

Student Exam No: _____

GANPAT UNIVERSITY
B.TECH SEM.VIII BIOMEDICAL & INSTRUMENTATION ENGINEERING
REGULAR EXAMINATION MAY/JUNE-2014
BME-804: PROSTHETICS AND ORTHOTICS

TIME: 3 HOURS

TOTAL MARKS-70

INSTRUCTION: -1. Answers to the 2 sections must be written in the separate answer books
2. Figures to the right indicate marks.
3. Conventional terms or notation are used.

Section-I

- Que.-1 12
- (a) Define and explain following terms with examples (1) artificial organ (2) organ transplant (3) assist device (4) orthotist (5) orthopedic prosthesis
- (b) Describe and differentiate path sounder and mowat sensor
- OR
- Que.-1 12
- (a) Describe bubble oxygenator in detail
- (b) What are the components of upper extremity prosthesis? What are the functions performed by UEP?
- Que.-2 11
- (a) Draw and explain schematic diagram of basic heart lung machine.
- (b) What is the basic principle of Electronic travelling aids? Explain it in detail
- OR
- Que.-2 11
- (a) Explain in detail A microprocessor based multifunction myoelectric control of prosthesis.
- (b) Compare natural lung to an artificial lung
- Que.-3 12
- (a) What are the functions of orthosis. Explain each function with an example in detail
- (b) What is cardio-pulmonary bypass? Explain it in detail

Section-II

- Que.-4 12
- (a) Explain with neat diagram the construction of jarvik-7 artificial heart.
- (b) Enlist the types of the circulatory assist devices. And explain IABP in detail.
- OR
- Que.-4 12
- (a) Explain the working of LVAD with neat diagram.
- (b) Write the short note on C-leg knee prosthesis.
- Que.-5 11
- (a) Enlist the ideal characteristics of artificial heart valve.
- (b) Explain in brief pressure gradient, EOA in detail.

OR

Que.-5

11

- (a) Explain different flow patterns and turbulent shear stress in artificial heart valve.
- (b) Describe in brief durability and regurgitation in detail.

Que.-6

12

- (a) Explain non porous type artificial trachea with neat diagram.
- (b) Write the short note on pneumatic larynxes, electrical artificial larynxes.

END OF PAPER

gnu.inflibnet.ac.in