

MAJOR COURSES AND DEPARTMENT WISE DISTRIBUTION

Course No	Course title	Credit	Department	Qualification of the faculty
CHT 01	Human Development	2+1	Community Science	MSc. Child or Human Development /PG in Clinical Child Development /PG Clinical Psychology
CHT 02	Fundamentals of Horticultural therapy	2+1	Community Science	MSc. Child or Human Development /PG in Clinical Child Development /PG Clinical Psychology
CHT 03	Community Organization	2+1	Agri Extension Community Science	MSc Agri Extension/ MSc.Home Science (Extension)
CHT 04	Basics of Horticulture	2+1	Pomology and Floriculture 1. Plantation crops, spices and medicinal plants 2. Vegetable Science 3. Post Harvest Technology	MSc. Horticulture
CHT 05	Accessible Gardening	2+1	Pomology and Floriculture Agricultural Engineering Community Science	MSc. Horticulture/ MSc. Agricultural Engineering/ MSc. Child or Human Development
CHT 06	Diet therapy	1+1	Community Science	MSc. Food Science and Nutrition
CHT 07	Internship / Work experience	0+7	Community Science Assisting Department	
	Project	0+6	1.Agricultural Extension 2. Pomology and Floriculture 3. Plantation crops, spices and medicinal plants 4. Vegetable Science 5. Post Harvest Technology	
Total		30		

HORTICULTURE THERAPY COURSE SYLLABUS

Course Description

Academic coursework is the foundation for those considering a career in Horticultural Therapy (HT). HT education is multidisciplinary and encompasses studies in human sciences and plant science, as well as HT concepts and techniques. This course is designed to introduce participants to the growing field of Horticultural Therapy in which gardens and garden based activities are designed to support the physical, mental and social health of individuals. The course will explore a range of aspects of both garden and activity design such as understanding client needs, rehabilitation, special care community, working with all senses, catering for mobility issues. Students study the theory and history of horticultural therapy, and gain experience developing plans and therapeutic activities for a variety of client populations, as well as how best to engage clients in therapeutic activities. Students will learn about designing facilities for special populations and getting started in establishing and managing a horticultural therapy practice

Course Objective

- a. To understand the history and practices of Horticulture therapy.
- b. To design and implement Horticultural Therapy to the targeted population activities.
- c. To distinguish the difference between therapeutic, vocational, and social programs.
- d. To learn to set up a Horticultural Therapy garden

Student Learning Outcomes: Upon completing the course in horticultural therapy students will:

- a. Be able to explain the delivery models and systems used in settings where horticultural therapy is currently practiced and where it is emerging as a service
- b. Have achieved entry-level competence through a combination of academic and fieldwork education
- c. Be prepared to articulate and apply horticultural therapy theory and evidence-based evaluations and interventions to achieve expected outcomes
- d. Be prepared to be a lifelong learner and keep current with evidence-based professional practice
- e. Uphold the ethical standards, values, and attitudes of the horticultural therapy profession
- f. Understand the distinct roles and responsibilities of the horticultural therapist
- g. Be prepared to advocate as a professional for the horticultural therapy services offered and for the recipients of those services
- h. Be prepared to be an effective consumer of the latest research and knowledge bases that support practice and contribute to the growth and dissemination of research and knowledge

Foundational content: Prerequisite coursework in the behavioural and horticultural sciences will

include

- a. Human Development : Developmental psychology , emotional , physical, social, speech, language , moral , cognitive and psychological development through life span
- b. Basic tenets of horticultural therapy: the history and philosophical base of the profession; the application of horticulture as therapy in various settings and with various population groups; the role of horticulture in the promotion of health and the prevention of disease and disability; client and facility assessment to formulate an intervention plan.
- c. Horticultural therapy theoretical perspectives: describe theories that underlie the practice of horticultural therapy; compare and contrast models of practice; how to use theories and models in horticultural therapy evaluation and intervention.
- d. Designing Horticultural Therapy Garden: How to design a horticulture therapy garden , choosing crops, maintenance and protection of the garden, Landscaping.
- e. Screening, evaluation, and referral: the use of standardized and non-standardized screening and assessment tools to determine the need of horticultural therapy intervention; the selection of appropriate assessment tools based on client needs and contextual factors; procedures and protocols when administering assessments; factors that might bias assessment results, such as culture, disability status, and situational variables; documentation procedures to adhere to facility, local, state, federal, and reimbursement agencies.
- f. Formulation and implementation of an intervention plan: the use of evaluation findings based on appropriate theoretical approaches, models of practice, and frames of reference to develop horticulture-based intervention plans and strategies based on the stated needs of the client as well as data gathered during the evaluation process in collaboration with the client and others.
- g. Context of service delivery: the differentiation among the contexts of health care, education, community, and social systems as they relate to the practice of horticultural therapy, to identify opportunities in emerging practice areas; the trends in models of service delivery and their potential effect on the practice of horticultural therapy.
- h. Management of horticultural therapy services: how the various practice settings (e.g. medical institutions, school systems, community systems) affect the delivery of horticultural therapy services; the impact of contextual factors on the management and delivery of horticultural therapy services; how to plan, develop, organize, and market the delivery of services

SI No	Modules	Number of classes		Weightage of Modules
		Theory	Lab/Practical	
1.	Human Development	8	-	15%
2.	Stages of Development	8	-	15%
3.	Counselling, Methods of Counseling	6	6	20%
4.	Methods of Assessment	6	6	20%
5.	Planning, Evaluation and Documentation	8	6	30%

Syllabus

1. Human Development

Life span Development from neonate stage to old age

Importance of studying children; status of children in the world and in India; methods of studying children. Concept of development, principles and issues of development (nature and nurture; continuity and discontinuity; early experience versus later experience; stages or gradual development; role of context/culture). Prenatal development Stages of prenatal development Birth and the postpartum period . Post Natal Development, Physical and motor development, Emotional Development , Moral development, Cognitive development, speech development, language development, Social development.

2.Stages of Development

Growth patterns: cephalocaudal & proximodistal patterns, Body growth and change in infancy, early childhood, and middle and late childhood. Cognitive , Language , Speech, Motor, Physical , Moral , Emotional and Social development in Childhood from infant stage to adolescent Development of brain in childhood, Reflexes, gross motor skills, and fine motor skills. Early stimulation

Cognitive Development : Concept of intelligence; individual differences in intelligence.

Language development, Defining language, Language Development in infancy, early childhood, and middle and late childhood, Multilingualism

Social and Emotional Development in Childhood, Theoretical perspectives (Freud, Erickson and extensions). Development of the self, Peer relations, Children in school, Functions of play

Family influences, Quality of care, Parenting styles and their influences, Sibling relationships

Linkages between family and peer relations (Behaviour Management, stress management)

3.Counselling, Methods of Counselling

Individual and group Counseling methods to improve communication skills, motor activities, methods to improve social intelligence, to improve sensory skills etc.

4.Methods of Assessment

Four behavioural domain (Cognitive, Psycho-social, Physical Health, Ability to right self, Motor abilities) Basic Developmental screening test, IQ Assessment, Bruininks – Oseretsky Test of Motor Proficiency (BOT II), Vineland Social Maturity Scale (VSMS).

5. Planning evaluation and documentation

Programme Design, Activity analysis, Behavioural domains (Psychomotor, affective domain, social domain, cognitive), Task analysis, Activity modification, planning process Documentation and evaluation – Formative and summative evaluation

CHT - O2: FUNDAMENTALS OF HORTICULTURAL THERAPY (2+1)

Sl No	Modules	Number of Classes		Weightage of Modules
		Theory	Lab/Practical	
1.	Introduction to Horticultural Therapy	7	-	5%
2.	History of Horticultural Therapy	8	-	5%
3.	Theories of Horticultural Therapy	4	-	10%
4.	Models of Horticultural Therapy Services	4		10%
5.	Components of Horticultural Therapy	3	-	15%
6.	Diagnostic Grouping/Types of disability	5		15%
7.	Techniques, Programming	5		15%
8.	Horticultural therapy activities		18	25%

Syllabus

1. Introduction to Horticultural Therapy

Introduction, Benefits of Horticultural Therapy (Physical Benefits, Mental Benefits, Social Benefits)

2. History of Horticultural Therapy

Horticulture as human therapy, Ties between people and plants, The Healing effects of gardening, Green rhythms of life.

3. Theories of Horticultural Therapy

Psycho – Analytic Theory, Catharasis Theory, Diversion Theory, Compensation Theory, Surplus Energy, Self-actualization, Social comparison Theory, Basic Concepts (Holistic Approach, Gardening as a recreational Experience, Treatment concept), Theory based on Psychological Perspective of Horticulture therapy.

4. Models of Horticultural Therapy Services

Horticulture Ability Model, Treatment Model, Medical model, Activity Therapy Model, Ecological Model, Human Services Model, Plant Meditation Model.

5. Components of Horticultural Therapy

Purpose, Population, Process, Setting

6. Diagnostic Grouping

What is disability, Disability groups, characteristics, considerations and rehabilitation requirements

- a. Psychological (e.g., mental illness, substance use, attention deficit)
- b. Physical (e.g., spinal injury, orthopedic, cerebral palsy)
- c. Sensory (e.g., vision, hearing, sensory processing)
- d. Developmental (e.g., intellectual, autism, Down syndrome)
- e. Disease (e.g., cancer, dementia, stroke)
- f. Cognitive Impairment – Mentally Retarded, Head injury, Learning Disabilities
- g. Physical Impairment - Spinabifida, Muscular dystrophy, Spinal Cord Injury, Neural tube defects, Communication problem.
Psychological Disorder.

7. Techniques in Horticultural therapy

People plant interaction, Emotional freedom technique, Garden designing techniques , Soiling techniques, Planting technique, Watering techniques, Harvesting techniques

8. Horticultural therapy programming

Programming based on the need of the population. Emotional, Motor, Physical, Social, Cognitive Development , Garden Designing: Different Patterns and Concepts in Designing, Material and tools required, Plant Identification areas, Care, Watering methods

9. Horticultural therapy activities

Clay Modelling: Clay, Different Types of Clays, Type of Creative Modeling, Use, Safety and Designing a Garden using clay

Sand Craft :Sand: Different Types of sands, Creative use and Safety

Green Plants Craft:Plants and Parts Uses for Craft: Process of making Frames, Photo Frames and Greeting Cards and other Show Piece Craft using parts of Plants

Dry Flowers, Seeds and Hanging Basket: Process of Making Different Attractive Patterns, Bouquets, Vase and Making Baskets Hanging Baskets with dry Bamboo and Ice sticks.

Paper Bag, Paper Craft and Name TagPaper:Different types of Paper, Uses, Names, Manual paper bags making with manual Tools, Different types of Paper Bags using paperTag: Different Types of Tag, Tag Material and Tag Making

Pot Making and PaintingPot : Pot Making, Painting with different Designs and Colours, Decorating with Materials in Different Shape, Size and Patterns

Pebbles, Stone Beats Craft :Different Types of Pebbles and Stones, Creative craft using stones, Uses with Different Methods and Safety

Flower Arrangement, Vegetable Crafting and Painting: Artificial flower arrangement by using Satan and Paper Ribbon, Flower Baskets and Vase, Socks and cloths

VegetableCraft: Crafting with Different Methods and Vegetable Painting

CHT- 03 COMMUNITY ORGANIZATION (2+1)

Sl No	Modules	Number of Classes		Weightage of Modules
		Theory	Practical	
1.	Introduction to Organizations	2	-	6%
2.	Systems approach to study organization needs and motives	2	-	6%
3.	Understanding Communities	5	-	9%
4.	Understanding Community-Based Organizations	5		9%
5.	Types of Community based organizations	6		10%
6.	Organizing and Mobilizing Communities	4	6	20%
7.	Communication process	6	6	20%
8.	Methods of communication	6	6	20%

Syllabus

1. **Introduction to organizations:** Concept and Characteristics of organizations, Organizational Behaviour - Context and concept - levels of organizations - formal and informal organizations, Theories of organizations: Nature of organizational theory - classical theories - features of Bureaucracy - administrative theory and Scientific management - Neo-classical theories - the human relations movement - modern theory.
2. **Systems approach to study organization needs and motives** - Attitude, values and ethical behaviour - alienation and work - work motivation - communication and interpersonal behaviour - organization communication - leadership behaviour - decision making, problem solving techniques - organizational climate - change proneness and resistance to change, Organizational change, Organizational structure - Process in organizing - Dimension of Motivation Climate
3. **Understanding Communities:** Their Problems & Their Populations -Defining the community- Different conceptualizations of community and their implications-Typologies of community organization-Empowerment theory and community organization practice
4. **Understanding Community-Based Organizations :**The structure, mission & goals of nonprofit community-based organizations-Management theories-Decision-making, power, authority, and politics of nonprofit organizations
5. **Types of Community based organizations :** Psychiatric hospitals and mental health Centres-Vocational, occupational and rehabilitation Centres- de addiction Centres-Hospitals, clinics and skilled nursing Centres-Hospice and palliative care Centres-Correctional homes or special homes (Juvenile delinquent) assisted living and senior centers Residential setting such as Orphanage.
6. **Personnel Effectiveness and Communication process** – concept, elements and their characteristics – Models and theories of communication – Communication skills– fidelity of communication, communication competence and empathy, communication effectiveness and credibility, feedback in communication, social networks and Development communication – Barriers in communication, Message – Meaning, dimensions of a message, characteristics of a good message, Message treatment and effectiveness, distortion of message.
7. **Methods of communication** – Meaning and functions, classification. Forms of communication – Oral and written communication, Non-verbal communication, interpersonal communication, organizational communication. Key communicators – Meaning, characteristics and their role in development.

CHT – 04: BASICS OF HORTICULTURE (2+1)

Sl.No	Modules	Number of classes		Weightage of Modules
		Theory	Lab/ Prac	
1	Introduction to Horticulture	3	2	13%
2	Propagation Techniques	5	2	15%
3	Seed Propagation Techniques	3	1	5%
4	Potting and Re-potting	2	1	5%
5	Identification of pest and diseases, Control measures	3	2	10%
6	Garden tools and Implements	3	1	5%
7	Soil studies	3	2	10%
8	Familiarisation with plants and cultivation	8	4	22%
9	Plant Nutrition, Weeds & Weed control, Irrigation, Interculture	3	2	10%
10	Post Harvest Technology	3	1	5%

Syllabus

1. Introduction to Horticulture

Horticulture – Definition, importance, divisions, classification of crops, Orchards, garden and plantations - selection of site, climate, soil, socio economic factors. Orchard planning, layout, planting systems intercropping, mixed cropping etc. Tree forms and functions - Training and pruning Principles of ornamental gardening, Components- Living and nonliving, Types of Garden (Public, Private, Home, Formal & Informal Gardens)

2. Propagation Techniques

Vegetative Propagation- Cutting, Layering, Budding, Grafting, Propagation using specialized plant parts. Bulbs, Corms, Rhizomes, Bulbous, Offsets, Suckers, Separation, Division. Tissue culture, Growth regulators

3. Seed Propagation Techniques

Identification and harvesting /Collection of seeds, Seed treatment, seed rate, Preparation of seedbeds, , Pro trays, Maintenance (Weeding & manuring), Transplanting.

4. Potting and Re-potting

Types of pots, Selection of plants for different pots, Preparation of potting media for different pots, Preparation of potting media for different group of plants Potting, repotting

5. Identification of pest and diseases, Control measures

Diseases - Symptoms, causal organism, Favourable condition for disease development, Common disease of different plants – Viral, Bacterial, Fungal. Major insect pests – Nature of damage, conditions

favouring insect attack, control measures Non-insect pests – Nematodes, Rodents etc, Control measures, Principles and Practices in Organic farming.

6. Garden tools and Implements

Major and minor garden implements- Spade, cultivator, garden hose, rakes, pruning shears, lawn mowers, brush cutters, sprayers, other nursery tools and equipments, harvesting tools etc. and their mode of use, repair and maintenance. Safety precautions

7. Soil management

Different types of soil, their nutrient status, water holding capacity, field capacity, and electrical conductivity, Problem soil management, Land preparation, Hydroponics

8. Familiarization with plants and cultivation

Familiarisation and propagation of with crops like coconut, arecanut, oil palm, rubber, cashew,tea, coffee and cocoa, Cardamom, Ginger, Turmeric, Nutmeg, Clove, Cinnamon, Allspice, Garcinia,Tamarind and Vanilla Aloe, Neem, Eucalyptus, Lemongrass, Vetiver Ocimum, Mint etc

Small scale cultivation of tomato,brinjal chilli, bitter gourd, snake gourd, cucumber, melons, pumpkins, ash gourd, bottle gourd, ridge gourd, smooth gourd, watermelon, ivy gourd, vegetable cow pea, winged bean, okra, amaranthus, basella, chekkurmanis Tapioca, sweet potato, yams and other minor vegetables, tubers and perennial vegetables, Cabbage, cauliflower and other cool season vegetables

Small scale cultivation of banana, mango , pineapple, papaya, sapota, guava, mangosteen, rambutan and other minor fruits.

Familiarisation with Ornamental Flowering & Foliage Plants (Sensory, Medicinal, Ornamental), Trees, Herbs, Shrubs, Climbers, Creepers, Annuals and Herbaceous Perennials. Plants for different locations, shady and sunny situations, marginal plants, water plants, plants according to different features of garden and their special characteristics. Identification of plants for green manures.

9. Plant Nutrition, Weed control, Irrigation, Inter culture

Plant Nutrition- Essential nutrients for plants, their sources, dosages recommended and time of application for different plants, diagnosis of nutrient deficiencies and toxicity under field condition.

Weeds and weed control – Major weeds of different, their identification, control measures, irrigation.

Irrigation – Requirements and Techniques, Methods of water conservation, Fertigation. Inter cultural practices,

10. Post Harvest Technology

Post harvest handling- Maturity indices, harvesting losses; causes and measures to reduce losses; Packing, Storage, Marketing, Waste utilization, Solid waste management, Common value added horticultural products, vase solutions preparation and preservation of dry flowers and foliage, flower and foliage arrangements, Interioscaping.

CHT – 05: ACCESSIBLE GARDENING (2+1)

SI No.	Modules	Number of classes		Weightage of Modules
		Theory	Lab/ Prac	
1	Garden Design	2	2	10%
2	Garden features and ornamentation	2	2	10%
3	Specialized Garden	4	4	20%
4	Cut flowers, Orchids and Anthurium	4	2	10%
5	Special structures in Horticulture Therapy Garden	4	1	5%
6	Preparation of miniature Garden	4	1	5%
7	Land scape design and layout	6	2	15%
8	Nursery management	3	1	7.5%
9	Protected cultivation	3	1	7.5%
10	Accessible gardening tools, Special Techniques	4	2	10%

Syllabus

1. Garden Design

Scope and objectives of gardening, Types of gardens: English, Mughal and Japanese, Free style Components of garden Planning of outdoor gardens: Outdoor room concept – Functional uses of plants for different purposes and special needs. Small, Residential, Larger Home Garden, Roof Garden, Terrace Garden, Children’s garden, School and Institutional Garden, Park Industrial garden, Housing complex, Indoor gardening, Traffic islands, Road dividers.

2. Garden features and Ornamentation

Water, Garden pool, Stream, Waterfall, Water cascades, Fountain, Indoor fountains, Rocks, Roads, Walks, Pavements and Steps, Walls fences and Gates, Benches Hedges, Edges, Topiary Arches, Pergolas, Screens and Bridges, Lawns, ground covers, Flower beds, Borders, Carpet bedding, Shrubberies, Plant containers & raised beds, Statues, Towers, Plant stands, Green House, Conservatories, Garden lighting including solar lights, Night-lights Trophy, Bamboo grooves Foundation planting.

3. Specialized Garden

Herb garden, Rose garden, Bog garden, Sunken, Rock garden, Sensory garden, Theme garden, Temple garden, Water garden, Topiary garden, Kitchen Garden, Herb Garden. Butterfly gardens, shade garden, colour wheel, clock garden, window garden, sand garden, sacred groves

4. Cut flowers, Orchids and Anthurium

Scope and objectives of floriculture, Important group of orchids, sympodial and monopodial propagation, media, planting, special cultural techniques, harvesting, post harvest handling. Anthurium – scope and objectives of floriculture, Important group of anthurium, sympodial and monopodial propagation, media, planting, special cultural techniques, harvesting, post harvest handling.

5. Special structures in Horticulture Therapy Garden

Rotating pots, Hanging baskets with pulley, Pergola, Raised bed, plants in pots, Wheel chair access with ramp, umbrella, Chimes, Vertical gardens, Aquariums, Aquaponics, Hugging Trees,

6. Preparation of miniature Garden

Dish gardens, trough gardens, bottle gardens (terrarium), window boxes, bonsai (plants types and techniques) hanging baskets.

7. Land scape design and layout

Definition, objectives and scope, Landscape elements of construction and designing of Residential, Commercial, Bungalow, Public area, Hotel, Educational Institute and religious places, Computer application in landscaping. brick and stone masonry, irrigation layouts, decorative sprinklers used in ornamental gardens, surface and subsurface, drainage, waste water management.

8. Nursery management

Nursery - site selection, layout, components, progeny orchards, sales unit, display area, management, maintenance, commercial propagation of selected horticultural plants. Cultivation practices of important cut flowers and selected vegetables. Terrace Cultivation. General principles of seed production in horticultural crops - packaging and seed storage,

9. Protected cultivation

Different types of growing structures, greenhouses – different types, components, installation, irrigation systems used in green houses, etc

10. Accessible gardening tools, Special techniques

Folding kneeler, long handled tools, Velcro straps, tools with extenders, T-Handle, Gripping tools with extenders, interchangeable arm support cuff, Radius garden tools. *In situ* concrete, Hand rails, Wheel chair friendly engineering techniques, Techniques for ergonomic modification of tools and equipment Special irrigation techniques (pitcher, micro sprinklers, wick irrigation, drip, sprinkler etc) fertigation, foliar nutrition, fogging, misting, Automated and voice active systems, Smart systems etc

CHT – 06: DIET THERAPY FOR SPECIAL NEED POPULATION (1+1)

SI No	Modules	Number of classes		Weightage of Modules
		Theory	Lab	
1.	Principles of Diet therapy	2	-	10%
2.	Introduction to therapeutic Nutrition	4	-	15%
3.	Therapeutic Adaptation of Normal Diet	4	6	25%
4.	Therapeutic Diets	4	6	20%
5.	Therapeutic diet for special need population	4	6	30%

Syllabus

1. Principles of Diet Therapy

Definition of Diet therapy, Concepts of diet therapy

2. Introduction to Therapeutic Nutrition

Definition of therapeutic nutrition ,objectives of therapeutic diet ,therapeutic nutrition for changing need

3. Therapeutic Adaptation of Normal Diet

Definition of therapeutic diet ,therapeutic adaption:- change in consistency, change in energy intake, change in nutrient, change in fiber ,change in frequency of feeding, change in mode of feeding, change in elimination of food

4. Therapeutic Diets

Introduction to therapeutic diet ,Modification of normal diet

5. Therapeutic Diet for people with special needs

ADHD, Autism , Geriatric , Obesity, Cancer

CHT – 07: INTERNSHIP (0+7)

Learning different organisational Cultures : Attachment to various (seven) institutions 1)old age homes 2) Special schools 3) Rehabilitation centres 5) Mental health centres 6) Palliative care centres 7) Gov. school with inclusive education

CHT 08 : PROJECT (0+6)

A case study or mini research work to be submitted

SEMESTER WISE COURSE DISTRIBUTION

Semester	Courses	Total Credit
First	CHT – 01: HUMAN DEVELOPMENT (2+1) CHT - 02 : FUNDAMENTALS OF HORTICULTURAL THERAPY(2+1) CHT – 03: COMMUNITY ORGANIZATION (2+1) CHT – 04: BASICS OF HORTICULTURE (2+1) CHT – 05: ACCESSIBLE GARDENING (2+1)	15
Second	CHT –06 : DIET THERAPY FOR SPECIAL NEED POPULATION (1+1) CHT - 07 : INTERNSHIP (0+7) CHT 08 : PROJECT (0+6)	15