

[LF 0212]

AUGUST 2014

Sub.Code :2416

**B.Sc. PROSTHETICS & ORTHOTICS
SECOND YEAR
PAPER VI - PROSTHETICS SCIENCE - II**

Q.P. Code: 802416

Time: Three hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Describe SNS Knee Unit.
2. Explain Microprocessor control of prosthetic knee.
3. Discuss the joints available for use in Hemipelvectomy.

II. Write notes on:

(8 x 5 = 40)

1. What are the advantages of polycentric prosthetic knee?
2. What are the objectives of prosthetic knee designs?
3. Write checkout procedure of Through knee prosthesis.
4. Discuss the advantages of modularity in limb Prosthetics.
5. Describe the mechanism of constant friction knee units.
6. Describe the mechanism of weight activated stance control knee.
7. Outline the gait deviations observed in Transfemoral amputees.
8. Describe the mechanics of TKA alignment.

III. Short answers on:

(10 x 3 = 30)

1. What do you mean by “Whip”?
2. What is “safety factor”?
3. Write short notes on “Plug fit Socket”.
4. Explain Instantaneous center of rotation (ICR).
5. How “extension assist bias” functions?
6. How the Narrow ML socket design developed?
7. Write a note on “Vacuum Suspension”.
8. Outline various knee joints for use in through knee prosthesis.
9. Compare pneumatic with hydraulic knee.
10. Write short notes on “stump Socks”.

[LG 0215]

FEBRUARY 2015

Sub.Code :2416

**B.Sc. PROSTHETICS AND ORTHOTICS
SECOND YEAR
PAPER VI - PROSTHETICS SCIENCE - II**

Q.P. Code: 802416

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Write in details, casting procedure for quadrilateral TF socket (Draw the suitable diagrams).
2. What is TKA alignment? Discuss the TKA alignment for short, Medium and long TF residual limb.
3. Explain in details the Canadian type hip disarticulation prosthesis and its alignment.

II. Write notes on:

(8 x 5 = 40)

1. How will you differentiate Exoskeletal and Endoskeletal TF prosthesis?
2. Draw a neat labeled diagram of transverse section of quadrilateral socket at IT level showing muscles attachments.
3. Explain TES belt and draw a suitable diagram.
4. Describe OHC socket design.
5. Explain about "Botta Technology" for through knee prosthesis.
6. Explain ISNY flexible Transfemoral socket.
7. Draw a neat labeled M-L force diagram in Stance phase of Knee Disarticulation prosthesis.
8. Describe Jaipur Above knee Prosthesis.

III. Short answers on:

(10 x 3 = 30)

1. What is the alignment line in Hip disarticulation Prosthesis?
2. Explain Thomas test for TF amputee residual limb assessment.
3. Explain four corners of quadrilateral socket and its muscle attachment.
4. Write a note on "Verrucous hyperplasia".
5. Define gait deviations and enumerate any 5 deviations in TF amputee.
6. Write a note on Instantaneous centre of rotation (ICR) with reference to 4-bar linkage prosthetic knee joint.
7. How the weight is borne in Transpelvic prosthesis?
8. What is Translumber level of amputation?
9. What do you understand by Van Nes Rotation Plasty?
10. Draw a neat labeled diagram of pneumatic cylinder.

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR

PAPER VI – PROSTHETICS SCIENCE - II

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Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Discuss the prosthetic management for bilateral transfemoral amputee.
2. Describe about four bar linkage polycentric knee joint. Write in brief on the movement of Instantaneous centre of rotation in 4 bar linkage prosthetic knee joint.
3. Compare and contrast the biomechanics of transfemoral and through knee prosthesis.

II. Write notes on:

(8 x 5 = 40)

1. Write on Silesian belt and its type.
2. Write the objectives of ischial containment socket.
3. Enumerate any 10 gait deviations seen in transfemoral amputee.
4. Explain static alignment for transfemoral prosthesis.
5. Draw a neat diagram showing alignment of Canadian type hip disarticulation prosthesis.
6. Write the measurement taken during casting for transfemoral amputee.
7. Write about weight activated locking prosthetic knee joint.
8. What is hemi-pelvectomy amputation and its cause?

III. Short answers on:

(10 x 3 = 30)

1. Draw a neat labeled diagram for single axis prosthetic foot.
2. Write in brief about single axis constant friction knee joint.
3. Explain in brief the placement of hip joint in hip disarticulation prosthesis.
4. Write in brief diagonal socket used in hip disarticulation prosthesis.
5. Briefly explain the control strategy in intelligent prosthetic knee.
6. Write in brief about hydraulic control in prosthetics.
7. Write in brief about ICRC above knee prosthesis.
8. What is MAS socket?
9. What is stride control strap in hip disarticulation prosthesis?
10. Write a note on three point force control in Canadian hip disarticulation socket.

[LJ 0816]

AUGUST 2016

Sub. Code :2416

**B.Sc., PROSTHETICS & ORTHOTICS
SECOND YEAR
PAPER VI – PROSTHETICS SCIENCE – II**

Q.P. Code: 802416

Time: Three hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain the fabrication procedure for through knee prosthesis.
2. Describe about cast taking procedure for hip disarticulation Prosthesis.
3. Explain about classification of Knee joint with its indication.

II. Write notes on:

(8 x 5 = 40)

1. Stump Complications.
2. Measurements for Tran femoral prosthesis.
3. Hip Joints and its types.
4. Trans femoral check out procedure.
5. Polycentric knee joint with advantages.
6. Modification procedure of AK mould.
7. Causes of Amputation.
8. CAT CAM socket.

III. Short answers on:

(10 x 3 = 30)

1. What you mean by microprocessor control knee?
2. Name the types of sockets for above knee amputee.
3. Define TKA alignment.
4. What do you mean by Silesian belt?
5. Explain stubbies prosthesis.
6. Advantage and disadvantage of hydraulic knee joint.
7. What are the reasons for lateral trunk bending?
8. Stump evaluation.
9. What is immediate post op fitting prosthesis?
10. Explain swing phase control knee joint.

[LK 0217]

FEBRUARY 2017

Sub. Code :2416

**B.Sc. PROSTHETICS AND ORTHOTICS
SECOND YEAR
PAPER VI – PROSTHETICS SCIENCE – II**

Q.P. Code: 802416

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain about function of four walls of quadrilateral socket.
2. How the stump/socket interface pressure changes during gait? Explain.
3. Differentiate between hydraulic and pneumatic knee joint.

II. Write notes on:

(8 x 5 = 40)

1. Constant friction knee joint.
2. Prosthetic Clinic procedure.
3. Components of Hip disarticulation prosthesis.
4. Total contact socket.
5. Peg leg Prosthesis.
6. ISNY Socket.
7. Prosthetic gait deviation.
8. Cast taking procedure of AK amputee.

III. Short answers on:

(10 x 3 = 30)

1. What do you mean by phantom limb?
2. What is the role of silicon liner?
3. How do you measure the length of prosthesis for bilateral amputee?
4. How you will manage if the AK amputee have flexion contracture?
5. Differentiate between static and dynamic alignment.
6. How you will manage for a bilateral hip disarticulation amputee?
7. Explain about a swing control knee joint.
8. What are the advantages of four bar knee joint?
9. Write about mechanism of suction socket.
10. What are the materials used in manufacturing Jaipur limb?

[LL 0817]

AUGUST 2017

Sub. Code :2416

B.Sc. PROSTHETICS & ORTHOTICS
SECOND YEAR
PAPER VI – PROSTHETICS SCIENCE – II

Q.P. Code: 802416

Time: Three hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on: **(3 x 10 = 30)**

1. Explain about Ischial containment socket.
2. Prosthetic management for hip disarticulation amputation.
3. Explain about polycentric prosthetic knee joint.

II. Write notes on: **(8 x 5 = 40)**

1. Quadrilateral socket trim lines.
2. Through knee prosthesis check-out procedure.
3. Types of Prosthetic hip joints.
4. Transfemoral prosthesis suspension system.
5. Through knee amputation patient assessment.
6. Hip disarticulation prosthetic gait deviation.
7. Explain about MAS socket.
8. Hip disarticulation prosthesis bench alignment.

III. Short answers on: **(10 x 3 = 30)**

1. Prosthetic management for short Trans femoral amputation.
2. Explain about Trans femoral check-out procedures.
3. Quadrilateral socket measurement procedure.
4. Prosthetic management for knee disarticulation amputation.
5. Advantages of four bar knee joint.
6. Explain about CAT – CAM.
7. What is TKA alignment?
8. Short notes about microprocessor knee.
9. What is SACH Foot?
10. Through knee prosthesis check-out procedure.

[LN 0818]

AUGUST 2018

Sub. Code: 2416

BACHELOR IN PROSTHETICS & ORTHOTICS

SECOND YEAR

PAPER VI – PROSTHETICS SCIENCE – II

Q.P. Code: 802416

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain in details the Canadian type hip disarticulation prosthesis and its alignment.
2. Enumerate Gait deviation for Trans Femoral Amputee.
3. Measurement Techniques, cast modification and Fabrication for Trans femoral Amputee.

II. Write notes on:

(8 x 5 = 40)

1. Draw a neat diagram of endo skeletal design for TF Prosthesis.
2. Explain about Stance Phase Control knee.
3. Explain about Constant friction Knee joint.
4. Explain about “Stubbies”.
5. What are the common causes for amputation?
6. Describe the Dynamic alignment for TF Prosthesis.
7. Types of Hip Joints.
8. Through knee prosthesis Check out procedure.

III. Short answers on:

(10 x 3 = 30)

1. What is CAT CAM socket?
2. Stump Complications.
3. Difference between Endo skeletal and Exo skeletal prosthesis.
4. Trans femoral Prosthetic Component.
5. What is Phantom Limb?
6. Pneumatic knee joint.
7. What is Hemipelvectomy?
8. According to the breaking and locking mechanism what type of knee joint can be selected?
9. Draw a neat label diagram weight activated friction brake knee joint.
10. Quadrilateral Socket.
