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MANIPAL INSTITUTE OF TECHNOLOGY
(A Constituent Institute of Manipal University)
Manipal – 576 104



IV SEMESTER B.Tech. (BME) DEGREE END SEMESTER EXAMINATIONS, MAY 2016.

SUBJECT: BASIC CLINICAL SCIENCES-I (BME 206)
(REVISED CREDIT SYSTEM)

Saturday, May 14, 2016, 2 to 5 pm

TIME: 3 HOURS

MAX. MARKS: 100

Instructions to Candidates:

- 1. Answer any 3 full questions from PART-A, any 4 full questions from PART-B and any 3 full questions from PART-C**
- 2. Use separate answer books for PART-A, Part-B and PART-C**
- 3. Draw labeled diagram wherever necessary**

PART-A CARDIOLOGY (Max. Marks 30)

- Q1) Draw Einthoven triangle and explain the lead system for chest leads. 10
- Q2) (i) Explain the instrumentation, clinical application of IABP. 5+5
(ii) Explain Atrio ventricular block.
- Q3) (i) Explain the role of FFR and Rotablator in cardiac interventions. 5+5
(ii) Explain NBG Generic code and functional mode of communication of implantable pulse generators.
- Q4) (i) Define ultrasound. Explain different types of ultrasound probes. 5+5
(ii) Explain types of exercise stress test with an example.

PART-B. ANAESTHESIOLOGY (Max. Marks 40)

- Q1) Enumerate different components of anaesthesia machine under the headings High pressure, intermediate pressure and low pressure systems 10
- Q2) Explain the working principle of pulse oximeter. What are the factors affecting pulse oximeter reading? 10
- Q3) What is Venturi principle? How is it applied in the pneumatic nebulizer? 10
- Q4) What are the modalities available for monitoring temperature in a patient? Describe the working principle of any one of them. 10
- Q5) What is Static electricity? How do you prevent the accumulation of static electricity in The operating room? 10

PART-C. ENT. (Max. Marks 30)

- Q1) What is LASER? Describe the principles of LASER. Write a note on KTP Laser. 3+3+4
- Q2) Write brief note on physiology of Larynx. Describe the various methods of voice rehabilitation following Laryngectomy. 5+5
- Q3) What is middle ear cleft? Briefly describe the transformer action of middle ear and add a note on "Theories of Hearing". 2+4+4
- Q4) Describe the principle, types and uses of Endoscopes in ENT. 10