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

**[AHS 0321]** **MARCH 2021** **Sub. Code: 2473**

**(AUGUST 2020 EXAM SESSION)**

**BACHELOR IN PROSTHETICS AND ORTHOTICS**

**THIRD YEAR (Regulation 2017-2018)**

**PAPER III – ASSISTIVE TECHNOLOGY**

***Q.P. Code : 802473***

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

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

1. Mobility and walking aids with diagram.
2. Wheelchair service delivery steps.
3. Assistive devices for SCI and Stroke Patients.

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

1. Measurement procedure of elbow crutch.
2. Developmental aids.
3. Measurement and fabrication of box seat.
4. Prescription criteria for molded seat.
5. Pressure relief techniques of wheelchair user.
6. Types of Cushion.
7. Drive control mechanisms in a powered wheel chair.
8. Gait pattern of auxiliary crutches.

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

1. Gutter walker.
2. Functions of head support in molded seat.
3. Appropriate wheelchair.
4. Transfer techniques.
5. Stages of pressure sore.
6. Need for wheelchair modifications.
7. Tricycle.
8. Robotic Arm.
9. Swing through gait.
10. Parallel Bar.

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

**[AHS 0222]** **FEBRUARY 2022** **Sub. Code: 2473**
**(AUGUST 2021 EXAM SESSION)**

**BACHELOR IN PROSTHETICS AND ORTHOTICS**
**THIRD YEAR (Regulation 2017-2018)**
**PAPER III – ASSISTIVE TECHNOLOGY**
***Q.P. Code : 802473***

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

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

1. Normal developmental milestone and delayed milestone.
2. Appropriate Technology for making developmental aids.
3. Assistive devices for SCI patients.

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

1. Robotics Arms in Rehabilitation
2. Special gadgets to assist in activities of daily living
3. Developmental and educational toys
4. Draw a neat labelled sketch of Parapodium
5. Care & Maintenance of Wheelchairs
6. Biomechanics of Wheelchair Propulsion
7. Biomechanics of Molded Seat
8. Wheelchair Transfer techniques

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

1. Prone board
2. Low-level cart
3. Tilting frame
4. Tricycle
5. Parallel bar
6. Box seat
7. forearm support Crutch
8. Special Chair for CP Children
9. Modified two wheeler for mobility
10. Walking sticks

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

**[AHS 0922] SEPTEMBER 2022 Sub. Code: 2473**
**(FEBRUARY 2022 & AUGUST 2022 EXAM SESSIONS)**

**BACHELOR IN PROSTHETICS AND ORTHOTICS**
**THIRD YEAR (Regulation from 2017-2018)**
**PAPER III – ASSISTIVE TECHNOLOGY**
***Q.P. Code : 802473***

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

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

1. Fabrication procedure of molded seat.
2. Draw a neat sketch of wheelchair. Explain the parts.
3. Gait training with various walking aids.

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

1. Types of walking frame.
2. Normal milestone and delayed milestone.
3. Measurements of wheelchair and its user measurement.
4. Care and maintenance of Motorised Tricycle at home.
5. Measurement and fabrication of cushion.
6. Sports Wheelchair.
7. Modified two wheeler for mobility.
8. Special gadgets for activities of daily living.

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

1. Positioning of forearm pad in elbow crutches.
2. Parapodium.
3. Low level cart.
4. Cerebral Palsy (CP) Chair.
5. Sitting upright.
6. Tilt-in-space Wheelchair.
7. Pressure relieving Cushion.
8. Wheelchair Modifications for Asymmetrical leg length.
9. Motorized wheelchair.
10. Assistive devices for stroke.

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

**[AHS 0423]** **APRIL 2023** **Sub. Code: 2473**

**BACHELOR IN PROSTHETICS AND ORTHOTICS**
**THIRD YEAR (Regulation 2017-2018 onwards)**
**PAPER III – ASSISTIVE TECHNOLOGY**
***Q.P. Code : 802473***

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

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

1. Various kinds of Developmental Aids and its Biomechanics.
2. Tricycle and its types.
3. Pressure relief cushion and its types and Fabrication procedure of pressure relief cushion.

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

1. Different types of canes.
2. Materials used for molded seat.
3. Mobility skills for wheelchair user.
4. Fabrication and Installation of Parallel Barat Home.
5. Cantilever frame.
6. Different Types of walking frame.
7. Four point gait.
8. Assistive devices for spinal cord injury patient.

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

1. Assistive technology and Assistive technology device.
2. Assessment of elbow crutch user.
3. Lapboard walker.
4. Standing frame.
5. Strapping in a wheelchair user.
6. Safety features in a wheelchair.
7. Importance of wheelchair user instructions.
8. Robotic Arms.
9. Fabrication of seat box.
10. Joystick.

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

**[AHS 1123]** **NOVEMBER 2023** **Sub. Code: 2473**

**BACHELOR IN PROSTHETICS AND ORTHOTICS**
**THIRD YEAR (Regulation 2017-2018 onwards)**
**PAPER III – ASSISTIVE TECHNOLOGY**
***Q.P. Code: 802473***

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

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

1. Distinguish between Manual Wheelchair and Powered Wheelchair with special reference to prescription.
2. Describe Biomechanics of Developmental Aids.
3. Discuss maximum use of Appropriate Technology while making Developmental Aids.

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

1. Crutches and its types.
2. Low-floor Mobility devices.
3. Prone board.
4. Types of Seat Cushion and functions.
5. Biomechanics of Molded seats.
6. Customized wheelchair.
7. Motorized tricycle.
8. Parallel bar in Rehabilitation.

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

1. Wheelchair modification.
2. Bed to Wheelchair Transfer techniques.
3. Axilla Crutch Gait.
4. Gutter Crutch.
5. Educational Toys.
6. Normal Developmental Milestone.
7. Special Chair with tray.
8. Tripod.
9. Robotics Arms.
10. Self-help device for Activities of Daily Living.

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

**[AHS 0424]** **APRIL 2024** **Sub. Code: 2473**

**BACHELOR IN PROSTHETICS AND ORTHOTICS**
**THIRD YEAR (Regulation 2017-2018 onwards)**
**PAPER III – ASSISTIVE TECHNOLOGY**
***Q.P. Code: 802473***

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

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

1. Draw a neat sketch of Wheelchair. Explain the parts.
2. Types of Cushions used in wheel chair and describe Biomechanics of Molded set.
3. Assistive devices for SCI patients.

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

1. Gait pattern of Auxiliary crutches.
2. Draw a neat labelled sketch of Parapodium.
3. Care and Maintenance of Wheelchairs.
4. Biomechanics of Wheelchair propulsion.
5. Assistive devices for stroke.
6. Safety feature in a wheel chair.
7. Drive control mechanisms in a powered wheelchair.
8. Wheelchair Transfer Techniques.

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

1. Care and maintenance of Axillary crutch.
2. How you design mobility aid for asymmetrical leg length?
3. Swing through gait.
4. Tricycle.
5. Caster wheels.
6. Standing frame.
7. Eating and Drinking Adaptive devices.
8. Quad cane.
9. Tilt and recline in wheelchair.
10. Parallel bars.

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