD's? Explain the different type and its importance **10**
- 4)** Explain, **5+5**  
(i). Artificial larynx (ii). EGG