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	Reg. No	•										
MANIPAL INSTITUTE OF TECHNOLOGY (A Constituent Institute of – Manipal University) Manipal – 576 104												
1 st SEMESTER M.Tech. (BME) DEGREE MAKE UP EXAMINATIONS, DEC/JAN 2015-16												
SUBJECT: ANATOMY AND PHYSIOLOGY (BME 501) (REVISED CREDIT SYSTEM) Sunday, 3 rd January 2016: 2 to 5 PM.												
TIME: 3 HOURS MAX. MARKS: 10											5: 100	
Instructions to Candidates:												
1. Answer any FIVE full questions from part A and FIVE full questions from part B. Use separate answer books for PART- A and PART- B.												
2. Draw labeled diagram wherever necessary												
PART-A. ANATOMY. (Max. Marks: 50)												
1)	Explain the anatomy of the following										5+5	
	(i) Synovial joint (ii) Skelet	al mus	cle									
2)	Write short notes on										5+5	
	(i) Cerebrospinal Fluid (ii) F	Prostrat	e									
3) Describe the anatomy of the following								5+5				
	(i) Cerebrum (ii) Liver											
4)	Write short notes on										5+5	
	(i) Left kidney (ii) Pituita	ry Glar	nd									
5)	Enumerate the parts of Respiratory sys	tem. D	escrib	e the	Rig	ht lui	ng in	detai	1.		3+7	

PART-B. PHYSIOLOGY (Max. Marks: 50)

1a)	With the help of a diagram mention events occurring in Excitation Contraction Coupling.	7						
1b)	Mention the differences between isotonic and isometric contraction.							
2a)	Define hypoxia. Classify the hypoxias. Give one example for each.							
2b)	Define a) Vital capacity b) Tidal volume c) Inspiratory pressure volume.	3						
3 a)	Explain the responses involved in accommodation of the eye. Write in detail changes associated with aging.							
3b)	Discuss briefly 'Astigmatism"							
4 a)	Explain the structure of a chemical synapse and transmission of impulse across synapse.							
4 b)	Write briefly on 'Referred pain"							
5a)	Explain the mechanism of water reabsorption at proximal convoluted and distal convoluted tubule of a nephron.							
5b)	Name two types of nephron. List their differences.							
6a)	Define arterial blood pressure and give the normal value. Explain the role of baroreceptors in the regulation of blood pressure.							
6b)	Draw a labeled diagram of ECG as recorded by limb lead II.							