



GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP
DIRECTORATE GENERAL OF TRAINING

COMPETENCY BASED CURRICULUM

PHYSIOTHERAPY TECHNICIAN

(Duration: One Year)

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL: 3.5



SECTOR – HEALTHCARE

CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE

Kolkata-700091

PHYSIOTHERAPY TECHNICIAN

(Non-Engineering Trade)

(Revised in August 2025)

Version: 3.0

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NSQF LEVEL: 3.5



Directorate General of Training

Developed By

CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE

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1. COURSE INFORMATION

During the one-year duration of “Physiotherapy Technician” trade a candidate is trained on professional skill, professional knowledge and Employability skill related to job roles. In addition to this a candidate is entrusted to undertake project work, extracurricular activities and on job training to build up confidence. The broad components covered under Professional skill subject are as below: -

The trainee learns to operate suitable tools and equipment and evaluate the basic outline of Physiotherapy, develops a vocabulary of appropriate terminology; trainee will be able to analyze and assemble the components of skeleton system, study of joints by using X-Ray films and also be able to differentiate various muscles. Trainee will be able to recognize basic cell structure and its organelles and also able to identify the major neural tissues. Trainee will be able to relate the anatomical position of circulatory system on mannequin. Trainee will be able to categorize foods according to nutrients and assemble organs of digestive system, illustrate respiratory system and also able to arrange organs on dummy of excretory and reproductive system. They will perform Physiotherapy treatment, design treatment plan for stiff parts of body and also illustrate the effects of IRR. They will plan and execute remedial effects of cryotherapy, abstract benefits of SWD, lay out therapeutic uses of UST and also plan a regimen to stimulate muscle. Trainee will be able to assess and create a message therapy.

The trainee will familiarize with equipment used in fixed prosthodontics. Trainee will mock up of anterior crowns, fabricate copings, prepare die and also fabricate porcelain fused to metal crown.

2. TRAINING SYSTEM

2.1 GENERAL

The Directorate General of Training (DGT) under Ministry of Skill Development & Entrepreneurship offers a range of vocational training courses catering to the need of different sectors of economy/ Labour market. The vocational training programmes are delivered under the aegis of Directorate General of Training (DGT). Craftsman Training Scheme (CTS) with variants and Apprenticeship Training Scheme (ATS) are two pioneer schemes of DGT for strengthening vocational training.

‘Physiotherapy Technician’ trade under CTS is one of the popular courses delivered nationwide through network of ITIs. The course is of one year duration. It mainly consists of Domain area and Core area. The Domain area (Trade Theory & Practical) imparts professional skills and knowledge, while Core area (Employability Skills) imparts requisite core skill & knowledge and life skills. After passing out the training program, the trainee is awarded National Trade Certificate (NTC) by DGT which is recognized worldwide.

Candidates need broadly to demonstrate that they are able to:

- Read and interpret technical parameters/ documents, plan and organize work processes, identify necessary materials and tools;
- Perform task with due consideration to safety rules, accident prevention regulations and environmental protection stipulations;
- Apply professional skill, knowledge & employability skills while performing jobs.
- Check the job/ assembly as per drawing for functioning identify and rectify errors in job/ assembly.
- Document the technical parameters related to the task undertaken.

2.2 PROGRESSION PATHWAYS

- Can join industry as Assistant Physiotherapist Technician and will progress further as Senior Assistant Physiotherapist Technician, Supervisor and can rise up to the level of Manager.
- Can become Entrepreneur in the related field.
- Can join Apprenticeship programme in different types of industries leading to a National Apprenticeship certificate (NAC).
- Can join various industries of the relevant field.
- Can become an entrepreneur.
- Can join Advanced Diploma (Vocational) courses under DGT as applicable.

2.3 COURSE STRUCTURE

Table below depicts the distribution of training hours across various course elements during a period of one year: -

Sl. No.	Course Element	Notional Training Hours
1	Professional Skill (Trade Practical)	840
2	Professional Knowledge (Trade Theory)	240
3	Employability Skills	120
Total		1200
On the Job Training (OJT)/ Group Project *		150
Optional Courses**		240
Grand Total		1590

* The trainee has to undergo 150 hours of mandatory OJT (On the Job Training) at nearby industry or wherever industry not available then group project has to be done with the supervision of the trade instructor for every year.

** Trainees of one-year or two-year trade can also opt for optional courses of up to 240 hours in each year for obtaining 10th/ 12th class certificate from NIOS along with ITI certification, or, short term courses for extra skills/knowledge.

2.4 ASSESSMENT & CERTIFICATION

The trainee will be tested for his/ her skill, knowledge and attitude during the period of course through formative assessment and at the end of the training programme through summative assessment as notified by the DGT from time to time.

a) The Continuous Assessment (Internal) during the period of training will be done by **Formative Assessment Method** by testing for assessment criteria listed against learning outcomes. The training institute has to maintain individual *trainee portfolio* as detailed in assessment guideline. The marks of internal assessment will be as per the formative assessment template provided on www.cstaricalcutta.gov.in or www.bharatskills.gov.in

b) The final assessment will be in the form of summative assessment. The All India Trade Test for awarding NTC will be conducted by DGT as per the guidelines. The pattern and marking structure is being notified by DGT from time to time. **The learning outcome and assessment criteria will be basis for setting question papers for final assessment. The examiner during final examination will also check** individual trainee's profile as detailed in assessment guideline before giving marks for practical examination.

2.4.1 PASS REGULATION

For the purposes of determining the overall result, weightage of 100% is applied for six months and one year duration courses and 50% weightage is applied to each examination for two years courses. The minimum pass percentage for Trade Practical and Formative assessment are 60% & for all other subjects is 33%.

2.4.2 ASSESSMENT GUIDELINE

Appropriate arrangements should be made to ensure that there will be no artificial barriers to assessment. The nature of special needs should be taken into account while undertaking assessment. Due consideration should be given while assessing for teamwork, avoidance/reduction of scrap/wastage and disposal of scrap/wastage as per procedure, behavioral attitude, sensitivity to environment and regularity in training. The sensitivity towards Occupational Safety, Health and Environment (OSHE) and self-learning attitude are to be considered while assessing competency.

Assessment will be evidence based, comprising some of the following:

- Job carried out in labs/workshop
- Record book/ daily diary
- Answer sheet of assessment
- Viva-voce
- Progress chart
- Attendance and punctuality
- Assignment
- Project work
- Computer based multiple choice question examination
- Practical Examination

Evidences and records of internal (Formative) assessments are to be preserved until forthcoming examination for audit and verification by examination body. The following marking pattern to be adopted for formative assessment:

Marks Allotted during Assessment	Performance Level	Evidence
Marks between 60% to 75%	For performance in this grade, the candidate should produce work which demonstrates attainment of an acceptable standard of craftsmanship with occasional guidance, and due regard for safety procedures and practices.	• Demonstration of good skill in the use of hand tools, machine tools and workshop equipment. • 60-70% accuracy achieved while undertaking different work with those demanded by the component/job. • A fairly good level of neatness and consistency in the finish. • Occasional support in completing the project/job.
Marks above 75% to 90%	For this grade, a candidate should produce work which demonstrates attainment of a reasonable standard of craftsmanship, with little guidance, and regard for safety procedures and practices.	• Good skill levels in the use of hand tools, machine tools and workshop equipment. • 70-80% accuracy achieved while undertaking different work with those demanded by the component/job. • A good level of neatness and consistency in the finish. • Little support in completing the project/job.
Marks Above 90%	For performance in this grade, the candidate, with minimal or no support in organization and execution and with due regard for safety procedures and practices, has produced work which demonstrates attainment of a high standard of craftsmanship.	• High skill levels in the use of hand tools, machine tools and workshop equipment. • Above 80% accuracy achieved while undertaking different work with those demanded by the component/job. • A high level of neatness and consistency in the finish. • Minimal or no support in completing the project.

3. JOB ROLE

Brief Description of Job Roles:

Assistant Physiotherapist; in the Healthcare Industry is also known as Physical Therapist Assistant (PTA). Assistant Physiotherapist works alongside qualified physiotherapists, assisting in the rehabilitation of patients suffering from reduced mobility. Key tasks of an Assistant Physiotherapist include setting up equipment, preparing clients for therapy and demonstrating mobility aids and exercises. Other duties may include keeping the department tidy and basic administration work.

Reference NCO-2015: 3255.0101- Assistant Physiotherapist

4. GENERAL INFORMATION

Name of the Trade	PHYSIOTHERAPY TECHNICIAN
Trade Code	DGT/3324
NCO – 2015	3255.0101
NSQF Level	3.5
Duration of Craftsmen Training	One Year
Entry Qualification	Passed 10 th class examination
Minimum Age	14 years as on first day of academic session.
Eligibility for PwD	Not considered as medical trade
Unit Strength (No. of Student)	24 (There is no separate provision of supernumerary seats)
Space Norms	100 Sq. m
Power Norms	3 KW
Instructors Qualification for:	
(i) PHYSIOTHERAPY TECHNICIAN	B.Voc/Degree in Physiotherapy from UGC recognised university/ board with one year of teaching or industry experience in the Physiotherapy Technician field. OR Diploma (Minimum 2 years) in physiotherapy from recognised university/ board of education with two years of teaching or industry experience in the Physiotherapy Technician field. NTC/NAC passed in the Trade of "Physiotherapy Technician" With three years of teaching or industry experience in the Physiotherapy Technician field. <u>Essential Qualification:</u> Regular / RPL variants of National Craft Instructor Certificate (NCIC) in Physiotherapy Technician trade under DGT <i>Note: Out of two Instructors required for the unit of 2 (1+1), one must have Degree/Diploma and other must have NTC/NAC qualifications.</i>
(ii) Employability Skill	MBA/ BBA / Any Graduate/ Diploma in any discipline with Two years' of teaching or industry experience with short term ToT Course in Employability Skills conducted by DGT institutions. (Must have studied English/ Communication Skills and Basic

	Computer at 12th / Diploma level and above) OR Existing Social Studies Instructors in ITIs with short term ToT Course in Employability Skills conducted by DGT institutions.
(iii) Minimum age for Instructor	21 years
List of Tools and Equipment	As per Annexure – I

5. LEARNING OUTCOME

Learning outcomes are a reflection of total competencies of a trainee and assessment will be carried out as per the assessment criteria.

5.1 LEARNING OUTCOMES

Sl. No.	Learning Outcome	Duration		
		Practical	Theory	Total
1.	Operate using suitable tools and equipment with basic outline of physiotherapy and develop a vocabulary of appropriate terminology following safety precautions with Electro Therapy.	20	10	30
2.	Analyze and assemble the components of skeleton system.	45	15	60
3.	Analyze the joints by using X-Ray films.	20	10	30
4.	Differentiate various muscles.	45	15	60
5.	Recognize basic cell structure and its organelles.	20	10	30
6.	Identify the major neural tissues.	45	15	60
7.	Relate the anatomical position of circulatory system on mannequin.	20	10	30
8.	Categorize foods according to nutrients and assemble organs of digestive system.	20	10	30
9.	Design a treatment plan for stiff parts of body by thermotherapy.	20	10	30
10.	Illustrate the effects of IRR lamp.	20	10	30
11.	Execute remedial effects of cryotherapy.	20	10	30
12.	Enumerate the benefits of SWD.	20	10	30
13.	Test and lay out therapeutic uses of UST and LASER.	20	10	30
14.	Plan a regimen to stimulate muscles with simulator.	75	15	90
15.	Techniques of massage therapy.	45	15	60
16.	Exercise Carry out physiotherapy assessment and develop exercise regimen.	170	25	195
17.	Traction therapy & preventive back pain and abnormal gaits.	130	20	150
18.	Orthopaedic & Neurological condition - Prepare assessment chart and rehabilitation protocol.	85	20	105
Employability Skills			120	120
Grand Total		840	360	1200

6. ASSESSMENT CRITERIA

LEARNING OUTCOMES	ASSESSMENT CRITERIA
1. Operate using suitable tools and equipment with basic outline of physiotherapy and develop a vocabulary of appropriate terminology following safety precautions with Electro Therapy.	- Identify tools, modalities and equipment to be used in physiotherapy. - Perform anatomical and fundamental positions with mannequin. - Explain the divisions and sub-divisions of human body. - Clarify terms used in relation to trunk, neck, face, upper and lower limb.
2. Analyze and assemble the components of skeleton system.	- Identify the bones of the body. - Assemble bones of upper and lower limb with diagram. - Side determination of bone (left and right side) - Recognize all parts of bones. - Identify major ligaments of body.
3. Analyze the joints by using X-Ray films.	- Identify the bones and joints on X-Ray films. - Arrange bones to form joints of upper and lower limb. - Recognize the views of X-Ray films. - Distinguish normal and abnormal X-Rays.
4. Differentiate various muscles.	- Recall the names of major muscles of lower limb, upper limb, trunk, abdomen, neck and face. - Categorize types of muscles according to their structure and also learn muscle action. - Perform movements of all joints and relate them with muscle's actions.
5. Recognize basic cell structure and its organelles.	- Identify human cell and its organelles with diagram. - Able to give presentation on different types of tissues with diagram. - List the name of skin layers.
6. Identify the major neural tissues.	- Memorize all parts of brain and spinal cord. - Perform superficial and deep reflexes. - Learn cranial and spinal nerves. - Demonstrate the body parts supplied by peripheral nerves. - Perform assessment of pain by using pin prick etc.
7. Relate the anatomical position of circulatory system on mannequin.	- List the names of chambers of heart and locate on dummy. - Demonstrate the physiology of heart with its valves by

	- using charts. • Check radial and femoral pulse. • Measure blood pressure by using sphygmomanometer.
8. Categorize foods according to nutrients and assemble organs of digestive system.	• Differentiate food and nutrition & learn all component of balanced diet. • Find the images of patients suffering from deficiency of nutrients. • Study digestive system and its organs with diagram. • Recognize and arrange organs of digestive system on dummy.
9. Design a treatment plan for stiff parts of body by thermotherapy.	• Introduction of moist hot pack & paraffin wax bath. • Illustrate the procedure of hot packs and wax bath . • Check patient's skin sensitivity before applying hot packs and wax bath and also check for contraindications/ Indications. • Make proper layers of wax from different methods.
10. Illustrate the effects of IRR lamp.	• Knows the concept of IRR. • Consider indications / contraindications of IRR before treatment. • Demonstrate the positioning of patient and IRR Lamp during treatment.
11. Execute remedial effects of cryotherapy.	• Study cryotherapy and assess skin or tissue injury before applying ice. • Select the relevant method of icing according to the injury and contour of human body.
12. Enumerate the benefits of SWD.	• Introduction of SWD, its effects, indications-contraindications. • Check the position of cable and electrodes. • Prepare positioning of patient. • Perform testing of modality. • Perform different methods of application of electrodes. • Demonstrate how to wind up the machine after the procedure.
13. Test and lay out therapeutic uses of UST and LASER.	• Introduction of Ultrasonic Therapy, its effects, indications-contraindications method. • Select the frequency for superficial and deep tissues. • Demonstrate the procedure of ultrasonic modality in different frequencies (superficial and deep tissues) with

	precautions. • Present how to apply ultrasonic machine on different joints.
14. Plan a regimen to stimulate muscles with simulator.	• Illustrate the application of muscle stimulator, TENS and IFT. • Demonstrate the working of muscle stimulator for different neurological conditions. • Check all the leads of modality before applying. • Prepare positioning of patient. • Demonstrate position of electrodes on patient of TENS, IFT, MS in pain conditions. • Check patient's skin sensitivity before applying modalities. • Perform a practice on different areas of body. • Perform different methods of application of IFT.
15. Techniques of massage therapy.	• Assemble the materials to be used in massage (e.g. sheets, oil, powder etc.) • Plan a proper positioning of patient and therapist during massage of trunk, face, upper and lower limb. • Demonstrate different techniques of message with precautions.
16. Exercise Carry out Physiotherapy assessment and develop exercise regimen.	• Demonstrate exercises to increase ROM manually or by using CPM. • Schedule measurement of range of motion by using goniometer, inclinometer and inch tape. • Perform active assisted, passive, resisted movements. • Perform strengthening exercises for quadriceps and hamstrings muscles on Quadriceps chair. • Exhibit equilibrium and non-equilibrium tests for coordination. • Demonstrate exercises with shoulder wheel, pulleys, Swiss ball, hand dynamometer, Quadriceps chair etc. • Isometric and isotonic exercise. • Test and measure inspiration and expiration of chest with inch tape and practice postural drainage and breathing exercise. • Perform practice to make muscle flexible. • Basic PNF techniques, MMT, stretching of upper limb & lower limb.
17. Traction therapy & preventive	• Prepare a chart of relaxation techniques with its

back pain and abnormal gaits.	therapeutic indications. • Recognize traction table and method of applying. • Perform various methods of traction e.g., manual traction, static, intermittent, mechanical, positioning traction etc. • Perform calculation of body weight (cervical and lumbar region) to be used for traction. • Demonstrate normal and abnormal gait patterns. • Various walking aids for weight and non- weight bearing. • Demonstrate assistance provided by therapist to patient during mobility.
18. Orthopedic & Neurological condition Prepare assessment chart and rehabilitation protocol.	• Demonstrate personal history of a patient. • Apply clinical reasoning through the process of assessment, problem identification and treatment planning. • Use the observations, examinations and medical history to evaluate the patient's condition and needs. • Prepare an assessment chart for orthopaedic, neurological and cardio pulmonary conditions. • Make a differential diagnosis with relevant tests. • Make a provisional diagnosis. • Plan and prepare intervention program for various conditions. • Understand the rule of nine of burn. • Memorize the classification of obesity with BMI calculation. • Plan exercises for gynaecological conditions and bring them into practice. • Evaluate a patient's home or workplace activities and identify how it can be better suited to the patient's health needs.

7. TRADE SYLLABUS

SYLLABUS FOR PHYSIOTHERAPY TECHNICIAN TRADE			
FIRST YEAR			
Duration	Reference Learning outcome	Professional Skills (Trade Practical)	Professional Knowledge (Trade Theory)
Professional Skill 20 Hrs; Professional Knowledge 10 Hrs	1. Operate using suitable tools and equipment with basic outline of physiotherapy and develop a vocabulary of appropriate terminology following safety precautions.	1. Identify electrotherapy modalities 2. Cataloguing of exercise tools and equipment. 3. Draw human body and label its parts. 4. Draw anatomical planes, axis, anatomical and fundamental positions. 5. Demonstrate planes, axis positions on dummy.	<u>Introduction</u> a) Definition of Physiotherapy, terms of Physiotherapy: Electrotherapy, Exercise-therapy, Massage-Therapy, Ergonomics, Rehabilitation. b) Definition of Electrotherapy, safety precautions in Electrotherapy. c) Name of modalities which are used in physiotherapy. <u>Introduction to Anatomy/Physiology</u> a) Definition and subdivisions of anatomy. b) Anatomical and fundamental position. Anatomical regions, section and planes. The descriptive anatomical terms.
Professional Skill 45 Hrs; Professional Knowledge 15 Hrs	2. Analyze and assemble the components of skeleton system.	6. Demonstrate skeleton system. 7. List the names, side determination and parts of all bones of upper limb and lower limb. Identify side determination and parts of bones of skull, vertebral column and thorax.	<u>Osteology</u> a) Skeleton system (axial and appendicular). b) Structure, functions and classification of bone and cartilage. c) Name of human bones. Side determination and parts of bones of upper limb, lower limb, skull, vertebral column and thorax.

Professional Skill 20 Hrs; Professional Knowledge 10 Hrs	3. Analyze the joints by using X-Ray films.	8. Prepare presentation of joints formation by using bones. 9. Identify the major joints of human body. 10. Observe X-Ray films- ➤ Recognize bones. ➤ Identify of joints. Demonstration of some normal and abnormal X-ray plates.	<u>Orth ology</u> a) Definition and classification of joints. b) The terms related to the movements of joints. c) Description of joints of upper and lower extremities with their ligaments& tendon.
Professional Skill 45Hrs; Professional Knowledge 15 Hrs	4. Differentiate various muscles.	11. Show muscles structure with proper labelling. 12. Demonstrate major muscles of upper limb. 13. Demonstrate major muscles of lower limb. Identify major muscles of abdomen trunk, thorax, neck and face with diagram.	<u>Myology</u> a) Classification of muscles. b) Parts of muscle. Description of all major muscles with their origin, insertion, nerve supply and action.
Professional Skill 20 Hrs; Professional Knowledge 10 Hrs	5. Recognize basic cell structure and its organelles.	14. Sketch labelled picture of cell. 15. Prepare Microscopic diagram of different tissues e.g., Epithelial, Connective tissues, muscular tissues, nervous tissues etc. 16. Diagram of layers of skin. Identify cell structure.	a) Cell- definition , structure and function, cellular organelles. b) Tissue- Structure and function. <u>Skin and temperature regulation</u> a) Structure of skin. b) Function of skin. Temperature regulation system.
Professional Skill 45Hrs; Professional Knowledge 15 Hrs	6. Identify the major neural tissues.	17. Idea of reflexes and their examination. 18. Demonstrate and A.V. display. 19. Prepare Display charts of Nervous system 20. Represent neuron, brain, spinal cord, reflex arc,	<u>Neurology</u> a) Parts of nervous system. b) Structure and function of Nervous, types of neurological cells. c) Structure and function of Brain and spinal cord. d) Reflex Arc, blood-brain

		and plexus. 21. Perform Pain assessment	barrier. e) Structure of a nerve, Cranial nerves (names and functions) and spinal nerves (Introduction). f) Nerve plexus of the body with their distributions (cervical plexus, brachial plexus, lumbosacral plexus). g) About the nerve fibers, motor and sensory, (mixed). Blood circulation of brain and spinal cord.
Professional Skill 20 Hrs; Professional Knowledge 10 Hrs	7. Relate the anatomical position of circulatory system on mannequin.	22. Prepare of charts of heart structure and circulation. 23. Identify heart location and position by using mannequin. 24. Identify major blood vessels for blood circulation on mannequin. 25. Prepare for Pulse and blood pressure examination.	<u>Circulatory system</u> a) Structure and function of heart. b) Nodes of heart, heart rates and heart sound. c) Physiology of heart circulation. d) Blood pressure and the influencing factors. e) Composition and function of blood. Circulatory system of body.
Professional Skill 20 Hrs; Professional Knowledge 10 Hrs	8. Categorize foods according to nutrients and assemble organs of digestive system.	26. Prepare balance diet chart for different age graphs. 27. Display the organs of digestive system on mannequin. 28. Practice Diagram of digestive system. 29. Recognise main and accessory organs of digestive system. 30. Recognised important glands & hormones.	<u>Food and nutrition</u> a) Definition of food and nutrition. b) Uses, sources, fibre deficiency diseases. c) Balanced diet. <u>Digestive system</u> a) Structure and functions of digestive organs. Absorption and metabolism (in brief)

Professional Skill 20 Hrs; Professional Knowledge 10 Hrs	9. Design a treatment plan for stiff parts of body by thermotherapy.	31. Prepare hot packs. 32. Preparation of patient. 33. Apply hot packs at different regions of body. 34. Plan precautions while giving treatment to patient. 35. Assessment of the affected part before applying wax bath. 36. Perform Techniques of wax bath for instance with brush, bowl etc. 37. Apply wax bath with precautions and proper layering and thickness, removal of wax.	<u>Thermotherapy</u> <u>Superficial heating agents</u> a) <u>Hot packs:</u> Physiological effects, indications and contraindications. Types of hot packs (hydro collators, hot water bag, electrical heating pads) with their techniques of application b) <u>Wax bath:</u> Description of a wax bath unit, composition and method of preparation of wax bath, physiological effects, techniques of application, indications and contra indications.
Professional Skill 20 Hrs; Professional Knowledge 10 Hrs	10. Illustrate the effects of IRR lamp.	38. Apply IRR with precautions. 39. Demonstrate different positions of patient during treatment. 40. Placement of IRR at proper distance from skin.	c) <u>Infra-Red Radiation:</u> About the infra-red rays, technical data, physiological effects, techniques of application, termination of IRR, Indications and contra indications.
Professional Skill 20 Hrs; Professional Knowledge 10 Hrs	11. Execute remedial effects of cryotherapy.	41. Practice on preparation and application of ice pack, cold pack, ice towels, ice bath, ice cube massage according to the contour of the body. 42. Practice of preparation of patient. 43. Plan precautions while giving treatment.	<u>Cryotherapy</u> a) Physiological effects. b) Methods of application (Ice pack, cold pack, ice towels, ice bath, ice cube massage, vapor coolant sprays) c) Cry kinetics. Indications and contraindications.
Professional Skill 20 Hrs;	12. Enumerate the benefits of SWD.	44. Explain all parts of SWD. 45. Testing of SWD.	<u>Deep heating agents</u> A) <u>S.W.D.:</u> meanings of Short-

Professional Knowledge 10 Hrs		46. Positioning of patient and placement of electrodes. 47. Draw Flow chart of SWD circuit. 48. SWD cable methods. 49. Precautions.	wave & Diathermy, Effects of S.W.D. Technical data, Descriptions of a S.W.D Instrument, Method of application, Positioning of Electrode Pads During, Treatment, Dose & Duration of treatment, Indications & Contraindications.
Professional Skill 20 Hrs; Professional Knowledge 10 Hrs	13. Test and lay out therapeutic uses of UST and LASER.	50. Methods of testing. 51. Methods of application and its precaution. 52. Handling and operating of UST and LASER modality with precautions. 53. Precaution of patient.	B) <u>LASER Modality</u>. C) U.S.T- About the Ultra sound, Effects of U.S.T in Human body, Technical data, Descriptions of an U.S.T. Instrument, Description about different types of Coupling medium, Method of application of U.S.T, Dose & Duration of treatment, Indications & Contraindications.
Professional Skill 75 Hrs; Professional Knowledge 15 Hrs	14. Plan a regimen to stimulate muscles with simulator.	54. Practice on muscle stimulator for major muscles of upper limb and lower limb. 55. Preparation of patient 56. Demonstration of muscles stimulator on face. 57. Plan precautions during treatment. 58. Practice on placement of Tens, IFT, MS, electrodes with using proper gel. 59. Create difference between TENS and IFT for pain producing conditions.	Stimulators- a) Faradic - About the Faradic type of current, Description of a Faradic Stimulator & Electrodes, Physiological effects, Method of application, Application of continuous & Surged Faradic, Dose & Duration of treatment, Indications & Contraindications. b) Galvanic- About the Galvanic type of current, Technical data, Descriptions of a Galvanic Stimulator, Physiological

		60. Demonstrate on placement of TENS and IFT pads for radiating and local pain respectively. 61. Methods of treatment. 62. Testing methods of all modalities.	effects, Method of application, application of continuous & Interrupted Galvanic, Dose & duration of treatment, Indications & Contraindications. c) T.E.N.S- Meaning of 'Transcutaneous', Description of a T.E.N.S., Physiological effects (along), Method of application (Trigger point stimulation method, Placements of T.E.N.S electrodes, Application of continuous, surged & burst mode. Dose & Duration of treatment, Indications & contraindications. d) I.F.T- Introduction, application, Indications & Contraindications. THERAPEUTIC MACHINE EXERCISE MACHINE CPM- continuous passive motion, Intro and uses.
Professional Skill 45 Hrs; Professional Knowledge 15 Hrs	15. Techniques of massage therapy.	63. Positioning of patient and therapist. 64. Techniques used in massage for upper and lower limb. 65. Illustrate a practical of massage on face for Bell's palsy patient. 66. Elaborate methods of trunk massage. 67. Precautions while giving massage.	MASSAGE THERAPY & REHABILITATION a) Definition of Massage b) Aim of Massage c) Physiological effects of Massage d) Therapeutic uses of Massage. e) Contraindications of Massage f) Materials used in Massage

		68. Rules and direction of massage. 69. Direction of using materials (oil, powder etc.) during massage. 70. Therapeutic application of massage.	(oil, powder, ice etc.) g) Rules & direction of Massage Types & parts of Massage
Professional Skill 170 Hrs; Professional Knowledge 25 Hrs	16. Exercise Carry out physiotherapy assessment and develop exercise regimen.	81. Show positioning of patient and therapist. 82. Perform Practical of different exercises with proper rules. 83. Rules and directions of exercises. 84. Demonstrate exercise to increase ROM by using continuous passive movement equipment. 85. Presentation of passive movements (manually). 86. Assessment of range of motion of major joints by using goniometer scales. 87. Perform active and active-assisted resisted movements. 88. Illustrate strengthening exercises by using weight-cuffs & thera bands for upper and lower limb joints. 89. Representation of quadriceps and hamstring resisted exercises on quadriceps chair and multipurpose chair. 90. Practical use of different	<u>EXERCISE THERAPY AND YOGA</u> 1. <u>Fundamental of exercise:</u> - Definition of therapeutic exercise. - Benefits of exercise. - Classification of exercise- active, passive, resistive, isometric, functional, stretching, isokinetic, closed-chain, open-chain etc. 2. <u>Applied exercise therapy</u> - Passive movements. - Goniometry. - Exercise with instrument. - Active movements, active-assisted movements. - Resistive exercise. - Co-ordination and balance. - Stretching exercise. - Techniques for chest physiotherapy. - Manual muscle testing. - Techniques of PNF (brief). - Indications and contraindications of passive movements. - Indications and contraindications of breathing exercise. - Grades of MMT.

		exercise equipment (e.g. Shoulder wheel, shoulder pulley, Swiss ball etc.) 91. Assessment of coordination and balance equilibrium and non-equilibrium tests. 92. Schedule exercise programs for stretching of major muscles (Manually). 93. Explain positioning of patient during postural drainage. 94. Collaborate chat draining techniques with postural drainage. 95. Practical based on breathing exercises. 96. Illustrate a practical on PNF techniques for upper and lower limbs. (brief). 97. Presentation of PNF techniques for trunk, face and neck. (brief) 98. Explanation of D₁ and D₂ patterns of PNF (brief) 99. Determination of grades of MMT for upper and lower limb. 100. Practical based on grading of MMT for trunk and abdominals. Identify MMT exercises for face.	Precautions while performing these exercises on patient.
Professional Skill 130	17. Traction therapy & preventive back	101. Execute testing of traction.	<u>Exercise Physiology</u>

Hrs; Professional Knowledge 20 Hrs	pain and abnormal gaits.	102.Demonstrate positioning of patient while giving traction. 103.Develop different methods of application of traction. 104.Impart skills of manual cervical and lumbar traction. 105.Instruct normal gait patterns. 106.Presentation of gate phases on floor. 107.Perform abnormal gaits. 108.Demonstrate a practical on walking aids (e.g. Crutches, walker). 109.Give a brief idea of parts of wheelchair. 110.Give guidelines for walking aids' usage for patients (e.g. Two step, three step etc.). 111.Design gait pattern for weight bearing and non-weight bearing. 112.Performance of gait training.	1. <u>Thermoregulation</u> a. Conduction, convection & evaporation. b. Homeostasis c. Physiological thermoregulation 2. <u>Respiration:</u> a. Muscles for inspiration and expiration. b. Static and Dynamic Lung volume. c. Gaseous exchange. 4. <u>Fatigue:</u> Types, symptoms, recovery. 5. <u>Endurance:</u> Definition, endurance training. 6. <u>Kinesiology & Biomechanics:</u> Basic terminologies. 7. Relaxation exercises. 8. <u>TRACTION:</u> Introductions, contraindications, therapeutic uses and effects. 9. Activities of daily living (in brief). 10. <u>Gait:</u> Definition, phases, abnormal gait patterns (in brief). <u>Walking aids:</u> Types, indications, precautions.
Professional Skill 85 Hrs;	18. Orthopedic & Neurological condition - Prepare assessment chart and rehabilitation	123.Display videos showing causes of clinical conditions. 124.Perform observational	<u>Applied Anatomy:</u> Causes, Deformity, loss of functions in following

Professional Knowledge 20 Hrs	protocol.	assessment in various conditions. 125. Demonstrate various orthopedically tests. 126. Demonstrate various sensory neurological tests. 127. Prepare a chart of orthopedic, neurology assessment. 128. Make a diagnosis after assessment & plan a treatment programme. 129. Develop home exercise programs. 130. Demonstrate precautions to be considered during and after treatment. 131. Develop ergonomics. 132. Evaluate the prognosis. 133. Make postures showing diagrammatical calculation of burn. 134. Calculate obesity according to BMI. 135. Clinical presentation in paraplegia, quadriplegia, hemiplegia, hemiparesis to differentiate it. 136. Plan antenatal and postnatal exercises.	conditions: - Carpal tunnel syndrome. - Erb's and Kulmpke palsy - De Quervain's disease. - Rotator cuff syndrome. - Wrist drop. - Trendelenburg's sign. - Tarsal tunnel syndrome. - Genu valgum/varum. - Coxa valgus/ Varus. - Foot drop. <u>ORTHO-NEURO-GENERAL</u> Orthopaedical condition: Etiology, C/F & physiotherapy management of the followings: - Kyphosis, Lordosis & Scoliosis - Cervical & Lumbar Spondylosis - Ankylosing Spondylosis - Tennis Elbow - Golfer's Elbow - Gout - Osteoarthritis - Rheumatoid Arthritis - Frozen Shoulder - Fracture (brief) - Dislocation & subluxation - Sprain, Strain - Tendonitis - Rickets - Osteomalacia - Osteomyelitis - Calcaneal Spur
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			(xviii) Flatfoot. Neurological Condition: Etiology, C/F, & Physiotherapeutic Management of the following: - Cerebral palsy - Hemiplegia - Paraplegia - Quadriplegia - Myalgia - Fibromyositis - Polio Myelitis - Parkinsonism - Bell's palsy - C.V.A/ Stroke - Upper & Lower Motor Neuron diseases - Peripheral Nerve Injury - Spinal Cord Injury - Sciatica - Pott's Spine General Condition: Etiology, C/F, Investigations & Physiotherapeutic Management of the following: - Obesity - Burns
Project work / Hospital visit Broad Areas: - Perform practical of different exercises. - Assessment of range of motion of major joints by using goniometer scales. - Prepare a chart of measurements of chest inspiration and expiration by using hands and inch tape at different chest levels. - Execute testing of traction. - Prepare a chart of orthopaedic, neurology assessment. - Calculate obesity according to BMI.			

SYLLABUS FOR CORE SKILLS
1. Employability Skills (Common for all CTS trades) (120 Hrs.)

Learning outcomes, assessment criteria, syllabus and Tool List of Employability Skills is provided separately in www.cstaricalcutta.gov.in / www.bharatskills.gov.in / www.dgt.gov.in

LIST OF TOOLS AND EQUIPMENT			
PHYSIOTHERAPY TECHNICIAN (For batch of 24 Candidates)			
S No.	Name of the Tools and Equipment	Specification	Quantity
1.	Diagram of – Modalities (i) Human System (ii) Exercises Charts		1 set
2.	Wax bath		1 no.
3.	I. R. Radiator		1 no.
4.	Short wave Diathermy unit		1 no.
5.	Electric Muscle Nerve Stimulator		1 no.
6.	Battery	6 V & 12V	2 nos.
7.	Battery Eliminator	6 V, 9 V, 12 V	2 nos.
8.	Traction table,		1 nos.
9.	Weight Machine		1 no.
10.	Sphygmomanometer		1 no.
11.	Apparatus for various exercises- shoulder wheel		1 set
12.	Shoulder pulley		1 set
13.	Wall ladder		1 set
14.	Swiss ball		1 set
15.	Pronator-Supinator exerciser		1 set assorted
16.	Durra mats & therabands		12nos.
17.	Table& Mannequin full body		1 no.
18.	Chair with (Dual Desk)		12+1nos.
19.	Cupboard		2 nos.
20.	IFT (Interferential Therapy)		1 no.
21.	TENS (Trans Electronic Nerve Stimulator)		1 no.
22.	Ultrasonic m/c		1 no.
23.	Weight cuffs		1 set
24.	Hydrocollator Unit		2set
25.	Quadriceps Chair		1 no.
26.	CPM & LASER		1 no.
27.	Students Lockers		24 nos.

28.	Instructor Chair		1 no.
29.	Instructor Table		1 no.
30.	Smart Board		1 no.

Note:

1. Internet facility is desired to be provided in the class room.

The DGT sincerely acknowledges contributions of the Industries, State Directorates, Trade Experts, Domain Experts, trainers of ITIs, NSTIs, faculties from universities and all others who contributed in revising the curriculum.

Special acknowledgement is extended by DGT to the following expert members who had contributed immensely in this curriculum.

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ABBREVIATIONS	
CTS	Craftsmen Training Scheme
ATS	Apprenticeship Training Scheme
CITS	Craft Instructor Training Scheme
DGT	Directorate General of Training
MSDE	Ministry of Skill Development and Entrepreneurship
NTC	National Trade Certificate
NAC	National Apprenticeship Certificate
NCIC	National Craft Instructor Certificate
LD	Locomotor Disability
CP	Cerebral Palsy
MD	Multiple Disabilities
LV	Low Vision
HH	Hard of Hearing
ID	Intellectual Disabilities
LC	Leprosy Cured
SLD	Specific Learning Disabilities
DW	Dwarfism
MI	Mental Illness
AA	Acid Attack
PwD	Person with disabilities

