

Student Exam No:

GANPAT UNIVERSITY
B.Tech. Semester VIII (BM&I)
Regular Examinations April - June 2015
2BM 802 Prosthetics and Orthotics

Time:- 3 Hours

Marks:- 70

Instructions:

1. Answer to the questions must be written in separate answer books.
2. Figure to the right indicate marks.
3. Assume data, if needed.
4. Conventional terms / notations are used.
5. All the questions are compulsory.

SECTION-I

Q.1

[12]

- (a) What is osteoarthritis (OA)? Name the orthosis device used in OA. Draw and explain the operation of that device.
- (b) Explain in detail the cervical orthosis.

OR

Q.1

[12]

- (a) What do you understand by air splint in terms of orthosis devices? Write a short note on it.
- (b) Write a short note on components of lower limb prosthesis.

Q.2

[11]

- (a) What is RN palsy? Write a short note on dynamic splints used in RN palsy.
- (b) Draw and explain the cuff suspension mechanism for TT prosthesis.

OR

Q.2

[11]

- (a) Write a short note on components of upper limb prosthesis.
- (b) What is polio? Draw and explain the calipers used for polio.

Q.3

[12]

- (a) Write a short note on SACH foot.
- (b) Write a short note on dynamic response foot.

SECTION-II

Q.4

[12]

- (a) What is the significant of Artificial Heart valves? Explain the working of Mechanical heart valves with the help of neat diagram.
- (b) What are the disadvantages and risks associated with following prosthetic devices:
 - 1. Cochlear Implant
 - 2. Bionic Eye

OR

Q.4

[12]

- (a) Explain the Historical Developments of Artificial hearts along with its applications.
- (b) What do you mean by biological heart valves? What are the advantages and disadvantages of Biological Heart valves compare to Mechanical Heart valves.

Q.5

[11]

- (a) What is the AbioCor? Explain the working of internal and external components with the help of suitable diagram.
- (b) What is Hearing Aid? Describe four basic styles of hearing aids used for people with sensorineural hearing loss.

OR

Q.5

[11]

- (a) What is different about AbioCor artificial heart compared to artificial hearts developed in the past?
- (b) What is ASR (Artificial Silicon Retina)? Explain the working of ASR in brief.
- (c) Which types of materials have been used for the construction of Wheel chair? Give the comparison between Manual Wheelchair and Power Wheelchair.

Q.6

[12]

- (a) Give the difference between following terms:
 - 1. Macular degeneration and Retinitis Pigmentosa
 - 2. Hearing Aid and Cochlear Implant
- (b) What is Bionic Eye? Which components are required to build Bionic eye? Explain the working of it with the help of diagram.

-----END OF PAPER-----