

MANIPAL INSTITUTE OF TECHNOLOGY

V SEMESTER B.Tech. (BME) DEGREE END SEM EXAMINATIONS, NOV/DEC- 2016

SUBJECT: BASIC CLINICAL SCIENCES II (BME 301) (REVISED CREDIT SYSTEM) Thursday, 24th November, 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)	What is LASER? Discuss 3 ways lasers act in the eye with an example of the laser used and disease it is used for.	1+9		
2)	Write short notes on,(i) Direct Ophthalmoscope. (ii) Contact lens.	5+5		
3)	Describe the process of Vitrectomy. Enumerate 5 uses of vitrectomy in ophthalmology.	5+5		
4)	What is perimetry? Name any 2 types of perimeters. Name 2 conditions where they are used.	6+2+2		
5)	Write short notes on, (i) Optical Coherence Tomography (OCT). (ii) Fundus Camera.	5+5		
PART- B. ORTHOPAEDICS (Max. Marks 30)				
1)	Discuss the anatomy of joints in relation to arthritis.	10		
2)	Define orthosis and prosthesis. Describe the materials used for prosthesis.	10		
3)	Discuss the mechanical properties of ideal implant in fracture management.	10		
4)	Write short notes on:	5+5		
	(i) Muscle strengthening exercises.(ii) Arthroscopy.			

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

1)	What are hearing aids? Explain with diagram the analog and digital hearing aids.	10
2)	Explain pure tone audiometry and impedance audiometer with its working principle.	10
3)	What is Auditory Brainstem response? Explain the working principle.	10
4)	Discuss the importance of biomedical engineers in speech and hearing department.	10