

BACHELOR IN PROSTHETICS AND ORTHOTICS
(New Syllabus 2017-2018)

SECOND YEAR

PAPER VI – PROSTHETICS SCIENCE - II

Q.P. Code: 802466

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain about Trans Femoral Check Out Procedure.
2. Explain about Microchip Control Knee.
3. Explain about Trans Femoral Quadrilateral Socket.

II. Write notes on:

(8 x 5 = 40)

1. Trans Femoral Prosthesis Static Alignment.
2. Types of Prosthetic Hip Joint.
3. Types of Trans Femoral Prosthetic gait deviation.
4. Explain about Ischial Containment Socket.
5. Prosthetic management for knee disarticulation amputation.
6. Trans Femoral Prosthetic Components.
7. Types of Trans Femoral prosthetic Suspension.
8. Single axis knee joint.

III. Short answers on:

(10 x 3 = 30)

1. Endoskeletal and Exoskeletal Prosthesis.
2. Trans Femoral Prosthesis Checkout.
3. Knee Disarticulation Amputation Advantages and Disadvantages.
4. Hip Disarticulation Socket Trim lines.
5. Trans femoral prosthesis Bench alignment procedure.
6. Stubbies Prosthesis.
7. TKA Alignment.
8. Types of Prosthetic Foot.
9. Thomas Test.
10. MAS Socket.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0321]

MARCH 2021

Sub. Code: 2466

(AUGUST 2020 EXAM SESSION)

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR (Regulation 2017-2018)

PAPER VI – PROSTHETIC SCIENCE - II

Q.P. Code : 802466

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Explain about polycentric knee joint.
2. Prosthetic management for Knee Disarticulation amputation.
3. Explain about Stubbies Prosthesis.

II. Write notes on:

(8 x 5 = 40)

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

III. Short answers on:

(10 x 3 = 30)

1. Trans Femoral Prosthetic Components.
2. Explain about CAT – CAM.
3. Trans femoral check –out procedures.
4. What is SACH Foot?
5. Quadrilateral socket measurement procedure.
6. Thomas Test.
7. What is TKA alignment?
8. Through knee prosthesis check-out procedure.
9. What is MAS socket?
10. Lower Extremity levels of amputation.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0222]

**FEBRUARY 2022
(AUGUST 2021 EXAM SESSION)**

Sub. Code: 2466

**BACHELOR IN PROSTHETICS AND ORTHOTICS
SECOND YEAR (Regulation 2017-2018)
PAPER VI – PROSTHETIC SCIENCE - II
Q.P. Code : 802466**

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

Elaborate on:

(3 x 10 = 30)

1. Explain about microprocessor knee joint.
2. Types of Prosthetic knee joints for Transfemoral prosthesis.
3. Explain about Ischial Containment socket for Transfemoral amputee.

II. Write notes on:

(8 x 5 = 40)

1. Stubbies Prosthesis.
2. TKA Alignment.
3. Suspension system for through knee prosthesis.
4. Casting procedure for Quadrilateral Socket.
5. Checkout procedures for Transfemoral prosthesis.
6. Through knee prosthesis socket trimlines.
7. Types of Prosthetic hip joints.
8. Components used for Transfemoral prosthesis.

III. Short answers on:

(10 x 3 = 30)

1. Vaulting Gait.
2. Casting Procedure for Through knee amputation.
3. Microchip Control Prosthetic knee.
4. Single axis knee joints.
5. Prosthetic Alignment jig.
6. Constant Friction Knee Joints.
7. Alignment Procedure for Transfemoral Prosthesis with IC Socket.
8. SACH Foot.
9. Lateral Trunk Bending.
10. Myoplasty and Myodesis.

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[AHS 0423]

APRIL 2023

Sub. Code: 2466

**BACHELOR IN PROSTHETICS AND ORTHOTICS
SECOND YEAR (Regulation 2017-2018 onwards)
PAPER VI – PROSTHETICS SCIENCE - II
Q.P. Code: 802466**

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Fabrication procedure for Ischial Containment Socket.
2. Compare Hydraulic Knee Joint and Pneumatic Knee Joint.
3. Alignment Procedure for Through Knee Prosthesis.

II. Write notes on:

(8 x 5 = 40)

1. Explain about Trans Femoral Prosthesis Gait Deviation.
2. Stance Phase and Swing phase control knee joint.
3. Casting procedure for Ischial containment socket.
4. Alignment procedure for Trans femoral Prosthesis with Quadrilateral Socket.
5. Assessment Procedure for through Knee Amputation.
6. Types of Suspension system for Trans Femoral Prosthesis.
7. Explain about Endoskeleton and Exoskeletal Prosthesis.
8. Bench Alignment for Trans Femoral Prosthesis.

III. Short answers on:

(10 x 3 = 30)

1. Various types of suspension system of Trans Femoral Prosthesis.
2. Suspension system for through Knee Prosthesis.
3. Types of mechanical Prosthetic hip joints.
4. Materials used for Trans Femoral Prosthesis.
5. Casting procedure for Through knee prosthesis.
6. Trans femoral prosthesis TKA line.
7. Types of Prosthetic feet.
8. Different types of technology used in fabrication of Trans Femoral Prosthetic Socket.
9. Quadrilateral Socket Trimliness.
10. Casting procedure for Quadrilateral socket.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0424]

APRIL 2024

Sub. Code: 2466

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR (Regulation 2017-2018 onwards)

PAPER VI – PROSTHETIC SCIENCE - II

Q.P. Code: 802466

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Check out procedures for through Knee Prosthesis.
2. Explain about Quadrilateral Socket.
3. Fabrication technique of Trans Femoral Prosthesis.

II. Write notes on:

(8 x 5 = 40)

1. Compare swing phase control knee joints and stance phase control Knee joints.
2. Total Contact Socket and its advantages.
3. Trans Femoral prosthesis Static alignment.
4. Casting and Measurement procedure for Knee disarticulation.
5. Alignment Procedure for Through Knee Prosthesis.
6. Gait deviation of through Knee Prosthesis user.
7. CAT-CAM socket.
8. Stump characteristics between Trans-femoral vs through Knee joint.

III. Short answers on:

(10 x 3 = 30)

1. TES Belt.
2. Lateral Trunk Bending.
3. Endoskeletal and Exoskeletal prosthesis.
4. Ischial containment socket Trimlines.
5. MAS Socket.
6. Manual Muscle Testing Grade.
7. Hip joint flexion contracture.
8. Casting procedure for Ischial containment socket.
9. What is the role of Suspension belt ?
10. Constant friction vs variable friction Knee joint.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1125]

NOVEMBER 2025

Sub. Code: 2466

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR (Regulation 2017-2018 onwards)

PAPER VI – PROSTHETICS SCIENCE - II

Q.P. Code: 802466

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Explain any three Trans-femoral gait deviation.
2. Describe briefly about types of Prosthetic knee joints.
3. Explain cast taking and modification procedure for Trans-femoral Prosthesis.

II. Write notes on:

(8 x 5 = 40)

1. Microprocessor based Prosthetic knee joint.
2. Ischial Containment socket (IC - socket).
3. Swing control Prosthetic knee joint.
4. Types of suspension system used for Trans-Femoral prosthesis.
5. Single axis knee joint vs Polycentric knee joint.
6. Biomechanics of quadrilateral socket.
7. Endoskeletal prosthesis vs Exoskeletal prosthesis.
8. Suction socket and its advantages.

III. Short answers on:

(10 x 3 = 30)

1. Define Hemipelvectomy.
2. What do you mean by constant friction control knee?
3. List of components for transfemoral prosthesis.
4. Explain about prosthetic knee joint used for through knee amputee.
5. What is the difference between hydraulic and pneumatic control prosthetic knee joint?
6. Explain about static alignment of transfemoral prosthesis.
7. Difference between thermo-plastic and thermo-setting socket.
8. Define C – leg.
9. Name the types of socket used for above knee amputee.
10. What are characteristics of “Ideal stump” for transfemoral prosthesis?
