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# MANIPAL INSTITUTE OF TECHNOLOGY

## MANIPAL

A Constituent Institution of Manipal University

**V SEMESTER B.Tech. (BME) DEGREE MAKE-UP EXAMINATIONS, DECEMBER, 2017**

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

**Tuesday, 19<sup>th</sup> December, 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) What are low vision aids? Name four low vision aids and describe the functioning of one. Name 2 disease conditions in which they can be prescribed. 2+2+5+1
- 2) List four commonly used LASERs in ophthalmology. How is a LASER beam is produced? Describe usage of LASER in LASIK procedure. 2+4+4
- 3) Describe the functioning of A-scan machine. Name two uses of A-scan in ophthalmology. List two differences between A-scan and B-scan. 6+2+2
- 4) Write short notes on 5+5  
(i) Lathes and its use in ophthalmology. (ii) Slit lamp photography.

**PART- B. ORTHOPAEDICS (Max. Marks 30)**

- 1) Classify Fractures. What are the methods of treatment of fractures? 10
- 2) Classify joints based on movements. What are the causes affecting the movement of the joints? Briefly outline the properties of the material used in joint replacement prosthesis. 10
- 3) Draw a diagram of arthroscope and arthroscopic circuit. What are the indications for arthroscopy? 10

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

- 1) What are hearing aids? Explain the working principle of analog and digital hearing aids. 10
- 2) Explain the working principle of “Auditory Brainstem Response” and its application. 10
- 3) Explain 5+5
  - (i) Artificial Larynx
  - (ii). EGG