



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- 4



SECTOR –HEALTHCARE

PHYSIOTHERAPY TECHNICIAN

(Non-Engineering Trade)

(Revised in 2018)


CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL - 4

Skill India
कौशल भारत - कुशल भारत

Developed By

Ministry of Skill Development and Entrepreneurship

Directorate General of Training

CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE

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1. COURSE INFORMATION

During one year duration of “Physiotherapy Technician” trade, a candidate is trained on Professional Skill, Professional Knowledge and Employability Skill. In addition to this, a candidate is entrusted to undertake project work, extracurricular activities and on-the-job training to build up confidence. The broad components covered related to the trade are categorized in two semester each of six months duration. The semester wise course coverage is categorized as below:-

1st Semester – In this semester, the trainee learns to operate suitable tools and equipment and evaluate the basic outline of Physiotherapy, develop a vocabulary of appropriate terminology, trainee will be able to analyze and assemble the components of skeleton system, 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 be 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 be 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 UTS and also plan a regimen to stimulate muscle. Trainee will be able to assess and create a message therapy.

2nd Semester – In this semester the trainee will be able to carry out Physiotherapy assessment and treatment, develop exercise regimen, establish a treatment plan and also be able to examine the strength of muscles. Trainee will be able to design remedy for back pain and also be able to perform gait training. They will prepare assessment chart and rehabilitation protocol.

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 National Council of Vocational Training (NCVT). Craftsman Training Scheme (CTS) and Apprenticeship Training Scheme (ATS) are two pioneer programmes of NCVT for propagating vocational training.

‘Physiotherapy Technician’ trade under CTS is one of the popular courses delivered nationwide through the network of ITIs. The course is of one year (02 semester) duration. It mainly consists of Domain area and Core area. In the Domain area, Trade Theory & Practical impart professional skills and knowledge, while Core area (Employability Skills) imparts requisite core skill, knowledge and life skills. After passing out the training programme, the trainee is awarded National Trade Certificate (NTC) by NCVT which is recognized worldwide.

Candidates broadly need 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 CAREER PROGRESSION PATHWAYS

- Can join Apprenticeship programme in different types of industries leading to National Apprenticeship Certificate (NAC).
- Can join Crafts Instructor Training Scheme (CITS) in the trade for becoming instructor in ITIs.

2.3 COURSE STRUCTURE

Table below depicts the distribution of training hours across various course elements during a period of one year (02 semesters):

S No.	Course Element	Notional Training Hours
1	Professional Skill (Trade Practical)	1290
2	Professional Knowledge (Trade Theory)	258
3	Employability Skills	110
5	Library & Extracurricular Activities	62
6	Project Work	200
7	Revision & Examination	160
	Total	2080

2.4 ASSESSMENT & CERTIFICATION

The trainee will be tested for his skill, knowledge and attitude during the period of course and at the end of the training programme, as notified by Govt. of India from time to time. The Employability Skills will be tested in the first two semesters itself.

a) The **Internal Assessment** during the period of training will be done by **Formative Assessment Method** by testing for assessment criteria listed against learning outcomes. The training institute have to maintain individual *trainee portfolio* as detailed in assessment guideline. The marks of internal assessment will be as per the template (Annexure – II).

b) The final assessment will be in the form of summative assessment method. The All India Trade Test for awarding NTC will be conducted by NCVT at the end of each semester as per guideline of Govt. of India. The pattern and marking structure is being notified by Govt. of India 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

The minimum pass percentage for Practical is 60% & minimum pass percentage for Theory subjects is 40%. For the purposes of determining the overall result, 50% weightage is applied to the result of each semester examination.

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 OSHE and self-learning attitude are to be considered while assessing competency.

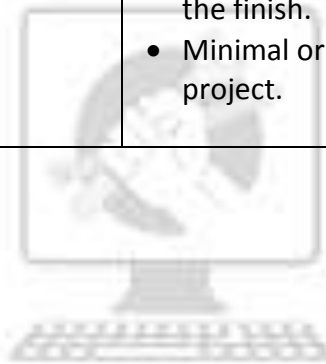
Assessment will be evidence based comprising the following:

- Job carried out in labs/workshop
- Record book/ daily diary
- Answer sheet of assessment
- Viva-voce
- Progress chart
- Attendance and punctuality
- Assignment
- Project work

Evidences of internal assessments are to be preserved until forthcoming semester examination for audit and verification by examination body. The following marking pattern to be adopted while assessing:

Performance Level	Evidence
(a) Weightage in the range of 60 -75% to be allotted during assessment	
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	<ul style="list-style-type: none"> • Demonstration of good skill in the use of hand tools, machine tools and workshop equipment. • Below 70% tolerance dimension 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.
(b)Weightage in the range of 75% - 90% to be allotted during assessment	
For this grade, a candidate should produce work which demonstrates attainment of a reasonable standard of craftsmanship, with little guidance, and regard for safety	<ul style="list-style-type: none"> • Good skill levels in the use of hand tools, machine tools and workshop equipment. • 70-80% tolerance dimension achieved while undertaking different work with those

<p>procedures and practices</p>	<p>demanded by the component/job.</p> <ul style="list-style-type: none"> • A good level of neatness and consistency in the finish. • Little support in completing the project/job.
<p>(c) Weightage in the range of above 90% to be allotted during assessment</p>	
<p>For performance in this grade, the candidate, with minimal or no support in organization, execution and with due regard for safety procedures and practices, has produced work which demonstrates attainment of a high standard of craftsmanship.</p>	<ul style="list-style-type: none"> • High skill levels in the use of hand tools, machine tools and workshop equipment • Above 80% tolerance dimension 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.





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Assistant Physiotherapist

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



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4. GENERAL INFORMATION

Name of the Trade	Physiotherapy Technician
NCO - 2015	3255.0101
NSQF Level	Level 4
Duration of Craftsmen Training	1 Year (2 Semesters)
Entry Qualification	Passed 10 th class examination under 10+2 System of education
Unit Strength (No. of Students)	20 (Max. supernumeraries seats: 6)
Space Norms	100 Sq. m
Power Norms	3.0 KW
Instructors Qualification for:	
(i) Physiotherapy Technician	<p>Degree or Diploma from recognised university/ board in physiotherapy with 1 or 2 years post qualification experience respectively.</p> <p style="text-align: center;">OR</p> <p>NTC/NAC passed in the relevant trade with 3 years post qualification experience.</p> <p>Desirable: Preference will be given to a candidate with Craft Instructor Certificate (CIC).</p> <p>Note: <i>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></p>
(ii) Employability Skill	<p>MBA OR BBA with two-year experience OR Graduate in Sociology/ Social Welfare/ Economics with two-year experience OR Graduate/ Diploma with two-year experience and trained in Employability Skills from DGT institutes.</p> <p style="text-align: center;">AND</p> <p>Must have studied English/ Communication Skills and Basic Computer at 12th/ Diploma level and above.</p> <p style="text-align: center;">OR</p> <p>Existing Social Studies Instructors duly trained in Employability Skills from DGT institutes.</p>

Distribution of training on Hourly basis: (Indicative only)				
Total hrs /week	Trade Practical	Trade Theory	Employability Skills	Extra-curricular Activity
40 Hours	30 Hours	6 Hours	2 Hours	2 Hours



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5. NSQF LEVEL COMPLIANCE

NSQF level for **Physiotherapy Technician** trade under CTS: **Level 4**

As per notification issued by Govt. of India dated- 27.12.2013 on National Skill Qualification Framework total 10 (Ten) Levels are defined.

Each level of the NSQF is associated with a set of descriptors made up of five outcome statements, which describe in general terms, the minimum knowledge, skills and attributes that a learner needs to acquire in order to be certified for that level.

Each level of the NSQF is described by a statement of learning outcomes in five domains, known as level descriptors. These five domains are:

- a. Process
- b. Professional Knowledge
- c. Professional Skill
- d. Core Skill and
- e. Responsibility

The broad learning outcome of **Physiotherapy Technician** trade under CTS mostly matches with the Level descriptor at Level- 4.

The NSQF level-4 descriptor is given below:

Level	Process Required	Professional Knowledge	Professional Skill	Core Skill	Responsibility
Level 4	Work in familiar, predictable, routine, situation of clear choice	Factual knowledge of field of knowledge or study	Recall and demonstrate practical skill, routine and repetitive in narrow range of application, using appropriate rule and tool, using quality concepts	Language to communicate written or oral, with required clarity, skill to basic Arithmetic and algebraic principles, basic understanding of social political and natural environment	Responsibility for own work and learning

6. LEARNING/ ASSESSABLE OUTCOME

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

6.1 GENERIC LEARNING OUTCOME

1. Apply safe working practices.
2. Comply with environment regulation and housekeeping.
3. Interpret & use company and medical communication.
4. Understand and apply the concept in productivity, quality tools, and labour welfare legislation in day-to-day work to improve productivity & quality.
5. Explain energy conservation, global warming and pollution and contribute in day-to-day work by optimally using available resources.
6. Explain personal finance, entrepreneurship and manage/organize related task in day-to-day work for personal & societal growth.
7. Utilize basic computer applications and internet to take benefit of IT developments in the industry.

6.2 SPECIFIC LEARNING OUTCOME

8. Operate using suitable tools and equipments with basic outline of physiotherapy and develop a vocabulary of appropriate terminology.
9. Analyze and assemble the components of skeleton system.
10. Analyze the joints by using X-Ray films.
11. Differentiate various muscles.
12. Recognize basic cell structure and its organelles.
13. Identify the major neural tissues.
14. Relate the anatomical position of circulatory system on mannequin.
15. Categorize foods according to nutrients and assemble organs of digestive system.
16. Illustrate respiratory system.
17. Arrange organs on dummy of excretory and reproductive system.
18. Design a treatment plan for stiff parts of body.
19. Illustrate the effects of IRR.
20. Execute remedial effects of cryotherapy.
21. Abstract benefits of SWD.
22. Lay out therapeutic uses of UST.
23. Plan a regimen to stimulate muscles.
24. Assess and create a massage therapy.

25. Carry out physiotherapy assessment and develop exercise regimen.
26. Design remedy for back pain and abnormal gaits.
27. Prepare assessment chart and rehabilitation protocol.



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7. LEARNING OUTCOME WITH ASSESSMENT CRITERIA

GENERIC LEARNING/ ASSESSABLE OUTCOME	
LEARNING/ ASSESSABLE OUTCOME	ASSESSMENT CRITERIA
1. Apply safe working practices	1.1 Follow and maintain procedures to achieve a safe working environment in line with occupational health and safety regulations and requirements, and according to policy.
	1.2 Recognize and report all unsafe situations according to policy.
	1.3 Identify and take necessary precautions on fire and safety hazards and report according to work policy and procedures.
	1.4 Identify, handle and store/ dispose of dangerous goods and substances according to policy and procedures following safety regulations and requirements.
	1.5 Identify and observe policies and procedures with regard to illness or accident.
	1.6 Identify safety alarms accurately.
	1.7 Report supervisor/ Competent of authority in the event of accident or sickness of any staff and record accident details correctly according to accident/injury procedures.
	1.8 Identify and observe evacuation procedures according to site policy.
	1.9 Identify Personal Protective Equipment (PPE) and use the same as per related working environment.
	1.10 Identify basic first-aid and use them under different circumstances.
	1.11 Identify different fire extinguisher and use the same as per requirement.
2. Comply with environment regulation and housekeeping	2.1 Identify environmental pollution & contribute to the avoidance of instances of environmental pollution.
	2.2 Deploy environmental protection legislation & regulations.
	2.3 Take opportunities to use energy and materials in an environmentally friendly manner.
	2.4 Avoid waste and dispose waste as per procedure.
	2.5 Recognize different components of 5S and apply the same in the working environment.
3. Interpret & use company and medical communication.	3.1 Demonstrate elementary first-aids.
	3.2 Demonstrate safety practices to be observed in kitchen.
	3.3 Demonstrate use of personal protective dresses.
	3.4 Identify emergency exit route.

3.5 Demonstrate fire fighting procedure using fire extinguishers.	
4. Understand and apply the concept in productivity, quality tools and labour welfare legislation in day-to-day work to improve productivity & quality.	4.1 Semester examination to test the concept in productivity, quality tools and labour welfare legislation.
	4.2 Applications will be assessed during execution of assessable outcome.
5. Explain energy conservation, global warming and pollution and contribute in day-to-day work by optimally using available resources.	5.1 Semester examination to test knowledge on energy conservation, global warming and pollution.
	5.2 Their applications will be assessed during execution of assessable outcome.
6. Explain personnel finance, entrepreneurship and manage/organize related task in day-to-day work for personal & societal growth.	6.1 Semester examination to test knowledge on personnel finance, entrepreneurship.
	6.2 Their applications will be assessed during execution of assessable outcome.
7. Utilize basic computer applications and internet to take benefit of IT developments in the Industry.	7.1 Semester examination to test knowledge on basic computer working, basic operating system and uses internet services.
	7.2 Their applications will be assessed during execution of assessable outcome.

SPECIFIC LEARNING/ ASSESSABLE OUTCOME	
LEARNING/ ASSESSABLE OUTCOME	ASSESSMENT CRITERIA
SEMESTER-I	
8. Operate using suitable tools and equipments with basic outline of physiotherapy and develop a vocabulary of appropriate terminology.	8.1 Identify tools, modalities and equipments to be used in physiotherapy.
	8.2 Perform anatomical and fundamental positions.
	8.3 Explain the divisions and sub-divisions of human body.
	8.4 Clarify terms used in relation to trunk, neck, face, upper and lower limb.
9. Analyze and assemble the components of skeleton system.	9.1 Identify the bones of the body.
	9.2 Assemble bones of upper limb.
	9.3 Assemble bones of lower limb.
	9.4 Differentiate bones of left and right side.
	9.5 Recognize all parts of bones.
10. Analyze the joints by using X-Ray films.	10.1 Identify the bones and joints on X-Ray films.
	10.2 Arrange bones to form joints of upper and lower limb.
	10.3 Recognize the views of X-Ray films.
	10.4 Distinguish normal and abnormal X-Rays.
	10.5 Identify the bones and joints on X-Ray films.
	10.6 Arrange bones to form joints of upper and lower limb.
11. Differentiate various muscles.	11.1 Recall the names of major muscles of lower limb, upper limb, trunk, abdomen, neck and face.
	11.2 Categorize types of muscles according to their structure.
	11.3 Perform movements of all joints and relate them with muscle's actions.
12. Recognize basic cell structure and its organelles.	12.1 Identify human cell and its organelles.
	12.2 Able to give presentation on different types of tissues.
	12.3 List the name of skin layers.
13. Identify the major	13.1 Memorize all parts of brain and spinal cord.

	13.2 Perform superficial and deep reflexes.
	13.3 Write reports for cranial and spinal nerves.
	13.4 Demonstrate the body parts supplied by peripheral nerves.
	13.5 Perform assessment of pain by using pin prick etc.
14. Relate the anatomical position of circulatory system on mannequin.	14.1 List the names of chambers of heart.
	14.2 Demonstrate the physiology of heart with its valves by using charts.
	14.3 Check radial and femoral pulse.
	14.4 Measure blood pressure by using sphygmomanometer.
15. Categorize foods according to nutrients and assemble organs of digestive system.	15.1 Differentiate food and nutrition.
	15.2 Find the images of patients suffering from deficiency of nutrients.
	15.3 Exemplify food items according to nutrients.
	15.4 Recognize and arrange organs of digestive system on dummy.
16. Illustrate respiratory system.	16.1 List the name of organs of respiratory system.
	16.2 Memorize ribs movements.
	16.3 Assesses respiratory rate, inspiration and expiration of chest.
17. Arrange organs on dummy for excretory system and reproductive system.	17.1 Read about the organs of excretory system and human reproductive system.
	17.2 Assemble organs on dummy.
18. Design a treatment plan for stiff parts of body.	18.1 Set up hot packs in a hydrocollator tank.
	18.2 Prepare and apply hot packs with proper precautions.
	18.3 Check patient's skin sensitivity before applying hot packs and wax bath.
	18.4 Illustrate the procedure of hot packs and wax bath.
	18.5 Make a proper covering over wax with cloth or newspaper.
	18.6 Demonstrate the procedure of removal of wax bath/hot pack and place them back into wax bath tub/ hydrocollator tank respectively.
19. Illustrate the effects of IRR.	19.1 Knows the concept of IRR.
	19.2 Consider indications of IRR before treatment.
	19.3 Demonstrate the positioning of patient during treatment.
	19.4 Plan a proper distance of IRR placement from skin of patient with precautions.
20. Execute remedial	20.1 Assess skin or tissue injury before applying ice.

effects of cryotherapy.	20.2	Select the relevant method of icing according to the injury and contour of human body.
	20.3	Record the timing of the icing.
21. Abstract benefits of SWD.	21.1	Check all the parts of SWD.
	21.2	Check the position of cable and electrodes.
	21.3	Prepare positioning of patient.
	21.4	Perform testing of modality.
	21.5	Perform different methods of application of electrodes.
	21.6	Demonstrate how to wind up the machine after the procedure.
22. Lay out therapeutic use of UST.	22.1	Select the frequency for superficial and deep tissues.
	22.2	Demonstrate the procedure of ultrasonic modality in different frequencies with precautions.
	22.3	Present how to apply ultrasonic gel and phonophoresis.
	22.4	Perform different methods of testing of modality.
23. Plan and regimen to stimulate muscles.	23.1	Illustrate the test of muscle stimulator, TENS and IFT.
	23.2	Demonstrate the working of muscle stimulator for different muscle conditions.
	23.3	Check all the leads of modality before applying.
	23.4	Prepare positioning of patient.
	23.5	Present position of electrodes of TENS, IFT in pain conditions.
	23.6	Check patient's skin sensitivity before applying modalities.
	23.7	Perform a practice on different areas of body.
	23.8	Perform different methods of application of IFT.
24. Assesses and create a message therapy.	24.1	Assemble the materials to be used in massage (e.g. sheets, oil, powder etc.)
	24.2	Plan a proper positioning of patient and therapist during massage of trunk, face, upper and lower limb.
	24.3	Demonstrate different techniques of message with precautions.
SEMESTER- II		
25. Carry out Physiotherapy assessment and develop exercise regimen.	25.1	Demonstrate exercises to increase ROM manually or by using CPM.
	25.2	Schedule measurement of range of motion by using goniometer, inclinometer and inch tape.
	25.3	Perform active and active assisted movements.
	25.4	Plan exercises according to patient strength.
	25.5	Perform strengthening exercises for quadriceps and hamstrings muscles on Quadriceps chair.
	25.6	Exhibit equilibrium and non-equilibrium tests for

	coordination.
	25.7 Demonstrate exercises with shoulder wheel, pulleys, Swiss ball, hand dynamometer etc.
	25.8 Test and measure inspiration and expiration of chest with inch tape and practice postural drainage and breathing exercise.
	25.9 Perform practice to make muscle flexible.
	25.10 Plan and execute PNF techniques and MMT.
26. Design remedy for back pain and abnormal gait.	26.1 Prepare a chart of relaxation techniques with its therapeutic indications.
	26.2 Recognize traction table.
	26.3 Demonstrate testing of traction for cervical and lumbar region.
	26.4 Perform various methods of traction e.g manual traction, static, intermittent, mechanical, positioning traction etc.
	26.5 Presentation of calculation of body weight to be used for traction.
	26.6 Demonstrate normal and abnormal gait patterns.
	26.7 Perform gait patterns with walking aids for weight and non-weight bearing.
	26.8 Demonstrate assistance provided by therapist to patient during mobility.
27. Prepare assessment chart and rehabilitation protocol.	27.1 Demonstrate personal history of a patient.
	27.2 Apply clinical reasoning through the process of assessment, problem identification and treatment planning..
	27.3 Use the observations, examinations and medical history to evaluate the patient's condition and needs.
	27.4 Prepare an assessment chart for orthopaedic, neurological and cardio pulmonary conditions.
	27.5 Make a differential diagnosis with relevant tests.
	27.6 Make a provisional diagnosis.
	27.7 Plan and prepare intervention program for various conditions.
	27.8 Understand the rule of nine of burn.
	27.9 Memorize the classification of obesity with BMI calculation.
	27.10 Plan exercises for gynaecological conditions and bring them into practice.
	27.11 Evaluate a patient's home or workplace activities and identify how it can be better suited to the patient's health needs.

SYLLABUS – PHYSIOTHERAPY TECHNICIAN			
FIRST SEMESTER – 06 Months			
Week No.	Reference Learning outcome	Professional Skills (Trade Practical) With Indicative Hours	Professional Knowledge (Trade Theory)
1	<ul style="list-style-type: none"> Operate using suitable tools and equipments with basic outline of physiotherapy and develop a vocabulary of appropriate terminology. 	<ol style="list-style-type: none"> Identification of electrotherapy modalities (03 hrs) Cataloging of exercise tools and equipments. (04 hrs) Draw human body and label its parts. (07 hrs) Demonstration of planes, axis, anatomical and fundamental positions. (08 hrs) Sketch planes, anatomical and fundamental positions. (08 hrs) 	<p><u>Introduction</u></p> <ol style="list-style-type: none"> Definition of Physiotherapy, terms of Physiotherapy: Electrotherapy, Exercise-therapy, Massage-Therapy, Ergonomics, Rehabilitation. Definition of Electrotherapy, safety precautions in Electrotherapy. Name of modalities which are used in physiotherapy. <p><u>Introduction to Anatomy/Physiology</u></p> <ol style="list-style-type: none"> Definition and subdivisions of anatomy. Anatomical and fundamental position. Anatomical regions, section and planes. The descriptive anatomical terms.
2-3	<ul style="list-style-type: none"> Analyze and assemble the components of skeleton system. 	<ol style="list-style-type: none"> Demonstrate skeleton system. (15 hrs) List the names, side determination and parts of all bones of upper limb and lower limb. (20 hrs) Identification side determination and parts of bones of skull, vertebral column and thorax. (25 hrs) 	<p><u>Osteology</u></p> <ol style="list-style-type: none"> Skeleton system. Structure, functions and classification of bone and cartilage. Name of human bones. Side determination and parts of bones of upper limb, lower limb, skull, vertebral column and thorax.
4	<ul style="list-style-type: none"> Analyze the joints by using X-Ray films. 	<ol style="list-style-type: none"> Presentation of joints formation by using bones. (12 hrs) Trace diagrams of major joints of human body. (13 hrs) Perform X-Ray practical by using X-Ray films- 	<p><u>Orthology</u></p> <ol style="list-style-type: none"> Definition and classification of joints. The terms related to the movements of joints. Description of joints of upper and lower extremities with

		<ul style="list-style-type: none"> ➤ Recognize bones. ➤ Identify of joints. ➤ Demonstration of some normal and abnormal X-ray plates. (05 hrs) 	their ligaments.
5-6	<ul style="list-style-type: none"> • Differentiate various muscles. 	12. Show muscles structure with proper labelling. (12 hrs) 13. Demonstration of major muscles of upper limb. (12 hrs) 14. Demonstration of major muscles of lower limb. (12 hrs) 15. Identify major muscles of abdomen trunk, thorax, neck and face with diagram. (24 hrs)	<u>Myology</u> a) Macroscopic and microscopic structure of muscle. b) Classification of muscles. c) Parts of muscle. d) Neuromuscular junction. e) Sliding contraction theory. f) Description of all major muscles with their origin, insertion, nerve supply and action.
7	<ul style="list-style-type: none"> • Recognize basic cell structure and its organelles. 	16. Sketch labelled picture of cell. (10 hrs) 17. Microscopic diagram of different tissues e.g. Connective tissues, muscular tissues, nervous tissues etc.(11 hrs) 18. Make postures of skin. (06 hrs) 19. Videos of cell structure. (03 hrs)	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. c) Temperature regulation system.
8-9	<ul style="list-style-type: none"> • Identify the major neural tissues. 	20. Idea of reflexes and their examination. (12 hrs) 21. Demonstration and A.V. display. (12 hrs) 22. Display charts of Nervous system (09 hrs) 23. Representation of neuron, brain, spinal cord, reflex arc, plexus. (12 hrs) 24. Pain assessment (15 hrs)	<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 barrier. e) Structure of a nerve, Cranial nerves (names and functions) and spinal nerves (Introduction). f) Nerve plexus of the body

			<p>with their distributions (cervical plexus, brachial plexus, lumbosacral plexus).</p> <p>g) About the nerve fibres, motor and sensory.</p> <p>h) Blood circulation of brain and spinal cord.</p>
10	<ul style="list-style-type: none"> Relate the anatomical position of circulatory system on mannequin. 	<p>25. Designing of charts of heart structure and circulation. (06 hrs)</p> <p>26. Description of heart location and position by using mannequin.(06 hrs)</p> <p>27. A.V. display of blood circulation.(06 hrs)</p> <p>28. Pulse and blood pressure examination.(12 hrs)</p>	<p><u>Circulatory system</u></p> <p>a) Structure and function of heart.</p> <p>b) Nodes of heart, heart rates and heart sound.</p> <p>c) Physiology of heart circulation.</p> <p>d) Blood pressure and the influencing factors.</p> <p>e) Composition and function of blood.</p> <p>f) Circulatory system of body.</p>
11	<ul style="list-style-type: none"> Categorize foods according to nutrients and assemble organs of digestive system. 	<p>29. Make a balance diet chart for different age groups. (06 hrs)</p> <p>30. Display the organs of digestive system on mannequin. (06 hrs)</p> <p>31. Demonstration and A.V. display. (06 hrs)</p> <p>32. Figuration of main and accessory organs of digestive system. (12 hrs)</p>	<p><u>Food and nutrition</u></p> <p>a) Definition of food and nutrition.</p> <p>b) Carbohydrate, protein, fat, minerals, vitamins, water with example and brief description.</p> <p>c) Balanced diet.</p> <p><u>Digestive system</u></p> <p>a) Structure and functions of digestive organs.</p> <p>b) Absorption and metabolism (in brief)</p>
12	<ul style="list-style-type: none"> Illustrate respiratory system. 	<p>33. Show the organs of respiratory system on mannequin. (06 hrs)</p> <p>34. Display respiratory mechanism by using videos. (06 hrs)</p> <p>35. Measure chest inspiration and expiration with inch tape. (06 hrs)</p> <p>36. Respiratory rate examination.(06 hrs)</p> <p>37. Portrait charts of organs of respiratory system. (06 hrs)</p>	<p><u>Respiratory system</u></p> <p>a) Structure and function.</p> <p>b) Process of respiration.</p> <p>c) Cardio-respiratory relation.</p> <p>d) Artificial respiration.</p> <p>e) Neurological control.</p> <p>f) Volumes and capacities values of respiration.</p> <p><u>Endocrinology</u></p> <p>a) Definition, character and function of Hormones.</p> <p>b) About the hormone secreting glands (in brief).</p>

13	<ul style="list-style-type: none"> • Arrange organs on dummy of excretory and reproductive system. 	<p>38. Explanation of parts of excretory and reproductive system on mannequin. (12 hrs)</p> <p>39. Presentation and A.V. videos of excretory system. (06 hrs)</p> <p>40. Micturition reflex by showing charts. (12 hrs)</p>	<p><u>Excretory system</u></p> <p>a) Structure and function of kidney.</p> <p>b) Organs of excretory system.</p> <p>c) Structure of nephron.</p> <p>d) Formation of Urine</p> <p>e) Micturition</p> <p><u>Gynaecology and obstetrics</u></p> <p>a) Pelvic floor muscles(names)</p> <p>b) Introduction of human reproductive system (in brief).</p> <p>c) Physiology of pregnancy.</p>
14	<ul style="list-style-type: none"> • Design a treatment plan for stiff parts of body. 	<p>41. Prepare hot packs. (05 hrs)</p> <p>42. Preparation of patient.(03 hrs)</p> <p>43. Application of hot packs at different regions of body. (03 hrs)</p> <p>44. Plan precautions while giving treatment to patient. (03 hrs)</p> <p>45. Assessment of the affected part before applying wax bath. (05 hrs)</p> <p>46. Perform Techniques of wax bath for instance with brush, bowl etc. (05 hrs)</p> <p>47. Application of wax bath with precautions and proper layering and thickness, removal of wax. (06 hrs)</p>	<p><u>Thermotherapy</u></p> <p><u>Superficial heating agents</u></p> <p>a) <u>Hot packs:</u> Physiological effects, indications and contraindications. Types of hot packs (hydrocollators, hot water bag, electrical heating pads) with their techniques of application</p> <p>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.</p>
15	<ul style="list-style-type: none"> • Illustrate the effects of IRR. 	<p>48. Application of IRR with precautions. (18 hrs)</p> <p>49. Show different positions of patient during treatment. (06 hrs)</p> <p>50. Placement of IRR at proper distance from skin. (06 hrs)</p>	<p>a) <u>Infra-Red Radiation:</u> About the infra-red rays, sources of infra-red rays, technical data, physiological effects, techniques of application, termination of IRR, Indications and contra indications.</p>
16	<ul style="list-style-type: none"> • Execute remedial effects of cryotherapy. 	<p>51. Practice on preparation and application of ice pack, cold pack, ice towels, ice bath, ice cube massage according to the contour of the body.</p>	<p><u>Cryotherapy</u></p> <p>a) Physiological effects.</p> <p>b) Methods of application (Ice pack, cold pack, ice towels, ice bath, ice cube massage,</p>

		(12 hrs) 52. Practice of preparation of patient.(06 hrs) 53. Plan precautions while giving treatment. (12 hrs)	vapo coolant sprays) c) Cryokinetics. d) Indications and contraindications.
17	<ul style="list-style-type: none"> Abstract benefits of SWD. 	54. Explanation of all parts of SWD. (06 hrs) 55. Testing of SWD. (04 hrs) 56. Positioning of patient and placement of electrodes. (06 hrs) 57. Flow chart of SWD circuit. (06 hrs) 58. SWD cable methods. (06 hrs) 59. Precautions. (02 hrs)	Deep heating agents A) S.W.D.: meanings of Short-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.
18	<ul style="list-style-type: none"> Lay out therapeutic uses of UST. 	60. Methods of testing. (06 hrs) 61. Methods of application. (06 hrs) 62. Handling and operating of UST modality with precautions. (12 hrs) 63. Precaution of patient. (06 hrs)	B) M.W.D- Introduction. 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.
19-21	<ul style="list-style-type: none"> Plan a regimen to stimulate muscles. 	64. Practice on muscle stimulator for major muscles of upper limb and lower limb. (15 hrs) 65. Preparation of patient (05 hrs) 66. Demonstration of muscles stimulator on face. (05 hrs) 67. Plan precautions during treatment (15 hrs) 68. Practice on placement of electrodes with using proper gel. (15 hrs) 69. Create difference between TENS and IFT for pain producing conditions. (12	Stimulators- a) Faradic - About the Faradic type of current, Technical data's, Description of a Faradic Stimulator & Electrodes, Physiological effects, Method of application, Application of continuous & Surged Faradic, Dose & Duration of treatment, Indications & Contraindications.

		<p>hrs)</p> <p>70. Demonstrate on placement of TENS and IFT pads for radiating and local pain respectively. (13 hrs)</p> <p>71. Methods of treatment. (05 hrs)</p> <p>72. Testing methods of all modalities. (05 hrs)</p> 	<p>b) Galvanic- About the Galvanic type of current, Technical data, Descriptions of a Galvanic Stimulator, Physiological effects, Method of application, application of continuous & Interrupted Galvanic, Dose & duration of treatment, Indications & Contraindications.</p> <p>c) T.E.N.S- Meaning of 'Transcutaneous', Description of a T.E.N.S., Physiological effects (along with pain gate Theory), Method of application (Trigger point stimulation method, Acupuncture point stimulation method etc.), Placements of T.E.N.S electrodes, Application of continuous, surged & burst mode. Dose & Duration of treatment, Indications & contraindications.</p> <p>d) I.F.T- Introduction, application, Indications & Contraindications.</p>
22-23	<ul style="list-style-type: none"> Asses and create a massage therapy 	<p>73. Positioning of patient and therapist. (06 hrs)</p> <p>74. Techniques used in massage for upper and lower limb. (12 hrs)</p> <p>75. Illustrate a practical of massage on face. (07 hrs)</p> <p>76. Elaborate methods of trunk massage. (09 hrs)</p> <p>77. Precautions while giving massage. (08 hrs)</p> <p>78. Rules and direction of</p>	<p>MASSAGE THERAPY & REHABILITATION</p> <p>a) Definition of Massage</p> <p>b) Aim of Massage</p> <p>c) Physiological effects of Massage</p> <p>d) Therapeutic uses of Massage.</p> <p>e) Contraindications of Massage</p> <p>f) Materials used in Massage (oil, powder, ice etc.)</p>

		<p>massage. (03 hrs)</p> <p>79. Direction of using materials (oil, powder etc.) during massage. (03 hrs)</p> <p>80. Therapeutic application of massage. (12 hrs)</p>	<p>g) Rules & direction of Massage</p> <p>h) Types of Massage</p>
24	<p>Project work/ Hospital visit</p> <p>Broad Areas:</p> <p>a) Operate using suitable tools and equipments and evaluate the basic outline of Physiotherapy.</p> <p>b) Draw human body and label its parts.</p> <p>c) List the names, side determination and parts of all bones of upper limb and lower limb.</p> <p>d) Perform X-Ray practical by using X-Ray films-</p> <ul style="list-style-type: none"> • Recognize bones. • Identify joints. • Demonstration of some normal and abnormal X-ray plates. <p>e) Designing of charts of heart structure and circulation.</p> <p>f) Make a balanced diet chart for different age groups.</p>		
25	Revision		
26	Examination		

Skill India

कौशल भारत - कुशल भारत

SYLLABUS –PHYSIOTHERAPY TECHNICIAN

SECOND SEMESTER – 06 Month

Week No.	Reference Learning Outcome	Professional Skills (Trade Practical) With Indicative Hours	Professional Knowledge (Trade Theory)
27-33	<ul style="list-style-type: none"> Carry out physiotherapy assessment and develop exercise regimen. 	81. Show positioning of patient and therapist. (06 hrs) 82. Perform Practical of different exercises. (06 hrs) 83. Rules and directions of exercises. (06 hrs) 84. Demonstrate exercise to increase ROM by using continuous passive movement equipments. (06 hrs) 85. Presentation of passive movements (manually). (07 hrs) 86. Assessment of range of motion of major joints by using goniometer scales. (07 hrs) 87. Perform measurement of spine ROM by using inch tape. (05 hrs) 88. Exhibit active and active-assisted movements.(03 hrs) 89. Illustrate strengthening exercises by using weight-cuffs for upper and lower limb joints.(03 hrs) 90. Perform strengthening exercises by utilizing thera bands/ thera tubes. (07 hrs) 91. Demonstrate resisted exercises (manually).(05 hrs) 92. Representation of quadriceps and hamstring resisted exercises on quadriceps chair and	<u>EXERCISE THERAPY AND YOGA</u> 1. <u>Fundamental of exercise:</u> a. Definition of therapeutic exercise. b. Benefits of exercise. c. Classification of exercise-active, passive, resistive, isometric, functional, stretching, isokinetic, closed-chain, open-chain etc. 2. <u>Applied exercise therapy</u> a. Passive movements. b. Goniometry. c. Exercise with instrument. d. Active movements, active-assisted movements. e. Resistive exercise. f. Co-ordination and balance. g. Stretching exercise. h. Techniques for chest physiotherapy. i. Manual muscle testing. j. Techniques of PNF (brief). k. Indications and contraindications of passive movements. l. Indications and contraindications of breathing exercise. m. Grades of MMT. n. Precautions while performing these exercises on patient.

		<p>multipurpose chair.(08 hrs)</p> <p>93. Practical use of different exercise equipments (e.g. Shoulder wheel, shoulder pulley, Swiss ball etc.) (09 hrs)</p> <p>94. Assessment of coordination and balance.(05 hrs)</p> <p>95. Describe equilibrium and non-equilibrium tests. (06 hrs)</p> <p>96. Schedule exercise programs for stretching of major muscles (Manually).(10 hrs)</p> <p>97. Elaborate methods of stretching(Static, mechanical etc.) (06 hrs)</p> <p>98. Explain positioning of patient during postural drainage. (06 hrs)</p> <p>99. Collaborate massage techniques with postural drainage. (06 hrs)</p> <p>100.Prepare a chart of measurements of chest inspiration and expiration by using hands and inch tape at different chest levels. (10 hrs)</p> <p>101.Perform resistive exercises for thorax muscles. (10 hrs)</p> <p>102.Practical based on breathing exercises. (10 hrs)</p> <p>103.Illustrate a practical on PNF techniques for upper and lower limbs. (brief) (12 hrs)</p> <p>104.Presentation of PNF techniques for trunk, face and neck. (brief) (10 hrs)</p> <p>105.Explanation of D₁ and D₂ patterns of PNF (brief)(07 hrs)</p> <p>106.Determination of grades of MMT for upper and lower</p>	
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		limb. (12 hrs) 107. Practical based on grading of MMT for trunk and abdominals. (12 hrs) 108. Representation of MMT exercises for face. (10 hrs)	
34-40	<ul style="list-style-type: none"> Design remedy for back pain and abnormal gaits. 	109. Proper demo of relaxation techniques by using pillows. (12 hrs) 110. Execute testing of traction. (06 hrs) 111. Demonstrate positioning of patient while giving traction. (14 hrs) 112. Teach how to calculate patient's weight to be used in treatment. (12 hrs) 113. Develop different methods of application of traction. (17 hrs) 114. Impart skills of manual cervical and lumbar traction. (15 hrs) 115. Instruct normal gait patterns. (16 hrs) 116. Presentation of gait phases on floor. (17 hrs) 117. Perform abnormal gaits. (17 hrs) 118. Demonstrate a practical on walking aids (eg. Crutches, walker). (25 hrs) 119. Give a brief idea of parts of wheelchair. (08 hrs) 120. Give guidelines for walking aids' usage for patients (eg. Two step, three step etc.). (17 hrs) 121. Design gait pattern for weight bearing and non-weight bearing. (17 hrs) 122. Performance of gait training. (17 hrs)	<p><u>Exercise Physiology</u></p> <ol style="list-style-type: none"> <u>Thermoregulation and exercise organs:</u> <ol style="list-style-type: none"> Conduction, convection & evaporation. Homeostasis Physiological thermoregulation <u>Respiration:</u> <ol style="list-style-type: none"> Muscles for inspiration and expiration. Static and Dynamic Lung volume. Gaseous exchange. <u>Cardiovascular adaptations:</u> <ol style="list-style-type: none"> Sub maximal exercise. At maximal exercise. <u>Fatigue:</u> Types, symptoms, recovery. <u>Endurance:</u> Definition, endurance training. <u>Kinesiology & Biomechanics:</u> Basic terminologies. Relaxation exercises. <u>TRACTION:</u> Introductions, contraindications, therapeutic uses and effects. Activities of daily living (in brief). <u>Gait:</u> Definition, phases, abnormal gait patterns

			(in brief). 11. <u>Walking aids</u> : Types, indications, precautions.
41-46	<ul style="list-style-type: none"> Prepare assessment chart and rehabilitation protocol. 	<p>123. Display videos showing causes of clinical conditions. (08 hrs)</p> <p>124. Perform observational assessment in various conditions. (08 hrs)</p> <p>125. Perform clinical examination. (06 hrs)</p> <p>126. Demonstrate various orthopaedic tests. (10 hrs)</p> <p>127. Demonstrate various neurological tests. (08 hrs)</p> <p>128. Prepare a chart of orthopaedic, neurology assessment. (05hrs)</p> <p>129. Make a cardiopulmonary assessment chart. (08 hrs)</p> <p>130. Make a diagnosis after assessment. (10 hrs)</p> <p>131. Plan a rehabilitation program for patients. (17 hrs)</p> <p>132. Develop home exercise programs. (10 hrs)</p> <p>133. Demonstrate precautions to be considered during and after treatment. (10 hrs)</p> <p>134. Develop ergonomics. (10 hrs)</p> <p>135. Evaluate the prognosis. (10 hrs)</p> <p>136. Make postures showing diagrammatical calculation of burn. (12 hrs)</p> <p>137. Calculate obesity according to BMI. (12 hrs)</p> <p>138. Illustrate precautions related to treatment. (12 hrs)</p> <p>139. Clinical presentation in hemiplegia, hemiparesis to differentiate it. (12 hrs)</p>	<p><u>Applied Anatomy:</u> Causes, Deformity, loss of functions in following conditions:</p> <ol style="list-style-type: none"> 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. <p><u>ORTHO-NEURO-GENERAL</u> Orthopaedic condition: Etiology, C/F & physiotherapy management of the followings:</p> <ol style="list-style-type: none"> Kyphosis, Lordosis & Scoliosis Cervical & Lumbar Spondylosis Ankylosing Spondylosis Tennis Elbow Golfer's Elbow Gout Osteoarthritis Rheumatoid Arthritis Frozen Shoulder Fracture (brief) Dislocation & subluxation Sprain Tendonitis Rickets Osteomalacia Osteomyelitis Calcaneal Spar Flatfoot. <p>Neurological Condition: Etiology, C/F, & Physiotherapeutic Management of the following:</p>

		140. Plan antenatal and postnatal exercises. (12 hrs)	<ul style="list-style-type: none"> i. Cerebral palsy ii. Hemiplegia iii. Paraplegia iv. Quadriplegia v. Myalgia vi. Fibromyositis vii. Polio Myelitis viii. Parkinsonism ix. Bell's palsy x. C.V.A (brief) xi. Upper & Lower Motor Neuron diseases xii. Peripheral Nerve Injury xiii. Spinal Cord Injury xiv. Sciatica <p>General Condition: Etiology, C/F, Investigations & Physiotherapeutic Management of the following:</p> <ul style="list-style-type: none"> i. Obesity ii. Burns
47-50	<p>Project work/ Case Study</p> <p>Broad Areas:</p> <ul style="list-style-type: none"> a) Perform practical of different exercises. b) Assessment of range of motion of major joints by using goniometer scales. c) Prepare a chart of measurements of chest inspiration and expiration by using hands and inch tape at different chest levels. d) Execute testing of traction. e) Prepare a chart of orthopaedic, neurology assessment. f) Calculate obesity according to BMI. 		
51	Revision		
52	Examination		

Note: -

1. Some of the sample project works (indicative only) are given against each semester.
2. Instructor may design their own project and also inputs from local industry may be taken for designing such new project.
3. The project should broadly cover maximum skills in the particular trade and must involve some problem solving skill. Emphasis should be on Teamwork: Knowing the power of synergy/ collaboration, work to be assigned in a group (Group of at least 4 trainees). The group should demonstrate Planning, Execution, Contribution and Application of Learning. They need to submit Project report.
4. If the instructor feels that for execution of specific project more time is required than he may plan accordingly to produce components/ sub-assemblies in appropriate time i.e., may be in the previous semester or during execution of normal trade practical.

9. SYLLABUS - CORE SKILLS

CORE SKILL – EMPLOYABILITY SKILL	
First Semester	
1. English Literacy	Duration : 20 hrs Marks : 09
Pronunciation	Accentuation (mode of pronunciation) on simple words, Diction (use of word and speech)
Functional Grammar	Transformation of sentences, voice change, change of tense, Spellings
Reading	Reading and understanding simple sentences about self, work and environment
Writing	Construction of simple sentences Writing simple English
Speaking/ Spoken English	Speaking with preparation on self, on family, on friends/ classmates, on known people, picture reading, gain confidence through role-playing and discussions on current happening job description, asking about someone's job habitual actions. Cardinal (fundamental) numbers ordinal numbers. Taking messages, passing on messages and filling in message forms, Greeting and introductions, office hospitality, Resumes or curriculum vitae essential parts, letters of application reference to previous communication.
2. IT Literacy	Duration : 20 hrs Marks : 09
Basics of Computer	Introduction, Computer and its applications, Hardware and peripherals, Switching on-Starting and shutting down of computer.
Computer Operating System	Basics of Operating System, WINDOWS, The user interface of Windows OS, Create, Copy, Move and delete Files and Folders, Use of External memory like pen drive, CD, DVD etc., Use of Common applications.
Word Processing and Worksheet	Basic operating of Word Processing, Creating, opening and closing Documents, Use of shortcuts, Creating and Editing of Text, Formatting the Text, Insertion & creation of Tables. Printing document. Basics of Excel worksheet, understanding basic commands, creating simple worksheets, understanding sample worksheets, use of simple formulas and functions, Printing of simple excel sheets.

Computer Networking and Internet	Basic of Computer Networks (using real life examples), Definitions of Local Area Network (LAN), Wide Area Network (WAN), Internet, Concept of Internet (Network of Networks), Meaning of World Wide Web (WWW), Web Browser, Website, Webpage and Search Engines. Accessing the Internet using Web Browser, Downloading and printing web pages, Opening an email account and use of email. Social media sites and its implication. Information security and antivirus tools, Do's and Don'ts in Information Security, Awareness of IT - ACT, types of cyber crimes.
3. Communication Skills	
	Duration : 15 hrs Marks : 07
Introduction to Communication Skills	Communication and its importance Principles of effective communication Types of communication - verbal, non-verbal, written, email, talking on phone. Non-verbal communication-characteristics, components-Para-language Body language Barriers to communication and dealing with barriers. Handling nervousness/ discomfort.
Listening Skills	Listening-hearing and listening, effective listening, barriers to effective listening, guidelines for effective listening. Triple- A Listening - Attitude, Attention & Adjustment. Active listening skills.
Motivational Training	Characteristics essential to achieving success. The power of positive attitude. Self awareness Importance of commitment Ethics and values Ways to motivate oneself Personal goal setting and employability planning.
Facing Interviews	Manners, etiquettes, dress code for an interview Do's & Don'ts for an interview
Behavioral Skills	Problem solving Confidence building Attitude
Second Semester	
4. Entrepreneurship Skills	
	Duration : 15 hrs

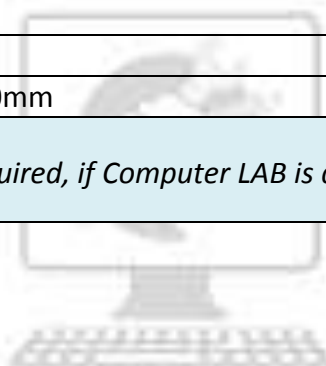
		Marks : 06
Concept of Entrepreneurship	Entrepreneur - Entrepreneurship - Enterprises: Conceptual issue Entrepreneurship vs. management, Entrepreneurial motivation. Performance & Record, Role & Function of entrepreneurs in relation to the enterprise & relation to the economy, Source of business ideas, Entrepreneurial opportunities, the process of setting up a business.	
Project Preparation & Marketing Analysis	Qualities of a good Entrepreneur, SWOT and risk analysis. Concept & application of PLC, Sales & distribution management. Difference between small scale & large scale business, Market survey, Method of marketing, Publicity and advertisement, Marketing Mix.	
Institution's Support	Preparation of Project. Role of various schemes and institutes for self-employment i.e. DIC, SIDA, SISI, NSIC, SIDO, Idea for financing/ non-financing support agencies to familiarize with the Policies/Programmes & procedure & the available scheme.	
Investment Procurement	Project formation, Feasibility, Legal formalities i.e., Shop Act, Estimation & costing, Investment procedure - Loan procurement - Banking processes.	
5. Productivity		Duration : 10 hrs Marks : 05
Benefits	Personal/ Workman - Incentive, Production linked bonus, Improvement in living standard.	
Affecting Factors	Skills, Working aids, Automation, Environment, Motivation - How it improves or slows down productivity.	
Comparison with Developed Countries	Comparative productivity in developed countries (viz. Germany, Japan and Australia) in select industries e.g. Manufacturing, Steel, Mining, Construction etc. Living standards of those countries, wages.	
Personal Finance Management	Banking processes, Handling ATM, KYC registration, safe cash handling, Personal risk and Insurance.	
6. Occupational Safety, Health and Environment Education		Duration : 15 hrs Marks : 06
Safety & Health	Introduction to Occupational Safety and Health, importance of safety and health at workplace.	
Occupational Hazards	Basic Hazards, Chemical Hazards, Vibroacoustic Hazards, Mechanical Hazards, Electrical Hazards, Thermal Hazards. Occupational health, Occupational hygiene, Occupational Diseases/ Disorders & its prevention.	

Accident & Safety	Basic principles for protective equipment. Accident prevention techniques - control of accidents and safety measures.
First-Aid	Care of injured & sick at the workplaces, First-aid & transportation of sick person.
Basic Provisions	Idea of basic provision legislation of India. Safety, health, welfare under legislative of India.
Ecosystem	Introduction to Environment. Relationship between society and environment, Ecosystem and factors causing imbalance.
Pollution	Pollution and pollutants including liquid, gaseous, solid and hazardous waste.
Energy Conservation	Conservation of Energy, re-use and recycle.
Global Warming	Global warming, climate change and Ozone layer depletion.
Ground Water	Hydrological cycle, ground and surface water, Conservation and harvesting of water.
Environment	Right attitude towards environment, Maintenance of in-house environment.
7. Labour Welfare Legislation	
	Duration : 05 hrs Marks : 03
Welfare Acts	Benefits guaranteed under various acts- Factories Act, Apprenticeship Act, Employees State Insurance Act (ESI), Payment Wages Act, Employees Provident Fund Act, The Workmen's Compensation Act.
8. Quality Tools	
	Duration : 10 hrs Marks : 05
Quality Consciousness	Meaning of quality, Quality characteristic.
Quality Circles	Definition, Advantage of small group activity, objectives of quality circle, Roles and function of quality circles in organization, Operation of quality circle. Approaches to starting quality circles, Steps for continuation of quality circles.
Quality Management System	Idea of ISO 9000 and BIS systems and its importance in maintaining qualities.
House Keeping	Purpose of House-keeping, Practice of good Housekeeping.
Quality Tools	Basic quality tools with a few examples.

LIST OF TOOLS & EQUIPMENTS			
PHYSIOTHERAPY TECHNICIAN			
S No.	Name of the Tools and Equipments	Specification	Quantity
1.	Diagram of – (i) Human Organs (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, Weight Machine		1 set
9.	Apparatus for various exercises-Shoulder Wheel, Shoulder pulley, Wall ladder, Swiss ball, Pronator-Supirator exercises		1 set assorted
10.	Durra mats		10 nos.
11.	Table		1 no.
12.	Chair with Desk		20nos.
13.	Cupboard		2 nos.
14.	IFT (Interferential Therapy)		1 no.
15.	TENS (Trans Electronic Nerve Stimulator)		1 no.
16.	Ultrasonic m/c		1 no.
17.	Weight cuffs		1 set
18.	Hydrocollator Pack		2set
19.	Quadriceps Chair		1 no.

TOOLS & EQUIPMENTS FOR EMPLOYABILITY SKILLS		
S No.	Name of the Equipment	Quantity
1.	Computer (PC) with latest configurations and Internet connection with standard operating system and standard word processor and worksheet software	10 nos.
2.	UPS - 500VA	10 nos.
3.	Scanner cum Printer	1 no.
4.	Computer Tables	10 nos.
5.	Computer Chairs	20 nos.
6.	LCD Projector	1 no.
7.	White Board 1200mm x 900mm	1 no.

Note: Above Tools & Equipments not required, if Computer LAB is available in the institute.



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FORMAT FOR INTERNAL ASSESSMENT

Name & Address of the Assessor:			Year of Enrollment:											
Name & Address of ITI (Govt./Pvt.):			Date of Assessment:											
Name & Address of the Industry:			Assessment location: Industry/ ITI											
Trade Name:		Semester:		Duration of the Trade/Course:										
Learning Outcome:														
S No.	Maximum Marks (Total 100 Marks)		15	5	10	5	10	10	5	10	15	15	Total Internal Assessment Marks	Result (Y/N)
	Candidate Name	Father's/Mother's Name	Safety Consciousness	Workplace Hygiene	Attendance/ Punctuality	Ability to Follow Manuals/ Written Instructions	Application of Knowledge	Skills to Handle Tools & Equipment	Economical Use of Materials	Speed in Doing Work	Quality in Workmanship	VIVA		
1														
2														