[LF 0212] **AUGUST 2014** **Sub.Code :2413**

B.Sc. PROSTHETICS & ORTHOTICS
SECOND YEAR
PAPER III – PHYSICAL MEDICINE & REHABILITATION

Q.P. Code: 802413

Time: Three hours **Maximum : 100 Marks**

Answer All questions

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

1. Define Muscular Dystrophy. Write about management of a child with Duchenne Muscualr Dystrophy.
2. What are the steps in post operative management of above knee stump?
3. Classify nerve injuries. What is the management of Sciatic, popliteal and tibial nerve injuries?

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

1. Write in psychological adaptation mechanism of a disabled.
2. Use of ultrasound in pain.
3. Management of Hetero tropic ossification.
4. Management of Diabetic foot.
5. Different type of cervical collars and their use.
6. Treatment of gouty arthritis.
7. Neuroprosthesis.
8. Concessions for the disabled in our country.

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

1. Myoelectric prosthesis.
2. Explain Erb's palsy.
3. Stump exercises.
4. Short notes on hydrotherapy.
5. Flat feet orthosis.
6. Dennis Brown Splint.
7. Sensory integration procedures
8. Myelomeningocele.
9. Waddling gait.
10. Pediatric walkers.

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[LH 0815] **AUGUST 2015** **Sub. Code: 2413**

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR

PAPER III – PHYSICAL MEDICINE AND REHABILITATION

Q.P. Code: 802413

Time: Three Hours **Maximum: 100 Marks**

Answer all questions

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

1. Define impairment, disability and handicap with examples.
2. Benefits of community based rehabilitation.
3. Common deformities in spastic cerebral palsy.

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

1. Tennis elbow.
2. Spondylolisthesis.
3. Crutch palsy.
4. Osteo arthritis of knee.
5. Pseudo arthrosis of Tibia.
6. Stress fracture.
7. Recurrent dislocation of shoulder.
8. Hallux valgus.

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

1. Diabetic ulcer of foot.
2. Osteo sarcoma.
3. Short wave diathermy.
4. Different phases of gait cycle.
5. Hemi vertebra.
6. Varicose veins.
7. Malunion.
8. Parts of wheelchair.
9. Isometric exercises.
10. Osteoporosis.

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[LJ 0816] AUGUST 2016 **Sub. Code :2413**

B.Sc. PROSTHETICS AND ORTHOTICS
SECOND YEAR
PAPER III – PHYSICAL MEDICINE AND REHABILITATION

Q.P. Code: 802413

Time: Three hours **Maximum : 100 Marks**

Answer All questions

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

1. Government schemes for disabled persons.
2. Upper limb problems in hemiplegia.
3. Common deformities in Hansen's disease.

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

1. Stress fractures.
2. Perthes disease.
3. Deformities in club foot.
4. Post polio residual paralysis.
5. Deformities in claw hand.
6. Pathological fractures of bone.
7. Dry gangrene.
8. Ewing sarcoma.

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

1. Avascular necrosis of bone.
2. Short wave diathermy for therapy.
3. Hallux valgus.
4. Eccentric contraction of muscles.
5. Axillary nerve palsy.
6. Delayed union of fractures.
7. Lymphoedema.
8. Handicap.
9. Preprosthetic training.
10. Vocational counseling.

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[LK 0217] FEBRUARY 2017 **Sub. Code :2413**

B.Sc. PROSTHETICS AND ORTHOTICS
SECOND YEAR
PAPER III – PHYSICAL MEDICINE AND REHABILITATION

Q.P. Code: 802413

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Persons with disability act (PWD Act).
2. Management of wrist drop.
3. Common deformities in ankylosing spondylitis.

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

1. Neuropathic foot.
2. Potts paraplegia.
3. Septic arthritis.
4. Motor neuron disease.
5. Crutch palsy.
6. Neurogenic claudication.
7. Diabetic foot ulcers.
8. Bony metastasis.

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

1. Causes of Scoliosis.
2. Equinus of foot.
3. Microwave diathermy for therapy.
4. Isotonic exercises.
5. Klumpke’s paralysis.
6. Malunion of fractures.
7. Thrombophlebitis.
8. Disability.
9. Community based rehabilitation.
10. Temporary prosthesis.

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[LL 0817] AUGUST 2017 **Sub. Code :2413**

B.Sc. PROSTHETICS & ORTHOTICS
SECOND YEAR
PAPER III – PHYSICAL MEDICINE & REHABILITATION

Q.P. Code: 802413

Time: Three hours **Maximum : 100 Marks**

Answer All questions

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

1. Define Stroke and explain the clinical features and the principles of stroke rehabilitation.
2. What is community based rehabilitation (CBR) and discuss the advantages and disadvantages?
3. Discuss in detail the complications of fracture healing and the steps to manage them.

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

1. Role of prosthetic and orthotic professional in the rehabilitation team.
2. Discuss the rehabilitation of manual labourer with post traumatic Paraplegia at L1 level.
3. Management of Ankylosing Spondylitis.
4. Rehabilitation principles for Duchenne Muscular Dystrophy.
5. Concessions and facilities for disabled persons given by Governments in India.
6. Common environmental and architectural barriers faced by disabled in India.
7. Exercises for Below Knee Stump.
8. Responsibilities of a Prosthetic and Orthotic professional in Community Based Rehabilitation.

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

1. Uses of Heat therapy in pain management.
2. Braces for Genu Valgum.
3. Boutinnaire deformity of the hand.
4. Treatment for Plantar fasciitis.
5. Signs and symptoms of Peripheral neuropathies.
6. Clinical features of Myotonic dystrophy.
7. Management of Avascular Necrosis of hip.
8. Treatment for Gouty arthritis.
9. Benefits of Vocational Rehabilitation.
10. Sexual problems of spinal cord injured patients.

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[LN 0818] AUGUST 2018 **Sub. Code: 2413**

B.Sc. PROSTHETICS & ORTHOTICS

SECOND YEAR

PAPER III – PHYSICAL MEDICINE & REHABILITATION

Q.P. Code: 802413

Time: Three hours **Maximum : 100 Marks**

Answer All questions

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

1. Write in detail the rehabilitation procedures for an elderly below knee amputee due to Diabetes.
2. Name the common psychological issues of a disabled person and the principles of management.
3. Name the different tumours of the Bone. Write about the management of Osteogenic Sarcoma of the femur in young adult.

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

1. Different types of exercises used in rehabilitation.
2. Advantages and disadvantages of axillary crutches.
3. Importance of Occupational therapy in Rehabilitation.
4. Management of Osteoporosis.
5. Causes and treatment of Phantom pain in amputees.
6. Rehabilitation methods for a visually challenged amputee.
7. Classification of congenital skeletal limb deficiencies.
8. Responsibilities of a Prosthetic and Orthotic professional in Community Based Rehabilitation

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

1. Causes for gangrene in the foot.
2. Braces for Congenital Dislocation of hips
3. Types of Osteogenesis imperfecta.
4. Management of stump neuromas.
5. Uses of Telemedicine in CBR model
6. Uses of Lumbosacral corset.
7. Management of Limb Length Discrepancy.
8. Post traumatic stress disorder.
9. Management of Neurogenic bladder.
10. Pressure sore grading.

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[LP 0819] AUGUST 2019 **Sub. Code: 2463**

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

SECOND YEAR

PAPER III – COMMUNITY REHABILITATION AND DISABILITY PREVENTION

Q.P. Code: 802463

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Write the causes of quadriplegia and write about its management.
2. List the differences between Institution based and community based rehabilitation.
3. List common health problems of a bed ridden patient and ways of preventing such problems.

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

1. Write the indications and contra indications of traction.
2. List the benefits of hydrotherapy.
3. Explain about pre prosthetic management for a below knee amputee.
4. Write how to check normal developmental milestones in a child?
5. List the benefits of early intervention.
6. How to prevent falls in the elderly?
7. Write about the management of a patient with Duchenne muscular dystrophy.
8. Orthotic management of a polio patient.

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

1. Where is the centre of gravity located in an erect person with normal posture?
2. Write about goniometry.
3. What is telemedicine? What are its benefits?
4. What is a motor unit?
5. Splints used for claw hand that is caused due to Leprosy.
6. Write about disability evaluation.
7. Write about importance of working as a team in the community.
8. Orthotic management of club foot.
9. Write about the management of a child with cerebral palsy.
10. Write about posture analysis.

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

[AHS 0321] MARCH 2021 Sub. Code: 2463

(AUGUST 2020 EXAM SESSION)

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR (Regulation 2017-2018)

PAPER III – COMMUNITY REHABILITATION AND DISABILITY PREVENTION

Q.P. Code : 802463

Time: Three hours Answer ALL Questions Maximum: 100 Marks

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

1. Write the causes of hemiplegia and write about its management.
2. List the members of the rehabilitation team and the role of the prosthetist in rehabilitation of a below knee amputee in the community.
3. List the indications and contraindications of heat therapy.

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

1. List the indications and contraindications for hydrotherapy.
2. Write about the grading of muscle strength.
3. Write about early identification and its benefits.
4. Advantages of community based rehabilitation.
5. Write about the disabilities caused in Leprosy and their management.
6. Assessment of delayed milestones in a child.
7. Write about assessment of the activities of daily living.
8. Write about the concept of comprehensive rehabilitation.

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

1. List the various planes of muscular movement.
2. How can one check the range of motion of shoulder joint?
3. How to prevent bed sores in a bedridden patient?
4. Write about legislation in place to help the differently abled.
5. Write about rehabilitation of a visually impaired person.
6. What are the causes of cerebral palsy?
7. Orthotic intervention in carpal tunnel syndrome.
8. List the activities of daily living.
9. What are the different movements possible in the shoulder joint?
10. Write about play therapy and when it can be used.

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

[AHS 0222] **FEBRUARY 2022** **Sub. Code: 2463**
(AUGUST 2021 EXAM SESSION)

BACHELOR IN PROSTHETICS AND ORTHOTICS
SECOND YEAR (Regulation 2017-2018)
PAPER III – COMMUNITY REHABILITATION AND DISABILITY PREVENTION
Q.P. Code : 802463

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

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

1. Hydrotherapy treatment technique
2. Disability Rights and government schemes
3. Management of Cerebral Palsy

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

1. Role of P&O in Community Based Rehabilitation (CBR)
2. Principles of clinical examination
3. Management of Neuropathic foot ulcer
4. Causes for hemiplegic disorder
5. Electrotheraphy
6. Hearing and visual aids
7. Guillian Barre Syndrome
8. Orthotic Management of Poliomyelitis

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

1. Goniometer
2. Spasticity
3. Normal range of motion of knee and ankle joint
4. Advantages of Rehabilitation team
5. Types of pediatric walkers
6. Four point support walking cane
7. Bandaging techniques for transtibial patient
8. Assistive aids for ADL activities
9. Osteoporosis
10. Telemedicine

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[LF 0212] **AUGUST 2014** **Sub.Code :2417**

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

Q.P. Code: 802417

Time: Three hours **Maximum : 100 Marks**

Answer All questions

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

1. Define "Cerebral palsy" and discuss the orthotic management of Spastic diplegic cerebral palsy child.
2. What is osteoarthritis (OA)? Discuss the role of knee orthosis in the treatment of OA.
3. Explain with examples different conditions of biomechanical control in orthotic joints.

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

1. Explain "Trilateral hip abduction orthosis".
2. Explain design, indications for "Cowboy brace" draw a neat labeled diagram.
3. Explain Parapodium and its indications.
4. Explain in brief A-frame orthosis. What are the advantages of using standing frames by a paraplegic person?
5. Discus the design, materials and indications for bilateral HKAFO.
6. Explain Floor Reaction Orthoses (FRO) design and its Biomechanical principles.
7. What are the clinical conditions in "Perthes disease"? Which orthotic designs are suitable for managing these conditions?
8. Describe Craig-Scott KAFO.

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

1. What is Spina bifida and its type?
2. What are the orthotic management principles in MMC?
3. Draw a diagram showing Coronal plane force system applied by KAFO, in the correction of Genu Varum.
4. Briefly explain a concept of Weight relieving orthosis.
5. Explain in brief Ischial bearing above knee orthosis.
6. Write a note on Leg length Discrepancy (LLD).
7. Explain "Tone reducing Ankle foot orthosis" (TRAFO).
8. What do you understand by twister orthosis?
9. Draw a neat labeled diagram of Toronto orthosis used in LCPD.
10. What is paraplegia enumerate various orthosis given for this?

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[LH 0815] **AUGUST 2015** **Sub. Code: 2417**

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR

PAPER VI – ORTHOTICS SCIENCE - II

Q.P. Code: 802417

Time: Three Hours **Maximum: 100 Marks**

Answer all questions

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

1. Discuss the orthotic management in congenital dislocation of hip.
2. Describe on RGO. Write its indication, working principles and various types.
3. Describe in details on orthotic management in diplegic CP children.

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

1. Write a note on design, indication and mechanism of Knee orthosis with dial lock knee joint.
2. Write the design indications and biomechanics of offset axis orthotic knee joint.
3. Write the biomechanics of FRO in Cerebral palsy children.
4. Explain about trilateral hip abduction orthosis and its biomechanics.
5. Explain the biomechanics of knee orthosis in correcting genu varum and valgum deformity.
6. How will you differentiate a KAFO for PPRP patient and meningomyelocele (MMC) patient?
7. Write the orthotic management in CTEV.
8. Differentiate conventional KAFO and thermoplastic KAFO. Explain the biomechanics of thermoplastic KAFO.

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

1. Write a note on gait activated KAFO.
2. Write a note on weight relieving KAFO.
3. What is spinal cord injury and its types? Write the function of orthosis in spinal cord injury patient.
4. Write the role of knee orthosis in the osteoarthritis of knee joint.
5. What is limb length discrepancy, its types and how to measure it?
6. What is spina bifida and its type?
7. Explain Charcot restraint orthotic walker (CROW).
8. Explain about parapodium.
9. Write the advantages of standing frames in spinal cord injury patient.
10. Write a short note on
    a. Placement of pelvic band in HKAFO.
    b. Placement of hip joint in bilateral HKAFO.

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[LJ 0816] AUGUST 2016 **Sub. Code :2417**

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

Q.P. Code: 802417

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Explain about spinal cord injury and its orthotic Management.
2. Explain about Ischial weight bearing devices with its principles.
3. Explain poliomyelitis and its orthotic management.

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

1. Toronto hip orthosis.
2. Tools required to fabricate KAFO.
3. Floor reaction orthosis with bio mechanical principle.
4. Lower limb weight relieving orthosis.
5. Knee orthosis for osteo arthritis condition.
6. What is CDH? Explain about its management.
7. Para podium and its indication.
8. Force system in KAFO.

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

1. What is Craig Scott KAFO?
2. Explain about Seattle orthosis.
3. Draw the force system in coronal plane in correcting genu valgum.
4. What is PTB orthosis and its indication?
5. How you accommodate leg length discrepancy?
6. Write about calm lock joint.
7. What is pattern bottom brace?
8. Osteoarthritis Knee Brace.
9. Write about different types of orthotic hip joint.
10. What is Swedish knee cage and its indication?

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[LK 0217] FEBRUARY 2017 **Sub. Code :2417**

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

Q.P. Code: 802417

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Explain about gait deviation and checkout procedure for KAFO.
2. What is CDH? Explain about its orthotic management.
3. Describe about muscular dystrophy and its orthotic management.

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

1. Osteoarthritis knee brace.
2. PTB orthosis.
3. Orthotic Management of Genu recurvatum.
4. Leg length discrepancy.
5. Toronto Brace.
6. Genu varum and its orthotic management.
7. Force system in KAFO.
8. Material used for KAFO.

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

1. What do you mean by cerebro vascular accident?
2. Name the type of Upper Motor Neuron disorders.
3. What orthosis used for hemophilia? Explain.
4. What you mean by weight reliving orthosis and its types?
5. What is fracture orthosis? Explain any one.
6. What is the biomechanical principle of FRO?
7. What is pavlik harness and its indication?
8. List the deformities seen in PPRP.
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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[LL 0817] AUGUST 2017 **Sub. Code :2417**

BACHELOR IN PROSTHETICS & ORTHOTICS
SECOND YEAR
PAPER VII – ORTHOTICS SCIENCE – II

Q.P. Code: 802417

Time: Three hours **Maximum : 100 Marks**

Answer All questions

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

1. What is osteoarthritis (OA)? Discuss the role of knee orthosis in the treatment of OA.
2. Define "Cerebral palsy" and discuss the orthotic management of Spastic diplegic cerebral palsy child.
3. Explain about different types of orthotic knee joints.

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

1. Explain "Trilateral hip abduction orthosis".
2. Explain design, indications for "Cowboy brace" draw a neat labeled diagram.
3. Explain Parapodium and its indications.
4. Explain in brief A-frame orthosis. What are the advantages of using standing frames by a paraplegic person?
5. Discus the design, materials and indications for bilateral HKAFO.
6. Explain Floor Reaction Orthosis and its Biomechanical principles.
7. Write the clinical conditions of "Perthes disease", and its orthotic management.
8. Describe Craig-Scott KAFO.

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

1. What is Craig Scott KAFO?
2. Explain about Seattle orthosis.
3. Draw the force system in coronal plane in correcting genu valgum.
4. What is PTB orthosis? Its indication?
5. How you accommodate leg length discrepancy?
6. Write about calm lock joint.
7. What is pattern bottom brace?
8. Osteoarthritis Knee Brace.
9. Write about different types of orthotic hip joint.
10. What is Swedish knee cage? Its indication?

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[LM 0218] FEBRUARY 2018 **Sub. Code: 2417**

BACHELOR IN PROSTHETICS & ORTHOTICS
SECOND YEAR
PAPER VII – ORTHOTICS SCIENCE – II

Q.P. Code: 802417

Time: Three hours **Maximum : 100 Marks**

Answer All questions

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

1. Explain about different types of orthotic knee joints.
2. Explain Floor Reaction Orthoses (FRO) design and its Biomechanical principles.
3. Discuss the orthotic management in congenital dislocation of hip.

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

1. Differentiate conventional KAFO and thermoplastic KAFO. Explain the Biomechanics of thermoplastic KAFOs.
2. Explain the biomechanics of knee orthosis in correcting genu varum and valgum deformity.
3. Write the design indications and biomechanics of offset orthotic knee joint.
4. What is CDH? Explain about its management.
5. Lower limb weight relieving orthosis.
6. Toronto hip orthosis.
7. Write about two different types of orthotic hip joints.
8. Describe Craig-Scott KAFO.

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

1. What is Spina bifida? What are its types?
2. What are the orthotic management principles in MMC?
3. Draw a diagram showing Coronal plane force system applied by KAFO, in the correction of Genu Varum.
4. Briefly explain a concept of Weight relieving orthosis.
5. Explain in brief Ischial bearing above knee orthosis.
6. Write the advantages of standing frames in spinal cord injury patient.
7. Explain about parapodium.
8. What do you understand by twister orthosis?
9. Draw a neat labeled diagram of Toronto orthosis used in LCPD.
10. What is paraplegia? Enumerate various orthosis given for this.

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[LN 0818] AUGUST 2018 **Sub. Code: 2417**

BACHELOR IN PROSTHETICS & ORTHOTICS
SECOND YEAR
PAPER VII – ORTHOTICS SCIENCE – II

Q.P. Code: 802417

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Explain with examples of different types of knee orthosis.
2. Define "Cerebral palsy" and discuss the orthotic management of Spastic diplegic cerebral palsy child.
3. Discuss the orthotic management in congenital dislocation of hip.

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

1. Write a note on design, indication and mechanism of Knee orthosis with dial lock knee joint.
2. Write the design indications and biomechanics of offset axis orthotic knee joint.
3. Write the biomechanics of FRO in Cerebral palsy children.
4. Explain about trilateral hip abduction orthosis and its biomechanics.
5. Explain the biomechanics of knee orthosis in correcting genu varum and valgum deformity.
6. How will you differentiate a KAFO for PPRP patient and meningomyelocele (MMC) patient?
7. Write the orthotic management of spina bifida.
8. Differentiate conventional KAFO and thermoplastic KAFO. Explain the Biomechanics of thermoplastic KAFO.

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

1. Write a note on gait activated KAFO.
2. Write a note on weight relieving KAFO.
3. What is spinal cord injury and its types? Write the function of orthosis in spinal cord injury patient.
4. Write the role of knee orthosis in the osteoarthritis of knee joint.
5. What is limb length discrepancy, its types and how to measure it?
6. What is pattern bottom brace?
7. Explain Charcot Restraint Orthotic Walker (CROW).
8. Explain about parapodium.
9. Write the advantages of standing frames in spinal cord injury patient.
10. Define Swedish knee cage and write its indications.

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[LP 0819] AUGUST 2019 **Sub. Code: 2467**

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?

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

[AHS 0222] **FEBRUARY 2022** **Sub. Code: 2467**
(AUGUST 2021 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. 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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[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”.

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[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.

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[LH 0815] **AUGUST 2015** **Sub. Code: 2416**

BACHELOR IN 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. 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-pelvictomy 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.

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[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.

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[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?

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[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.

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[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.

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[LP 0819] AUGUST 2019 **Sub. Code: 2466**

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.

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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.

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[LF 0212] **AUGUST 2014** **Sub.Code :2415**

B.Sc. PROSTHETICS & ORTHOTICS
SECOND YEAR
PAPER V – BIO – MECHANICS - II

Q.P. Code: 802415

Time: Three hours **Maximum : 100 Marks**

Answer All questions

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

1. Discuss the biomechanical principles of Knee disarticulation socket designs.
2. Describe the Biomechanics of Osteoarthritic knee.
3. Describe the Biomechanics of HKAFO system and its effect.

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

1. Screw home mechanism.
2. What is pathological gait? Mention any 6 pathological gait patterns.
3. Mechanics of Plugfit Socket.
4. Five point force system and its applications.
5. A man **X** walking with a constant step length of 79 cm, if he covered a distance of 462 meter in five minute calculate his.
   a) Stride length b) Cadence c) Velocity of walking
6. Degree of freedom and its significance in P&O designs.
7. Pathomechanics of Waddling gait.
8. Explain Hip Hiking, Circumduction and Vaulting.

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

1. ISO standards.
2. Crutch gait.
3. Static and Dynamic Devices.
4. What is Antalgic gait? Write its common causes.
5. Torsional stress.
6. Energetics of Walking.
7. Open helical Springs.
8. Axial bending stress.
9. Significance of Normal foot arches in locomotion.
10. Keel length in prosthetic feet.

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[LH 0815] **AUGUST 2015** **Sub.Code :2415**

BACHELOR IN PROSTHETICS AND ORTHOTICS
SECOND YEAR
PAPER V – BIO – MECHANICS - II

Q.P. Code: 802415

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Explain the biomechanical principles that led to design and development of quadrilateral Socket.
2. Discuss the Biomechanics of Residual limb-socket Interface.
3. Analyze KAFO from a Biomechanical perspective under following heads
   a) Alignment of Joint Axes b) Forces c) Joint Motion

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

1. How would you assess the energy expenditure in walking with unilateral hybrid KAFO?
2. Outline the KAFO Gait Deviations due to various Pathological Conditions.
3. Explain the Biomechanical principles of anterior floor reaction Orthosis in a CP child.
4. Assess the maximum deflection for a Metallic KAFO in genu valgum.
5. What are the biomechanical reasons of Stirrup failure?
6. Explain the biomechanical theory of any one through knee socket design.
7. Describe ICR and its applications in P/O.
8. Describe 4-point force and its applications with relevant examples.

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

1. Structural testing standards in P/O designs.
2. BIS Certification of P/O devices.
3. How would you achieve stance flexion in a prosthetic knee?
4. Mechanics of Alignment.
5. Effects of Mal-alignment.
6. Design of thigh cuff in KAFO for Male Paraplegics.
7. Biomechanical advantages of Eccentric knee orthoses.
8. Biomechanical Effects of trimlines variations in an AFO.
9. Axes of Lower limb and their relationships.
10. Biomechanical deficits in Scissoring gait.

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[LJ 0816] AUGUST 2016 **Sub. Code :2415**

B.Sc. PROSTHETICS AND ORTHOTICS
SECOND YEAR
PAPER V – BIO-MECHANICS - II

Q.P. Code: 802415

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Write in details about Kinematics of anatomical knee joint.
2. Explain the biomechanics of polycentric prosthetic knee joint.
3. Explain Circumduction, Vaulting and Foot slap.

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

1. Explain the biomechanical principle of Quadrilateral socket design.
2. Explain Terminal impact, Abducted gait and Lateral trunk bending.
3. Outline the Biomechanical concepts of KAFO.
4. Explain in brief open and closed kinematic chain with their examples.
5. Describe the biomechanics of Transfemoral Residual Limb of short length.
6. Differentiate Pronated foot with supinated foot and their biomechanical effects.
7. What do you understand by whip and its causative factors?
8. Discuss the biomechanical effects of Knee Cuff.

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

1. Explain Tripod crutch gait and its types.
2. A person walking with a constant speed of 5640 steps in one hour calculate his cadence.
3. What are the biomechanical reasons of SACH foot breakage?
4. Explain stride and step duration.
5. Write the biomechanical advantages of patella.
6. Explain Swing to and swing through crutch gait.
7. How Transfemoral prosthesis with quadrilateral socket can be aligned for voluntary knee control?
8. How enhanced stability is achieved prosthesis with in a polycentric knee?
9. Explain Windlass mechanism.
10. What are the Advantages of Titanium for KAFO system?

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[LK 0217] FEBRUARY 2017 **Sub. Code :2415**

B.Sc. PROSTHETICS AND ORTHOTICS
SECOND YEAR
PAPER V – BIO-MECHANICS - II

Q.P. Code: 802415

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. With Neat labeled sketches describe the Biomechanics of Ischial Containment Socket Design?
2. Discuss the Biomechanics of walking with above knee prosthesis of any design.
3. Classify Pathological Gait. Explain the components of Hemiplegic Gait.

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

1. Explain the biomechanics of knee locking.
2. How Torsional stresses are minimized in lower limb prosthesis?
3. Outline determinants of Gait.
4. How center of Gravity shifts in a Trendelenberg Gait?
5. Write a note on Parkinson's Gait.
6. Biomechanics of Safety knee joint.
7. Classify Prosthetic Knee Actuators.
8. Explain KAFO as a Mechanical System.

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

1. What are the various Loading patterns on Prosthetic Pylon?
2. How Frictional loading on stump-socket interfaces can be minimized?
3. What do you mean by Five point Pressure system?
4. What are the disadvantages of knee Drop lock in a KAFO?
5. State the mechanics of heel Wedges.
6. What are the advantages of Pyramid Alignment system?
7. Explain Bony Lock Mechanism in Ischial containment socket.
8. What do understand by term Pelvic Obliquity?
9. Explain the working principle of Ratchet locking pin of Silicone Liner.
10. A person walking with a constant speed of 5400 steps in one hour calculate his cadence?

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[LL 0817] AUGUST 2017 **Sub. Code :2415**

B.Sc. PROSTHETICS & ORTHOTICS
SECOND YEAR
PAPER V – BIO-MECHANICS - II

Q.P. Code: 802415

Time: Three hours **Maximum : 100 Marks**

Answer All questions

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

1. Explain about Ischial Containment Socket and Biomechanics.
2. Prescription principle for knee disarticulation amputation.
3. Explain about prosthetic hip joint & biomechanics.

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

1. Orthotic management for T12 Paraplegia.
2. Explain about through knee prosthesis alignment.
3. Explain about prosthetic hip joint and biomechanics.
4. Biomechanics of Floor Reaction orthosis.
5. Types of orthotic knee joint.
6. Biomechanics of HKAFO.
7. KAFO alignment principle.
8. Biomechanics of SACH foot.

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

1. What is CAT – CAM?
2. Overview about biomechanical concepts of KAFO.
3. Types of orthotic hip joint.
4. Kinematics of anatomical knee joint.
5. Describe about polycentric knee joint.
6. Biomechanics about MAS socket.
7. Explain about microprocessor knee joint.
8. Explain about single axis prosthesis knee joint.
9. Explain about prosthetic gait deviation.
10. Explain about biomechanical principle of quadrilateral socket.

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[LN 0818] AUGUST 2018 **Sub. Code: 2415**

BACHELOR IN PROSTHETICS & ORTHOTICS

SECOND YEAR

PAPER V – BIO-MECHANICS - II

Q.P. Code: 802415

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. What is transfemoral amputation? Describe suitable prosthesis with socket design.
2. What is gait analysis? Explain different type of gait analysis with neat sketches. Describe different stages of normal gait.
3. Describe the biomechanics of through knee prosthesis.

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

1. PTB Socket.
2. Biomechanics and kinesiology.
3. Mechanics and Biomechanics.
4. Moment and torque.
5. Phantom pain.
6. SMO.
7. Explain terminal impact, abducted gait and lateral trunk bending.
8. Explain biomechanical principle of quadrilateral socket design.

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

1. What do you mean by five point pressure system?
2. Locking and unlocking mechanism of knee.
3. Knee Orthosis.
4. Syme's prosthesis.
5. FRO.
6. Characteristics of Normal gait.
7. Bench alignment in knee prosthesis.
8. Flat foot.
9. Abnormal gait due to quadriceps muscle.
10. AFO.

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[LP 0819] AUGUST 2019 **Sub. Code: 2464**

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

SECOND YEAR

PAPER IV – BIOMECHANICS - II

Q.P. Code: 802464

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. What is gait? Explain about features of gait and gait parameters.
2. Explain about Trans femoral gait analysis and deviation.
3. Explain about biomechanical principle of KAFO and FRO.

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

1. Explain about biomechanics of IC socket and socket force analysis.
2. Explain about three, four and five point pressure system.
3. Explain about KAFO gait deviation due to pathological condition.
4. Explain about types of gait analysis.
5. Explain about through knee socket force analysis.
6. What an EMG? Role of EMG in pathological condition.
7. Types of orthotic knee joints.
8. Biomechanics of energy storing foot.

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

1. Biomechanical discrepancies of Scissoring gait.
2. Define relation between pressure and area.
3. Step length and stride length.
4. KAFO Alignment Procedure.
5. Waddling gait.
6. Rheumatoid arthritis knee biomechanics.
7. Electromyography.
8. Kinetics and kinematics.
9. Foot orthosis.
10. Degree of freedom.

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

[AHS 0321] **MARCH 2021** **Sub. Code: 2464**

(AUGUST 2020 EXAM SESSION)

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR (Regulation 2017-2018)

PAPER IV – BIOMECHANICS - II

Q.P. Code : 802464

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

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

1. Explain about effects of Floor Reaction Orthosis in CP children.
2. Explain about instantaneous centre of rotation in prosthetic polycentric knee joint.
3. Explain about Through knee biomechanics and alignment techniques.

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

1. Explain about medial whip and lateral whip with causing factor.
2. Explain about joint forces during and stance phases.
3. Biomechanics of prosthetic hip joint.
4. Biomechanics of HKAFO.
5. Biomechanics of energy storing foot.
6. Explain about Types of orthotic hip joint.
7. Kinematics of anatomical knee joint.
8. Placement of COG in Trendelenburg gait.

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

1. Torsional stress.
2. Biomechanics of safety knee joint.
3. Explain about cadence and velocity in gait.
4. How Transfemoral prosthesis aligned for voluntary control of knee?
5. What are the advantage of carbon fibre in KAFO?
6. Step length and stride length.
7. What is three point and four point gait?
8. Why the abduction tendency more common in trans femoral stump?
9. Vaulting.
10. Energetics of walking.

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[LF 0212] **AUGUST 2014** **Sub.Code :2412**

B.Sc. PROSTHETICS & ORTHOTICS
SECOND YEAR
PAPER II – ORTHOPAEDICS & AMPUTATION SURGERY

Q.P. Code: 802412

Time: Three hours **Maximum : 100 Marks**

Answer All questions

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

1. Define Fracture. Explain the different types of fractures, their complications and orthotic management.
2. Define Amputation. What are the different levels of amputation in lower limbs and their prosthetic management?
3. Write in detail about Tuberculosis involvement of spine, the complications and management.

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

1. Management of Carpal Tunnel Syndrome.
2. Define and explain Hallux Valgus Deformity.
3. Explain Spondylolisthesis and management.
4. Management of different aspects of heel pain with orthotics.
5. Explain Rickets and its management.
6. Explain Post Polio syndrome and management.
7. Explain common causes of Pressure ulcers and write briefly their management.
8. Management of Osteogensis Imperfecta.

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

1. Grading of Burns.
2. Osteointegration Prosthesis
3. Whiplash injuries.
4. What is knuckle bender splint?
5. Common deformities in Rheumatoid Hand.
6. Tennis elbow.
7. What is Gower’s sign?
8. What is phantom limb sensation?
9. Trigger finger.
10. Name the different orthosis for CTEV management.

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[LG 0215] **FEBRUARY 2015** **Sub.Code :2412**

B.Sc. PROSTHETICS AND ORTHOTICS

SECOND YEAR

PAPER II – ORTHOPAEDICS AND AMPUTATION SURGERY

Q.P. Code: 802412

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Define Fracture. Explain the different types of fractures, their complications and orthotic management.
2. Define Amputation. What are the different levels of amputation in lower limbs and their prosthetic management?
3. Write in detail about Tuberculosis involvement of spine, the complications and management.

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

1. Management of Carpal Tunnel Syndrome.
2. Define and explain Hallux Valgus Deformity.
3. Explain Spondylolisthesis and management.
4. Management of different aspects of heel pain with orthotics.
5. Explain Rickets and its management.
6. Explain Post Polio syndrome and management.
7. Explain common causes of Pressure ulcers and write briefly their management.
8. Management of Osteogensis Imperfecta.

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

1. Grading of Burns.
2. Osteointegration Prosthesis
3. Whiplash injuries.
4. What is knuckle bender splint?
5. Common deformities in Rheumatoid Hand.
6. Tennis elbow.
7. What is Gower’s sign?
8. What is phantom limb sensation?
9. Trigger finger.
10. Name the different orthosis for CTEV management.

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[LH 0815] **AUGUST 2015** **Sub. Code: 2412**

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR

PAPER II – ORTHOPAEDICS AND AMPUTATION SURGERY

Q.P. Code: 802412

Time: Three Hours **Maximum: 100 Marks**

Answer all questions

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

1. List the common congenital deformities of bone and Joints. Discuss the management of Club Foot.
2. What are the common soft tissue injuries of the knee? Write in detail about the management of Cruciate ligaments of the knees.
3. Classify Arthritis. Write about the aetiology, treatment and complications of Rheumatoid Arthritis.

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

1. Myositis Ossificans.
2. Osteomyelitis.
3. Ulnar Nerve Palsy.
4. Treatment of Prolapsed Intervertebral Disc.
5. Complications of Hansen's disease?
6. Treatment of Diabetic Foot ulcers.
7. Osteogenic Sarcoma.
8. Amputations in children

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

1. Write notes on Charcot's Joint.
2. Outline Torticollis treatment.
3. Explain gout and its management.
4. Treatment of Dupuytren's Disease.
5. Treatment for recurrent dislocation of patella?
6. Orthotic management of Lumbar Spondylosis?
7. Post operative complications of amputation.
8. Care of Anesthetic foot.
9. Care of Mallet finger.
10. Orthotic management of burns.

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[LI 0216] FEBRUARY 2016 **Sub. Code: 2412**

B.Sc. PROSTHETICS AND ORTHOTICS

SECOND YEAR

PAPER II – ORTHOPAEDICS AND AMPUTATION SURGERY

Q.P. Code: 802412

Time: Three Hours **Maximum: 100 Marks**

Answer all questions

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

1. Define Osteomyeltis. Discuss the aetiology, management and complications of Osteomyelitis.
2. Define subluxation and dislocation. Write about the treatment options for Congenital dislocation of the hip.
3. What is osteoarthritis? Discuss the management options for osteoarthritis of the knees.

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

1. Management Osteogenesis Imperfecta.
2. Types of Amputations.
3. Causes of club hand.
4. Genu varum and Genu Valgum.
5. Treatment of Tennis Elbow.
6. Orthotic management of C.T.E.V.
7. Bladder care in Spinal cord injury patient.
8. Volkmann’s Ischemic Contractures.

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

1. Enumerate causes of limb length discrepancy.
2. Treatment of Haemophilic Arthritis.
3. Osteomyoplastic flaps.
4. Recurrent Dislocation of shoulder.
5. Ankylosing Spondylitis.
6. Treatment of Periarthritis of shoulder.
7. Common complications of fractures
8. Indications of revision amputation.
9. Treatment of Golfer’s Elbow.
10. Explain Heterotrophic Ossification Orthotic management of burns.

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[LJ 0816] AUGUST 2016 **Sub. Code :2412**

B.Sc. PROSTHETICS AND ORTHOTICS
SECOND YEAR
PAPER II – ORTHOPAEDICS AND AMPUTATION SURGERY

Q.P. Code: 802412

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Etiology, clinical presentation and management of Hansen's disease.
2. Complications in a Diabetic foot and its management.
3. Pre and post-operative management in amputation surgery and the different levels of lower limb amputation.

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

1. Pre-prosthetic training.
2. Stages of fracture healing.
3. Volkmann's Ischaemic Contracture.
4. Causes and diagnosis of congenital dislocation of the hip.
5. Causes and types of shoulder dislocation.
6. Management of Lumbar scoliosis.
7. Haemophilic arthropathy of knee joint.
8. Median nerve injury.

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

1. Genu recurvatum.
2. De Quervain's tenosynovitis.
3. Osteoarthritis knee.
4. Mallet finger.
5. Barton's fracture.
6. Perthe's disease.
7. Causes of osteoporosis.
8. Becker's muscular dystrophy.
9. Ankylosing spondylitis.
10. Phantom pain.

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[LL 0817] AUGUST 2017 **Sub. Code :2412**

B.Sc. PROSTHETICS AND ORTHOTICS

SECOND YEAR

PAPER II – ORTHOPAEDICS AND AMPUTATION SURGERY

Q.P. Code: 802412

Time: Three hours **Maximum : 100 Marks**

Answer All questions

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

1. Clinical presentation, complications and management of TB spine.
2. Hand deformities in Rheumatoid arthritis and its management.
3. Pre and post-operative management in amputation surgery and the different levels of upper limb amputation.

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

1. Types of partial foot amputation.
2. Indications for amputation revision.
3. Difference between myoplasty and myodesis.
4. Investigation for cervical spondylosis.
5. Causes of Avascular necrosis of hip.
6. Types and clinical signs of fractures.
7. Management of Metatarsalgia.
8. Ulnar never injury.

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

1. Boutinniare deformity.
2. Cauda equina syndrome.
3. Osteoarthritis hip.
4. March fracture.
5. Management of upper limb burns contracture.
6. Immediate post-operative rigid dressing.
7. CTEV.
8. Dupuytren contracture.
9. Madelung deformity.
10. Phantom pain.

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[LM 0218] FEBRUARY 2018 **Sub. Code: 2412**

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR

PAPER II – ORTHOPAEDICS AND AMPUTATION SURGERY

Q.P. Code: 802412

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Congenital limb deficiencies and their management.
2. Hand deformities in Rheumatoid arthritis and its management.
3. Principles and techniques of amputation surgery in lower limbs.

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

1. CTEV.
2. Neuropathic joint and its management.
3. Indications for Syme's Amputation.
4. Stages of fracture healing.
5. Etiopathology of Rickets.
6. Anterior cruciate ligament injury and its management.
7. Haemophilic arthropathy of knee joint.
8. Radial never injury.

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

1. Plantar fasciitis.
2. Rotator cuff tendinitis.
3. Volkmann's contracture.
4. Carpal tunnel syndrome.
5. Central Cord Syndrome.
6. Perthe's disease.
7. Complications of Colle's fracture.
8. Duchenne muscular dystrophy.
9. Clinical presentation of Ankylosing spondylitis.
10. Cubitus Valgus deformity.

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[LN 0818] AUGUST 2018 **Sub. Code: 2412**

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR

PAPER II – ORTHOPAEDICS AND AMPUTATION SURGERY

Q.P. Code: 802412

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Classify Scoliosis and describe its management.
2. Surgeries to knee joint and their management**.**
3. Principles of immediate postoperative fitting advantages and methods.

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

1. Classification of fractures.
2. Acute pyogenic Osteomyelitis.
3. Homeophilic joint.
4. Skeletal manifestations of rickets.
5. Cauda equina syndrome.
6. Torticollis.
7. Syme's amputation.
8. Carpal tunnel syndrome.

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

1. Neuropraxia.
2. Cubitus Varus.
3. Sequestrum.
4. De Quervain Tenosyontis.
5. Triple deformity of knee in tuberculosis.
6. Spina bifida.
7. Cockup splint.
8. Claw hand.
9. Gait.
10. Osteoarthritis of knee.

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[LP 0819] AUGUST 2019 **Sub. Code: 2462**

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

SECOND YEAR

PAPER II – ORTHOPAEDICS, AMPUTATION SURGERY AND IMAGING SCIENCE

Q.P. Code: 802462

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. What are the signs and symptoms of fracture? List the general principles of fracture management.
2. What is scoliosis? Write about the various types and treatment of scoliosis.
3. Write in detail about the causes and management of Leprosy. What is the role of an Orthotist in management of leprosy deformities?

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

1. Explain about revision amputation. What are its indications?
2. What is neuropathic joint? Explain its Management.
3. Explain about different types of hip dislocations.
4. What is Genu recurvatum? Write its causes and management.
5. Write about the causes and orthotic intervention in carpal tunnel syndrome.
6. Write about Perthes disease.
7. Write about amputation in diabetics.
8. Write about X-Ray as a diagnostic tool.

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

1. Write about ankylosing spondylitis.
2. Write about Colle's Fracture.
3. Write about causes of metatarsalgia.
4. What is Madelung's deformity?
5. List causes of spinal cord injury.
6. Write about rib angle measurement.
7. What is tennis elbow? List its symptoms.
8. List causes of peripheral nerve injuries.
9. Why do deformities occur in burns patients?
10. Write about kyphosis.

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

[AHS 0321] MARCH 2021 Sub. Code: 2462

(AUGUST 2020 EXAM SESSION)

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR (Regulation 2017-2018)

PAPER II – ORTHOPAEDICS AND AMPUTATION SURGERY AND IMAGING SCIENCE

Q.P. Code : 802462

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

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

1. Write in detail about the signs and symptoms and management of Rheumatoid arthritis.
2. Write about causes, symptoms and types of shoulder dislocation. Add a note on its management.
3. Write in detail about the causes, signs and symptoms and treatment of wrist drop.

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

1. Explain about stump refashioning.
2. What is Flap surgery? Explain.
3. Explain about the acute care management after sports injuries.
4. How MRI is beneficial when compared to other diagnostic tools?
5. Write about tuberculosis arthritis and its management
6. How is a ligament injury managed in the acute and chronic stage?
7. What is metatarsalgia? Explain its causes and management.
8. Explain about Volkmann’s contracture, its causes and management.

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

1. What are the common sites of femur fracture?
2. List the symptoms of Madelung’s deformity?
3. Write about rib angle measurement
4. Write about dysplasia in the hip
5. List treatment for plantar fasciitis
6. Explain the treatment of Leprosy
7. Why are amputations done in children?
8. What is sonography?
9. Write about podiatry
10. List causes of hemophilic joints

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

[AHS 0222] **FEBRUARY 2022** **Sub. Code: 2462**
(AUGUST 2021 EXAM SESSION)

BACHELOR IN PROSTHETICS AND ORTHOTICS
SECOND YEAR (Regulation 2017-2018)
PAPER II – ORTHOPAEDICS AND AMPUTATION SURGERY AND IMAGING SCIENCE
Q.P. Code : 802462

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

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

1. What is osteoporosis? What are the causes, symptoms and principles of management of osteoporosis?
2. What are the common types of burns? Discuss the management of upper extremity burns with a specific note on orthotic management.
3. Write about post operative prosthetic management after above elbow amputation

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

1. List the benefits of using CT scan in diagnosis of musculoskeletal diseases.
2. Write about the causes of tennis elbow. Add a note on its management.
3. Write about the treatment of meniscal tear in the knee
4. Diabetics are more prone for lower limb amputations. Explain why.
5. What are the causes and treatment of osteomyelitis?
6. List the common ligaments to be injured in the knee and their management principles
7. What is congenital talipesequinovarus? Explain.
8. Write about Lordosis and its management.

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

1. What is ideal stump?
2. How is benign tumor different from a malignant tumor?
3. Write about intervertebral disc prolapse
4. List common causes of cervical spinal cord injury
5. What is spina bifida?
6. Write about treatment of scurvy
7. What is Genu varum? Explain
8. Write about common fracture sites in the humerus
9. Write about calcaneovarus
10. What is the treatment for inflammation of tendon sheath?

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[LF 0212] **AUGUST 2014** **Sub.Code : 2411**

B.Sc. PROSTHETICS AND ORTHOTICS
SECOND YEAR
PAPER I – PATHOLOGY
Q.P. Code: 802411

Time: Three hours **Maximum : 100 Marks**

Answer All questions

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

1. Describe the pathogenesis, pathology and complications of thrombosis.
2. Classify anaemias. List the clinical features and lab diagnosis of iron deficiency anaemias.
3. Describe the process of wound healing. Mention the factors involved and the complications.

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

1. Subdural haematoma.
2. Myasthenia Gravis.
3. Metastais.
4. Type II hypersensitivity diseases.
5. Pathogenesis of systemic lupus erythematoses.
6. Pathogenesis of poliomyelitis.
7. Clinical effects of embolism.
8. Investigation of genetic diseases.

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

1. Gas gangrene.
2. Clinical features of shock.
3. Erythropoietin.
4. Glycated haemoglobin.
5. Cells involved in inflammation.
6. Clinical effects of thromboangitis obliterans.
7. Mutation.
8. Clinical effects of Parkinsons disease.
9. Hemiplegia.
10. Granulomatous inflammation.

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[LH 0815] **AUGUST 2015** **Sub. Code: 2411**

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR

PAPER I – PATHOLOGY

Q.P. Code: 802411

Time: Three Hours **Maximum: 100 Marks**

Answer all questions

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

1. Define shock. Mention its types and brief about each.
2. Describe the steps involved in wound healing. Differentiate between primary and secondary wound healing. Mention the factors involving in wound healing.
3. Define Necrosis. Mention its types and pathogenesis of each.

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

1. Differentiate between benign and malignant tumors.
2. Define gangrene and mention its types.
3. Define terms atrophy and hypertrophy. Mention the causes of atrophy.
4. Explain about growth factors.
5. Define embolism and mention its pathogenesis.
6. Write the cellular events in acute inflammation.
7. Describe the Stages of bone remodelling.
8. Define edema. Mention its causes.

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

1. Define thrombosis.
2. What is dry gangrene?
3. Describe the causes of cell injury.
4. Define terms repair and regeneration.
5. Enumerate the stages of fracture healing.
6. Write brief note on Carcinogen and its type.
7. Define Phagocytosis.
8. What do you understand by term exudates?
9. Write the causes of hemorrhage.
10. Four sites affected by Psoriasis

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[LJ 0816] AUGUST 2016 **Sub. Code :2411**

B.Sc. PROSTHETICS AND ORTHOTICS
SECOND YEAR
PAPER I – PATHOLOGY

Q.P. Code: 802411

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Etiological classification of risk factors of cerebrovascular accident.
2. Deformities of hand in Rheumatoid arthritis and its orthotic management.
3. Causes and levels of lower extremity amputation.

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

1. Etiology of Thromboangitis obliterans.
2. Lab diagnosis of anemia.
3. Inheritance of hemophilia.
4. Clinical features of patient with traumatic brain injury.
5. Types of shock.
6. Pathology in muscular dystrophy.
7. Methods of fracture healing.
8. Features of acute inflammation.

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

1. Clinical features of Parkinson’s disease.
2. Differentiate between benign and malignant tumors.
3. Management of anemia.
4. Sarcoma.
5. Gangrene.
6. Examples of chronic inflammatory conditions.
7. Embolism.
8. Colle’s fracture.
9. Sepsis.
10. Lab diagnosis of Diabetes Mellitus.

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[LK 0217] FEBRUARY 2017 **Sub. Code :2411**

B.Sc. PROSTHETICS AND ORTHOTICS
SECOND YEAR
PAPER I – PATHOLOGY

Q.P. Code: 802411

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Definition, clinical features, causes and types of Gangrene.
2. Methods of wound healing.
3. Different types of hypersensitivity reactions with examples? Name any five auto-immune diseases.

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

1. Hand deformities in Rheumatoid arthritis.
2. Parkinson's disease.
3. Clinical features of thromboangitis obliterans.
4. Methods of spread of malignancies.
5. Foot care in diabetes mellitus.
6. Causes of anemia.
7. Types of diabetes mellitus.
8. Complication of hemophilia.

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

1. Etiology of poliomyelitis.
2. Definition of cerebrovascular accident.
3. Causes of diabetic foot ulcer.
4. Risk factors of cerebrovascular accident.
5. Clinical features of multiple sclerosis.
6. Features of chronic inflammation.
7. Callus.
8. Types of necrosis.
9. Classification of Neoplasia.
10. Pathology of Rheumatoid Arthritis.

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[LL 0817] AUGUST 2017 **Sub. Code :2411**

B.Sc. PROSTHETICS & ORTHOTICS

SECOND YEAR

PAPER I – PATHOLOGY

Q.P. Code: 802411

Time: Three hours **Maximum : 100 Marks**

Answer All questions

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

1. Define neoplasia. Classify and write in detail the clinical and pathological differences between benign and malignant tumours.
2. What is necrosis? Write in detail about the pathology and pathogenesis of different types of necrosis.
3. Laboratory diagnosis and complications of Diabetes Mellitus.

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

1. Iron deficiency anaemia.
2. Human Immuno deficiency virus.
3. Paget's disease.
4. Thromboangiitis obliterans.
5. Bone healing.
6. Multiple Myeloma.
7. Reversible injury.
8. Pulmonary embolism.

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

1. Oedema.
2. Thrombosis.
3. Septic shock.
4. Atrophy.
5. Mutations.
6. Immunity.
7. Poliomyelitis.
8. Secondaries.
9. Genetic disorder.
10. Osteomalacia.

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[LM 0218] FEBRUARY 2018 **Sub. Code: 2411**

BACHELOR IN PROSTHETICS & ORTHOTICS

SECOND YEAR

PAPER I – PATHOLOGY

Q.P. Code: 802411

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. What are the types of inflammation? Write in detail about the cellular and vascular changes in acute inflammation.
2. Describe in detail about the stages involved in primary and secondary wound healing.
3. Write in detail about the clinical features, pathology and pathogenesis of different types of gangrene.

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

1. Coagulation necrosis.
2. Pathological fracture.
3. Megaloblastic anaemia.
4. Osteogenic sarcoma.
5. Air embolism.
6. Granulomatous inflammation of bone.
7. Auto immune disorders.
8. Multiple Myeloma.

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

1. Causes of oedema.
2. Hypertrophy.
3. Autolysis.
4. Ischemia.
5. Metastasis.
6. Universal Donor.
7. Mutation.
8. Aplastic anaemia.
9. Gouty arthritis.
10. Abscess.

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[LN 0818] AUGUST 2018 **Sub. Code: 2411**

BACHELOR IN PROSTHETICS & ORTHOTICS

SECOND YEAR

PAPER I – PATHOLOGY

Q.P. Code: 802411

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Classify anaemias. Write in detail about iron deficiency anaemia.
2. Write in detail about the causes and levels of lower leg amputations.
3. Describe fracture healing and remodelling with diagrams.

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

1. What is diabetes? Write about laboratory diagnosis of diabetes.
2. Cellular and vascular events of acute inflammation.
3. Differences between begin and malignant tumours.
4. Types of necrosis.
5. Lower leg amputations.
6. Clinical effects of embolism.
7. Metastasis.
8. Cerebrovascular accidents.

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

1. Mutations.
2. Poliomyelitis.
3. Immunodeficiency virus.
4. Autoimmune disorders.
5. Gas gangrene.
6. Septic shock.
7. Haemophilia.
8. Foot care in diabetes.
9. Repair and regeneration.
10. Vitamin D deficiency.

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[LO 0219] FEBRUARY 2019 **Sub. Code: 2411**

BACHELOR IN PROSTHETICS & ORTHOTICS

SECOND YEAR

PAPER I – PATHOLOGY

Q.P. Code: 802411

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Write in details about causes and levels of lower leg amputation.
2. What is necrosis? Describe different types of necrosis in detail.
3. What is neoplasia? Write in detail about the differences between benign and malignant tumours.

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

1. Laboratory diagnosis of diabetes.
2. Auto immune disorders.
3. Acute inflammation.
4. Bone healing and remodelling.
5. Iron deficiency anaemia.
6. Pathological fracure.
7. Human Immuno deficiency virus.
8. Thromboangitis obliterans.

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

1. Glycated haemoglobin.
2. Phagocytosis.
3. Mention six chronic inflammatory conditions.
4. Chronic inflammation.
5. Genetic disorders.
6. Callus.
7. Embolism.
8. Define phagocytosis.
9. Atrophy and hypertrophy.
10. Pathogenesis of poliomyelitis.

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[LP 0819] AUGUST 2019 **Sub. Code: 2461**

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

SECOND YEAR

PAPER I – PATHOLOGY

Q.P. Code: 802461

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Definition, clinical features, causes and types of Gangrene.
2. Describe the steps involved in wound healing. Mention the factors involving in wound healing.
3. Describe fracture healing and remodelling with diagrams.

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

1. Write about Cerebrovascular accidents.
2. Differences between benign and malignant tumours.
3. Causes and levels of lower leg amputations.
4. Human Immuno deficiency virus.
5. Features of acute inflammation.
6. Write about Megaloblastic anaemia.
7. What is Air embolism?
8. Laboratory diagnosis of Diabetes Mellitus.

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

1. Features of Aplastic anaemia.
2. Write about Osteogenic sarcoma.
3. Clinical features of Thromboangitis obliterans.
4. What is Ischemia?
5. What is Metastasis?
6. Write about Gas gangrene.
7. What is Reversible injury?
8. List the types of diabetes mellitus.
9. What are the hand deformities in Rheumatoid arthritis?
10. Name any three auto-immune diseases.

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

[AHS 0321] MARCH 2021 Sub. Code: 2461

(AUGUST 2020 EXAM SESSION)

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR (Regulation 2017-2018)

PAPER I – PATHOLOGY

Q.P. Code : 802461

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

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

1. What is neoplasia and what are the types of tumors. Write notes on grading and staging of Cancer.
2. Describe the steps involved in wound healing. Mention the factors involving in wound healing.
3. What are the features, types and causes of Acute and Chronic inflammation.

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

1. TB Spine
2. Osteoporosis
3. Duchenne Muscular dystrophy
4. Discuss the primary and secondary injury in TBI
5. Short note on Fracture healing.
6. Coagulation disorders
7. Diabetes Mellitus – pathogenesis, clinical features and laboratory diagnosis
8. Definition, clinical features, causes and types of Gangrene

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

1. Peripheral occlusive vascular disease
2. Megaloblastic anemia
3. Dystrophin
4. Pathology of Chronic wounds
5. Pathology of Rheumatoid arthritis
6. Clinical features of Thromboangitis obliterans
7. Triple response
8. Multiple Sclerosis
9. Poliomyelitis
10. Avascular necrosis

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[LP 0819] AUGUST 2019 **Sub. Code: 2468**

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

SECOND YEAR

PAPER VIII – PHARMACOLOGY

Q.P. Code: 802468

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. Write about the different routes of administration of drugs. Mention the advantages and disadvantages.
2. Write about sedative and hypnotic drugs commonly used and their uses.
3. Classify Anticholinergics. Write the pharmacological action, uses and adverse effects of Atropine.

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

1. What are the factors modifying drug response?
2. What are the adverse effects of corticosteroids?
3. What are non steroidal anti inflammatory drugs?
4. Role of insulin in treatment of diabetes.
5. Why are inhalers used in treatment of lung disorders?
6. What is Spasticity? How can it be reduced with medications?
7. Write about the classification of drugs.
8. Treatment of postural hypotension in elderly using drugs.

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

1. Write about the uses of morphine and when it can be used?
2. What are antiepileptic drugs?
3. Write about Pharmacokinetics.
4. Explain about Oral anti diabetic drugs.
5. Role of Immuno suppressants.
6. How to treat anxiety in patients with drugs?
7. Treatment of obstructive airway disease.
8. Treatment of diarrhea.
9. Write about treatment of myopathies.
10. Role of muscle relaxants.

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

[AHS 0321] **MARCH 2021** **Sub. Code: 2468**

(AUGUST 2020 EXAM SESSION)

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR (Regulation 2017-2018)

PAPER VIII – PHARMACOLOGY

Q.P. Code : 802468

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

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

1. Explain the various routes of drug administration in detail with example.
2. What drugs are used in elderly patients to treat dementia and hypotension?
3. List different drugs used in the management of diabetes mellitus and their role.

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

1. What is drug toxicity?
2. Can drugs cause allergy? Explain.
3. How can drugs be classified?
4. What is aerosol therapy?
5. What are the different sources of drugs?
6. What is Acetaminophen? When is it used?
7. Drugs used in the treatment of depression.
8. Treatment of constipation.

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

1. Drugs used in treatment of Parkinson's disease.
2. Write about diazepam.
3. What is drug antagonism? Explain.
4. Write about the metabolism of drugs.
5. Medical treatment of gout.
6. List adverse effects of drugs.
7. Why does resistance to drugs occur?
8. Explain about peripheral muscle relaxants.
9. When is aspirin used?
10. Drugs used to change the mood of a patient.

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[LP 0819] AUGUST 2019 **Sub. Code: 2465**

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

SECOND YEAR

PAPER V – PSYCHOLOGY & SOCIOLOGY

Q.P. Code: 802465

Time: Three Hours **Maximum : 100 Marks**

Answer All questions

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

1. What are income generation schemes? How will they make a disabled person financially independent?
2. How do non governmental agencies help in providing prosthesis and orthoses for the differently abled?
3. Explain the psychological aspects of disability and how it can be overcome?

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

1. Write about the different components of community based rehabilitation.
2. Write about job analysis for self employment.
3. What are the barriers that need to be removed to improve access?
4. Explain how a child with disability can be provided psychological support?
5. Explain the relationship between intelligence and learning.
6. How to improve acceptance of severely disabled people in the community?
7. List the advantages of vocational rehabilitation.
8. How to overcome existing social problems?

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

1. Write about relationship between disability and women.
2. Write about moral development.
3. Family role in overcoming disability.
4. Benefits of job placement.
5. List the types of organizations.
6. Should self employment be encouraged? Why?
7. List the members of community based rehabilitation team.
8. Inclusion of parents of disabled child in home based care.
9. Explain about cognitive processes.
10. Advantages of sanghas formed by Persons with Disabilities.

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

[AHS 0321] **MARCH 2021** **Sub. Code: 2465**

(AUGUST 2020 EXAM SESSION)

BACHELOR IN PROSTHETICS AND ORTHOTICS

SECOND YEAR (Regulation 2017-2018)

PAPER V – PSYCHOLOGY & SOCIOLOGY

Q.P. Code : 802465

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

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

1. Explain in detail the structure and functions of social organizations.
2. Explain the role of counseling and psychological support in acceptance of severe disability.
3. Explain in detail the community based rehabilitation model and its advantages.

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

1. Explain about counseling that needs to be given to parents of a disabled child.
2. Explain the types of personality and its characteristic features.
3. List the benefits of vocational rehabilitation.
4. List methods of prevention of social problems.
5. List practical difficulties of patients when using appliances?
6. Write in detail about the PWD Act.
7. How socio economic situation prevents adequate healthcare access?
8. Write about social – sexual relationships.

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

1. Explain parental attitude.
2. Meaning of the term behavior.
3. What is access audit?
4. Explain about referral system.
5. Benefits of a team approach in rehabilitation.
6. How psychology can be used in healthcare?
7. Write about psychological status of disabled children?
8. Are groups formed by Persons with Disabilities beneficial to the members? How?
9. Write about economic rehabilitation of the disabled.
10. Write about social changes.

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

[AHS 0222] **FEBRUARY 2022** **Sub. Code: 2465**
(AUGUST 2021 EXAM SESSION)

BACHELOR IN PROSTHETICS AND ORTHOTICS
SECOND YEAR (Regulation 2017-2018)
PAPER V – PSYCHOLOGY & SOCIOLOGY
Q.P. Code : 802465

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

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

1. Describe community based rehabilitation (CBR). Compare CBR with the medical model and its function.
2. Define Organisation. Discuss Non-governmental organisations and its role in prosthetics & orthotics.
3. Discuss Psychological aspect of disability.

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

1. Role of the Family in rehabilitation of children with the disability.
2. Briefly discuss Village as a community.
3. Explain the procedure of Vocational Rehabilitation.
4. Outline the Challenges in comprehensive disability rehabilitation in Low Income countries.
5. Suggest Social Welfare measures for PWDs.
6. Describe Learning.
7. Discuss RPWD Act 2016.
8. Explain Structure and functions of Social Institutions.

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

1. Define Behaviour .
2. Define Intelligence.
3. Independent Living.
4. Social-Sexual Relationships.
5. Define Society.
6. Accessibility.
7. Cognitive Learning.
8. Parents of the disabled child.
9. Recreation for the Disabled Community.
10. Psychological illness in children.

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