

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

SECOND YEAR

PAPER VII – ORTHOTICS SCIENCE - II

Q.P. Code: 802467

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. What is FRO? Explain its biomechanics.
2. Explain orthotic management of CP.
3. Explain types of knee orthosis.

II. Write notes on:

(8 x 5 = 40)

1. Explain about Charcot foot and its orthotic management.
2. Explain about RGO and ARGO and their functions.
3. What is Legg Calve perthes diseases? Orthotic management.
4. Explain about Toronto brace.
5. What should be considered while designing orthosis for LLD?
6. Explain about weight relieving orthosis and its function.
7. Orthotic management for spina bifida.
8. Explain types of orthotic hip joint with its function.

III. Short answers on:

(10 x 3 = 30)

1. Write note on CP and its types.
2. CROW orthosis.
3. Write note on Rheumatoid arthritis and role of knee orthosis.
4. Write note on MMC and its orthotic management.
5. Types orthotic knee joint.
6. Write note on HKAFO and its biomechanics.
7. Role of orthosis in progress muscular dystrophy.
8. Write note on orthotic management for haemophilia.
9. Write different between conventional KAFO and hybrid KAFO.
10. What is low cost orthosis?

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

[AHS 0321]

MARCH 2021

Sub. Code: 2467

(AUGUST 2020 EXAM SESSION)

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR (Regulation 2017-2018)

PAPER VII – ORTHOTIC SCIENCE - II

Q.P. Code : 802467

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Orthotic management for upper and lower motor neuron lesion.
2. What is CDH? Explain about orthotic management for CDH.
3. Types of orthotic hip joint and its biomechanical function.

II. Write notes on:

(8 x 5 = 40)

1. Types of hip orthosis.
2. What is SWASH? And its function.
3. Scottish rite brace.
4. What is spastic CP? And its orthotic management.
5. Brace for femur fracture and its biomechanics.
6. Gait analysis and its checkout.
7. What is weight relieving KAFO and its function?
8. Explain about difference between hybrid KAFO and conventional KAFO.

III. Short answers on:

(10 x 3 = 30)

1. Write note on trilateral orthosis.
2. What is LLD? And its types.
3. Knee orthosis for haemophilia.
4. What is juvenile idiopathic arthritis?
5. Define orthotic hip joint and its placement and biomechanical function.
6. Write note on Low cost orthosis.
7. What is PPRP? Its orthotic management.
8. What is upper motor neuron disorder?
9. Swedish knee cage and its function.
10. What is spinal cord injury? And its orthotic management.

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[AHS 0222]

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

Sub. Code: 2467

**BACHELOR IN PROSTHETICS AND ORTHOTICS
SECOND YEAR (Regulation 2017-2018)
PAPER VII – ORTHOTIC SCIENCE - II
Q.P. Code : 802467**

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Prescription principles of various types of Knee Orthoses (KO).
2. Orthoses for management of Cerebral Palsied children.
3. Legg Calve perthes diseases and its Orthotic management.

II. Write notes on:

(8 x 5 = 40)

1. Orthoses for management of Congenital dislocation of Hip.
2. Orthoses for Paraplegics.
3. Draw a neat labeled sketch of Reciprocating Gait Orthoses (RGO).
4. Orthotics for Leprosy affected foot.
5. Spina Bifida and its Orthotic management.
6. Outline Orthoses for sports related injuries.
7. Orthotic management of Rickets.
8. Principles of Fracture Cast Bracing.

III. Short answers on:

(10 x 3 = 30)

1. Draw a neat labeled sketch of Extension orthoses.
2. Swivel walker.
3. Principles of Weight relieving orthoses.
4. Orthotic management of Knee Osteo-Arthritis.
5. Draw a neat labeled sketch of PTB Orthoses.
6. Apparent limb length discrepancy.
7. Prescription of Knee Ankle Foot Orthoses (KAFO).
8. Hip Knee Ankle foot Orthoses (HKAFO).
9. Parapodium.
10. Checkout of KAFO.

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[AHS 0423]

APRIL 2023

Sub. Code: 2467

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR (Regulation 2017-2018 onwards)

PAPER VII – ORTHOTICS SCIENCE - II

Q.P. Code: 802467

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Components, fabrication procedure and indication of KAFO.
2. What is CDH? Explain about its Orthotic Management.
3. Explain about Spina bifida and its Orthotic Management.

II. Write notes on:

(8 x 5 = 40)

1. Reciprocating Gait Orthosis.
2. PTB Orthosis.
3. Orthotic management foot drop.
4. Leg length discrepancy and its non-surgical management.
5. Toronto Brace.
6. Genu recurvatum and its Orthotic management.
7. Force system in KAFO.
8. Fracture cast bracing of Tibia bone.

III. Short answers on:

(10 x 3 = 30)

1. What do you mean by Cerebro Vascular Accident?
2. Define Swedish Knee Cage and its indication.
3. What is CROW Orthosis and its indication.
4. What is Parapodium?
5. What is Ischial weight relieving Orthosis and its indication.
6. What is the Biomechanical principle of FRO?
7. What is Leg Clave Perthes disease?
8. List the deformities seen in Leprosy.
9. Write the advantage of Plastic KAFO over Metal KAFO.
10. What do you mean by Offset Knee Joint and its indication?

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[AHS 1123]

NOVEMBER 2023

Sub. Code: 2467

**BACHELOR IN PROSTHETICS AND ORTHOTICS
SECOND YEAR (Regulation 2017-2018 onwards)
PAPER VII – ORTHOTIC SCIENCE - II
Q.P. Code: 802467**

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

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

1. Gait analysis and check out procedures of KAFO.
2. Different types of Knee Orthosis with its indication.
3. Explain Poliomyelitis and its Orthotic Management.

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

1. Toronto hip orthosis.
2. Para podium Vs Standing frame orthosis.
3. Floor reaction orthosis with bio mechanical principle.
4. Lower Limb weight relieving orthosis.
5. Knee orthosis for Osteo arthritis condition.
6. Genu valgum and its orthotic management Tools required for alignment of KAFO.
7. Tools required for alignment of KAFO.
8. Reciprocating gait Orthosis.

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

1. What is Craig Scott KAFO?
2. Explain about CDH.
3. Draw the force system in FRO.
4. What is PTB orthosis and its indication.
5. How you accommodate leg length discrepancy.
6. Write about orthotic knee joint.
7. What is pattern bottom brace?
8. Extension Orthosis / Ortho-Prosthesis.
9. Write about different types of Orthotic hip joint.
10. What is Swedish knee cage and its indication?

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[AHS 0424]

APRIL 2024

Sub. Code: 2467

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR (Regulation 2017-2018 onwards)

PAPER VII – ORTHOTICS SCIENCE - II

Q.P. Code: 802467

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Explain about types of Orthotic Knee Joint with Biomechanical function.
2. Explain about fracture bracing and its Biomechanics.
3. Explain about Knee Orthosis treating Genu varum and Valgum and its Biomechanics.

II. Write notes on:

(8 x 5 = 40)

1. What is CP? Orthotic management for CP.
2. Explain about CDH and its orthotic management.
3. Orthosis for lower motor neuron disorder.
4. What is hemiplegia? Orthotic management of hemiplegia.
5. Explain about types of KAFO.
6. Explain about gait analysis and check out procedure of KAFO user.
7. Orthosis for juvenile hip joint disorder.
8. Explain about gait activated KAFO.

III. Short answers on:

(10 x 3 = 30)

1. What should be considered for orthosis fitting in Leprosy?
2. Write note on FRO and its biomechanical forces.
3. Weight relieving KAFO.
4. Write note on standing frame.
5. Explain about design of paraplegic gait orthosis and its function.
6. Write note on RGO and ARGO.
7. Types of Knee orthosis.
8. Placement of orthotic knee joint and effects of displacement of orthotic knee joint.
9. Explain about Swedish knee cage and its biomechanical function.
10. Explain about parapodium and its function.

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[AHS 1125]

NOVEMBER 2025

Sub. Code: 2467

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR (Regulation 2017-2018 onwards)

PAPER VII – ORTHOTICS SCIENCE - II

Q.P. Code: 802467

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Discuss the prescription criteria for various types of Knee ankle foot orthosis.
2. What is Spina bifida and explain the orthotic treatment algorithm for MMC (Myelomeningocele).
3. Write about the management of Congenital Dislocation of Hip with the algorithm.

II. Write notes on:

(8 x 5 = 40)

1. Explain the concept of Weight Relieving Orthoses.
2. Discuss the Orthoses used for sports injuries.
3. Write about the alignment technique in KAFO (Knee-Ankle-Foot- Orthosis).
4. Explain Limb Length Discrepancy (LLD) and its orthotic management.
5. Explain about RGO (Reciprocating Gait Orthosis) and ARGO (Advanced Reciprocating Gait Orthosis) and their functions.
6. Legg Calve Perthes diseases and its Orthotic management.
7. Explain about the Orthotic management of Rickets.
8. What is PPRP (Post Polio Residual Paralysis) and its orthotic management?

III. Short answers on:

(10 x 3 = 30)

1. Ortho-Prostheses.
2. What is PTB (Patella Tendon Bearing) orthosis and its indication?
3. Draw a neat diagram of Swivel walker and explain the function.
4. Variable position locking knee joint.
5. Explain the concept of Unloader knee brace.
6. What is upper motor neuron disorder?
7. Compression garments.
8. How can orthoses prevent foot ulcer?
9. Biomechanical principle of FRO (Floor Reaction Orthosis).
10. Lever arm dysfunction in CP (Cerebral Palsy).
