

Course Curricula

For

**Short Term Courses based on
Modular Employable Skills (MES)**

In

Medical and Nursing Sector



**DIRECTORATE GENERAL OF EMPLOYMENT AND TRAINING
MINISTRY OF LABOUR & EMPLOYMENT
GOVERNMENT OF INDIA**

**Course Curricula for Short Term Courses based on Modular
Employable Skills (MES) in Medical & Nursing Sector**

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Skill Development based on Modular Employable Skills (MES)

Background

The need for giving emphasis on the Skill Development, especially for the less educated, poor and out of school youth has been highlighted in various forums. The skill level and educational attainment of the work force determines the productivity, income levels as well as the adaptability of the working class in changing environment. Large percentage of population in India is living below poverty line. One of the important causes is lower percentage of skilled persons in the workforce

The skill development at present is taking place mostly in the informal way, i.e. persons acquire skill at the work-place when they help their parents, relatives and employers etc. Such persons do not have a formal certificate and thus earn lower wages and are exploited by employers. They have come through informal system due to socio-economic circumstances of the family and the compulsions of earning a livelihood rather than attending a formal course. While their productivity is low, their contribution to the national GDP cannot be ignored. If the country can create a system of certification which not only recognizes their skills but also provides education and training in a mode that suits their economic compulsions, it will not only benefit the workforce to earn a decent living but also contribute to the national economy by better productivity of this workforce.

Another related problem to be tackled is large number of students drop outs (About 63% of the school students drop out at different stages before reaching Class-X).

Frame work for Skill Development based on 'Modular Employable Skills (MES)'

Very few opportunities for skill development are available for the above referred groups (out of school youth & existing workers especially in the informal sector). Most of the existing Skill Development programmes are long term in nature. Poor and less educated persons can not afford long term training programmes due to higher entry qualifications, opportunity cost etc. Therefore, a new frame work for Skill Development for the Informal Sector has been evolved by the DGET to address to the above mentioned problems. The **key features of the new frame work for skill development** are:

- ◆ Demand driven Short term training courses based on modular employable skills decided in consultation with Industry
- ◆ Flexible delivery mechanism (part time, weekends, full time)
- ◆ Different levels of programmes (Foundation level as well as skill upgradation) to meet demands of various target groups
- ◆ Central Government will facilitate and promote training while Vocational Training (VT) Providers under the Govt. and Private Sector will provide training
- ◆ Optimum utilisation of existing infrastructure to make training cost effective.
- ◆ Testing of skills of trainees by independent assessing bodies who would not be involved in conduct of the training programme, to ensure that it is done impartially.
- ◆ Testing & certification of prior learning (skills of persons acquired informally)

The Short Term courses would be based on 'Modular Employable Skills (MES)'.

The **concept for the MES** is :

- Identification of 'minimum skills set' which is sufficient to get an employment in the labour market.
- It allows skills upgradation, multiskilling, multi entry and exit, vertical mobility and life long learning opportunities in a flexible manner.
- It also allows recognition of prior learning (certification of skills acquired informally) effectively.
- The modules in a sector when grouped together could lead to a qualification equivalent to National Trade Certificate or higher.
- Courses could be available from level 1 to level 3 in different vocations depending upon the need of the employer organisations.
- MES would benefit different target groups like :
 - Workers seeking certification of their skills acquired informally
 - workers seeking skill upgradation
 - early school drop-outs and unemployed
 - previously child labour and their family

Age of participants

The minimum age limit for persons to take part in the scheme is 14 years but there is no upper age limit.

Curriculum Development Process

Following procedure is used for developing course curricula

- Identification of Employable Skills set in a sector based on division of work in the labour market.
- Development of training modules corresponding to skills set identified so as to provide training for specific & fit for purpose
- Organization of modules in to a Course Matrix indicating vertical and horizontal mobility. The course matrix depicts pictorially relation among various modules, pre requisites for higher level modules and how one can progress from one level to another.
- Development of detailed curriculum and vetting by a trade committee and by the NCVT

(Close involvement of Employers Organizations, State Governments, experts, vocational training providers and other stake holders is ensured at each stages).

Development of Core Competencies

Possession of proper attitudes is one of the most important attribute of a competent person. Without proper attitudes, the performance of a person gets adversely affected. Hence, systematic efforts will be made to develop attitudes during the training programme.

The trainees deal with men, materials and machines. They handle sophisticated tools and instruments. Positive attitudes have to be developed in the trainees by properly guiding

them and setting up examples of good attitudes by demonstrated behaviors and by the environment provided during training.

Some important core competencies to be developed are:

1. Safety consciousness and safe working practices
2. Care of equipment and tools
3. Punctuality, discipline and honesty
4. Concern for quality
5. Respect for rules and regulations
6. Concern for health and hygiene
7. Cordial relationship and Cooperation with co-workers and team Work
8. Positive attitude and behavior
9. Responsibility and accountability
10. Learn continuously
11. Communication Skills
12. Concern for environment and waste disposal

Following competencies should also be developed during level-II and higher courses:

1. Ability for planning, organizing and coordinating
2. Creative thinking, problem solving and decision making
3. Leadership
4. Ability to bear stress
5. Negotiation

Duration of the Programmes

Time taken to gain the qualification will vary according to the pathway taken and will be kept very flexible for persons with different backgrounds and experience. Duration has been prescribed in hours in the curriculum of individual module, which are based on the content and requirements of a MES Module. However, some persons may take more time than the prescribed time. They should be provided reasonable time to complete the course.

Pathways to acquire Qualification:

Access to the qualification could be through:

- An approved training programme; **Or**
- A combination of an approved training programme plus recognition of prior learning including credit transfer; **Or**
- The recognition of prior learning that provides evidence of the achievement of the competencies for the qualification.

Methodology

The training methods to be used should be appropriate to the development of competencies. The focus of the programme is on “performing” and not on “Knowing”. Lecturing will be restricted to the minimum necessary and emphasis to be given for ‘hands on training’.

The training methods will be individual centered to make each person a competent one. Opportunities for individual work will be provided. The learning process will be continuously monitored and feedback will be provided on individual basis.

Demonstrations using different models, audio visual aids and equipment will be used intensively.

Instructional Media Packages

In order to maintain quality of training uniformly all over the country, instructional media packages (IMPs) will be developed by the National Instructional Media Institute (NIMI), Chennai.

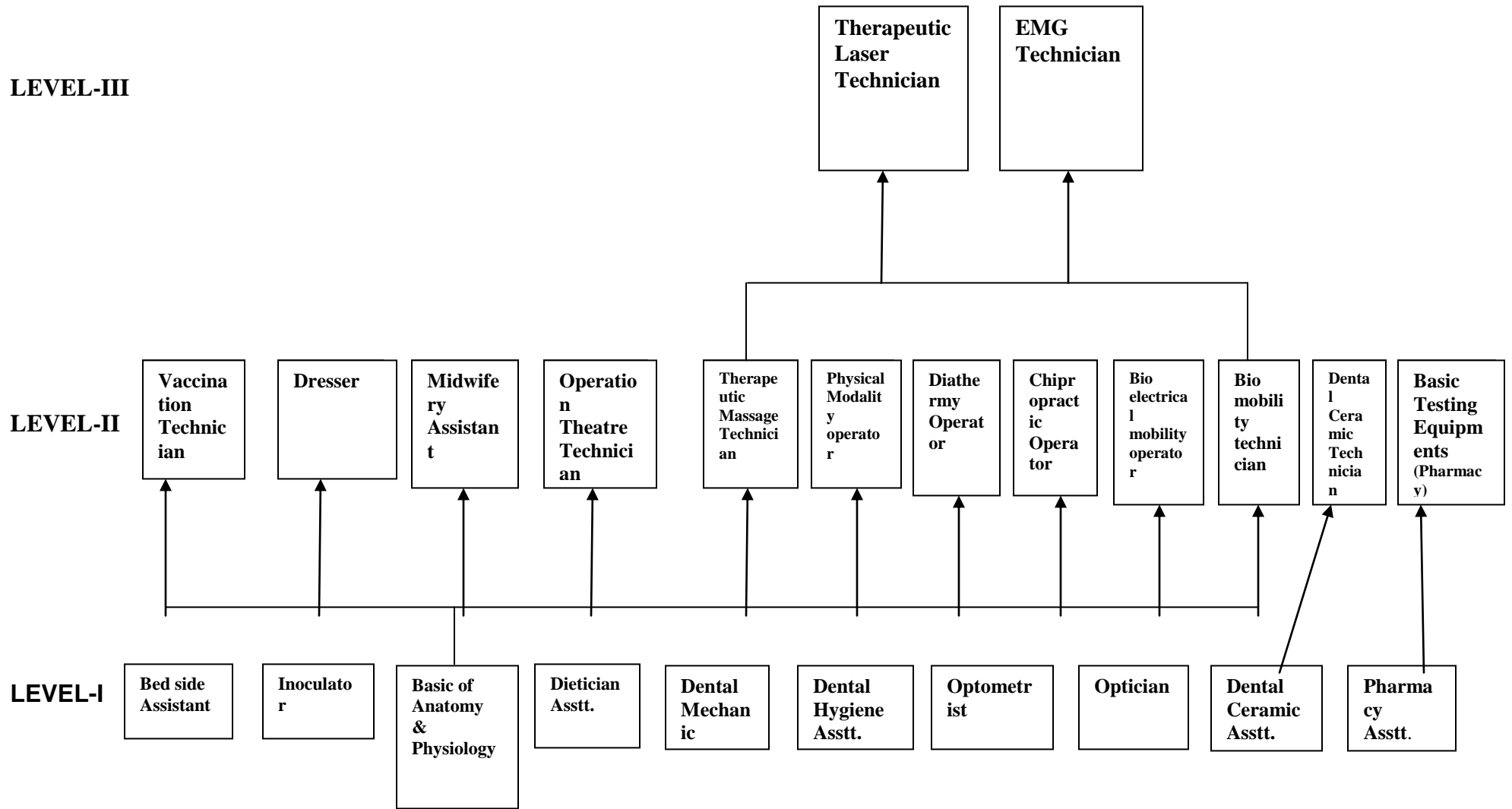
Assessment

DGE&T will appoint assessing bodies to assess the competencies of the trained persons. The assessing body will be an independent agency, which will not be involved in conducting the training programmes. This, in turn, will ensure quality of training and credibility of the scheme. Keeping in view the target of providing training/testing of one million persons through out the country and to avoid monopoly, more than one assessing bodies will be appointed for a sector or an area.

Certificate

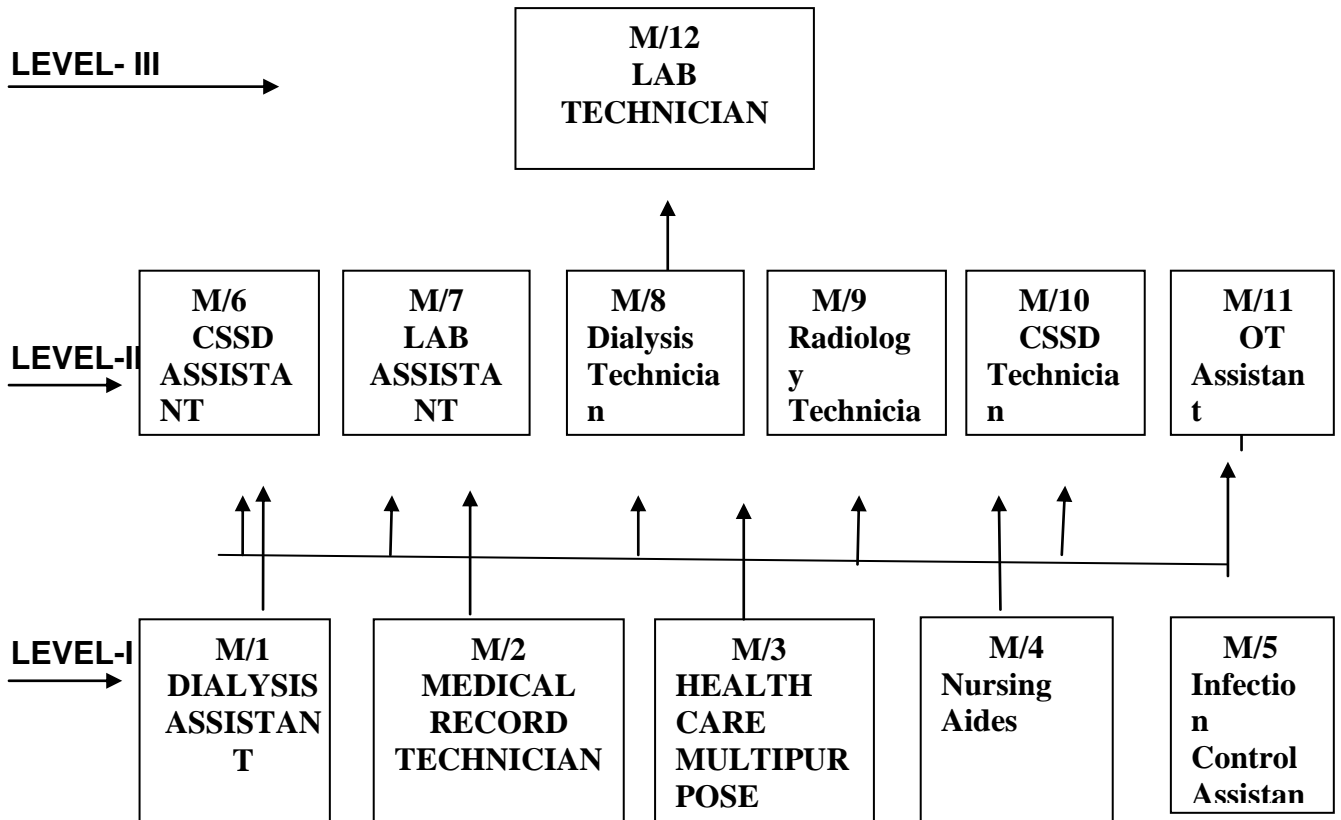
Successful persons will be awarded certificates issued by National Council for Vocational Training (NCVT).

Course Matrix



COURSE MATRIX

Medical and Nursing



List of members attended the Trade Committee Meeting for designing the course curriculum on Medical and Nursing Sector under Skill Development Initiative Skill (SDIS) based on Modular Employable Skills (MES) held on 23.09.2010 at Guwahati.

Sri Anil Kumar, Director in charge, CSTARI, KOLKATA

Sl No.	Name of the Member	Department	Trade Committee members
1.	Mr. Amlan Baruah, Chairman	Director, Employment and Craftsman Training, Assam	Chairman
2.	Ms. Moushumi Sen	Deputy Director, DECT, Assam	Member
3.	Ms. Mayurakshi Dutta	Executive Director, Down Town Hospital,	Member
4.	Dr. Th. Hareswar Meetei	Chief Medical Officer, Model Hospital, ESIC, Khanapara	Member
5.	Ms. Phulmati Majumdar	Matron, Guwahati Medical College and Hospital, Guwahati.	Member
6.	Dr. Veemi Borah Singha	Paediatrics, , Guwahati Medical College and Hospital, Guwahati.	Member
7.	Dr. Zakir Ahmed	A. G. Nurshing Home, Tarajan, Jorhat, Assam	Member
8.	Dr. Ramananda Das	International Hospital, Guwahati	Member
9.	Dr. S K Sinha	MO (H), Kamrup Educational Trust, Guwahati	Member
10.	Dr. Rathindra Bhuyan	Principal, Institute of Paramedical Science & Dean of Faculty Allied Health Science, Srimanta Shankerdev University of Health Science.	Member
11.	Dr. A K Thakuria	Deputy Medical Superintendent, Down Town Hospital, Guwahati	Member
12.	Dr. Kahua Das Thakuria	Senior Resident, Dept. of Neurophysiology, Guwahati Neurological Research Center (GNRC) Ltd.	Member
13.	Dr. Pronita Saikia	Senior consultant, Microbiologist, GNRC Ltd.	Member
14.	Dr. Shabnam A. Ahmed	Senior Consultant, Pathologist, GNRC Ltd.	Member
15.	Mr. Vipin Singh	Kamrup Educational Trust, Guwahati	Member
16.	Mr. Manabendra Deka	EEG Technician, GNRC Ltd.	Member
17.	Mr. M C Sharma	Jt. Director, CSTARI, Kolkata	Member
18.	Mr. B K Singha	Deputy Director, CSTARI, Kolkata	Member

List of members attended the Trade Committee Meeting for designing the course curriculum on Medical and Nursing Sector under Skill Development Initiative Skill (SDIS) based on Modular Employable Skills (MES) held on 10-01-2011 at R.D.A.T., Mumbai

Sri Anil Kumar, Director In Charge, CSTARI, Kolkata

Sl No.	Name of the Member S/Shri	Department	Trade Committee members
1.	Dr. Aseem Logani, Director, Medical Training, National Training Academy, ESIC,	Ministry of Labour & Employment, 2nd Floor, EPFO Complex, Sector-23, Dwarka, New Delho-75	
1.	Dr Vivek Desai, Chairman & Managing Director	CII Western Region Healthcare. Hosmac India Pvt Ltd.	Chairman
2	Anil Kumar, Director In Charge	C.S.T.A.R.I., Kolkata	Member
2.	D K Pawagi, JDT/HOD Incharge Regional Director	RDAT(WR), DGE&T, Govt of India, Mumbai.	Member
3.	Dr.Uma Nambiar, Zonal Director & CEO	Fortis Healthcare & S L Raheza Hospital, Mumbai	Member
4.	Dr, Sudarshan Joshi, Medical Coordinator	S L Raheza Hospital, Mumbai	Member
5.	Dr.(Smt) Seema Malik, Chief Medical Superintendent	MCGM Suburban Hospital. Mumbai	Member
6.	Ms.Sister Aquinas, Executive Director	Holy Family Hospital, Mumbai	Member
7.	Wilson Antony, Manager-Operations	Holy Family Hospital, Mumbai	Member
8.	Dr. Lalit Kapoor, Medical Director	Shakuntala Memorial Hospital, Mumbai	Member
9.	Dr. P M Bhujang, Medical Director	Sir H N Hospital & Research Centre, Mumbai	Member
10.	Dr. Farida Calcuttawala, Administrator	Sir H N Hospital & Research Centre, Mumbai	Member
11.	Joy Chakraborty, Director	Hinduja Hospital, Mumbai	Member
12.	Ms. Bhavisha Kharnare, Manager	Hinduja Hospital, Mumbai	Member
13.	Ms. Sumita Chakravarty, Dy. Director	Confederation of Indian Industries, Mumbai	Member
14.	L K Mukherjee, Deputy Director	Central Staff Training & Research Institute, Kolkata, DGET, Govt of India.	Member
15.	R N Manna, Training Officer	Central Staff Training & Research Institute, Kolkata, DGET, Govt of India.	Member

MODULES

MODULE – BEDSIDE ASSISTANT

Name	:	Bedside Assistant
Sector	:	Medical and Nursing
Code	:	MED101
Entry Qualification	:	8 th standard
Terminal Competency	:	After completing the training the person would understand the role of bedside assistant and be able to provide comprehensive bedside care at home as well as part of a health care team.
Duration	:	450 hours (75 working days and six hours per day)

Practical Competencies	Underpinning Knowledge (Theory)
1. Sponge/bed bath -hair care – eye/ear care- care of hands & feet	1. Basic principles of nursing at home/bedside
2. Sterilization	2. Parts of Human body
3. First aid/dressing	3. Systems of body – skeletal system – Nervous system – Respiratory system – Digestive system – urinary system
4. Fire burns; Hemorrhages; allergies; banding & splinting; fermentation.	4. HIV / AIDS
5. Monitoring vital signs – use of thermometer; blood pressure; pulse; blood sugar.	5. Personal care – hygiene and sanitation – grooming and cleanliness
6. Techniques of shifting patients	6. Sterilization
7. Treatment of bedsores	7. Oral hygiene – process/ precautions
8. Catheterization	8. First aid procedure
9. Food tube feeding	9. Accidents; poisoning; haemaeroges
10. Collection of urine; stool; sputum	10. Sociology – social problems; age related changes; community; health education
11. Administration of oxygen & nebulizzer	11. Communication skills.
12. Administration of suction	12. Home environment
	13. Needs of elderly people
	14. Types of Medicine/injections
	15. Documentation
	16. Vital signs;
	<u>Theory</u>
	17. Types of fever
	18. Physiotherapy & its importance
	19. Elimination needs

Practical

Theory

TOOLS AND EQUIPMENT FOR BATCH OF 25 TRAINEES

Srl No	Description	Quantity
1.	Temperature Recording	Thermometer – 02; Cotton swabs – (as required)
2.	Blood Pressure	Spignomano meter – 7; Stethoscope-03
3.	Dressing of bed sore (Sterile procedure)	Dressing sets containing Bowl small-01 Artery forceps – 04; Gloves – 04 Pairs Cotton, gauze, hydrogen peroxide- (as required); Betadine solutions- (as required); Sterile pads, Plaster-(as required)
4.	GRBS Test	Glucometer-07; Accu Check-07; Small sterile needles- (as required); Spirit, Swabs (cotton)- (as required)
5.	Administer Insulin	Insulin Syringe-04; Cotton swab-(as required)
6.	Mouth care for bed ridden, Unconscious patients	Artery Forceps, Gauze, tongue depressor, Listrin, mouth wash, kidney tray-01; gloves- (as required)
7.	Sponge Bath	Big Basin Steel – 02 Hand Towel – 02 Machintosh, Bath Towel-01 Powder – (as required)
8.	For bed ridden	Bed Pan, Urinal – 01 Set
9.	Oxygen Cylinder/Nebulizzer	One Set
10.	Suction appratis	One Set
11.	First Aid Dressing	As required
12.	Cathetrization/Food Tube	As required

Model Questions

1. What are the health needs of elderly persons?
2. What are the basic principles of home care nursing?
3. What are causes/prevention of HIV/AIDS?
4. What are first aid methods for poisoning and fire burns?
5. What are hemorrhages and how do you prevent bleeding?
6. What are allergies ? How do you prevent allergies?

7. Demonstrate procedure for banding/splinting
8. What is Parkinsons Disease?What is the special care required for patients
9. What are the types of injection?
10. What are vital signs? What is its definition, instrument used, purpose, medicine?
11. What is the importance of physiotherapy?
12. What are precautions for bedsore? What is the procedure for patients affected by bedsore?
13. How do you administer oxygen? Nebuliser & suction?.
14. What is the importance of hygiene/sanitation? How do you maintain high level of cleanliness of surroundings.
15. Demonstrate the manner of sponge bath
16. What is the purpose/procedure of oral hygiene.
17. What are social problems?
18. What are the basic needs of elderly persons.
19. What are the types of medicare/injection?
20. What is the method of taking BP? Demonstrate
21. What is meant by fracture/dislocation of bones? What is the care for the same?

List of Members of the trade committee :

- | | |
|-----------------------------|--------|
| 1. Heritage Hospital | Member |
| 2. Karuna School of Nursing | Member |
| 3. Shanti Old Age Home | Member |

MODULE

BASIC OF ANATOMY & PHYSIOLOGY (Level- I)

COURSE	:	Basic of Anatomy & Physiology
SECTOR	:	Medical & Nursing
CODE	:	MED-102
ENTRY QUALIFICATIONS:		Min. 10 th Standard & 14 Yrs. of Age..
TERMINAL COMPETENCY :		Successful Candidate would have a good knowledge of structure and function of various system of human body. On completion of this Module, the participants can be employed as an assistant in public / private hospitals and clinics.
DURATION	:	300 Hrs
CONTENTS:	:	Knowledge of Structure and Function of Various Systems of Human Body

Practical Competencies	Underpinning knowledge (Theory)
1. Demonstration of Human Skeleton : <ul style="list-style-type: none">- Anatomical Position- Axis- Plane- Identification of various bones & joints- Demonstration of movement possible at various joints	1. General Anatomy: <ul style="list-style-type: none">- Various Anatomical terms- Anatomical terms- Axis- Plane
2. Characteristic features, side determination & applied anatomy of : (i) Upper Limb bones: <ul style="list-style-type: none">- Scapula- Clavicle- Humerus- Radius- Ulna	2. Bone: <ul style="list-style-type: none">- Composition & Function- Classifications- Various terms & markings on the bones
(ii) Lower Limb bones: <ul style="list-style-type: none">- Hip- Femur- Tibia- Fibula	3. Muscle: <ul style="list-style-type: none">- Structure of various types of muscle.- Classifications- Isometric & Isotonic Muscle contraction
3. Methods of B.P Measurement	4. Nerve: <ul style="list-style-type: none">- Structure of Peripheral nerve- Introduction of Brain & Spinal Cord
4. Surface markings of important structure of the Body.	5. Joints: <ul style="list-style-type: none">- Definition- Classification- Structure of synovial Joints
5. Slide Preparation	6. Blood: <ul style="list-style-type: none">- Composition & Function- Blood Groups
	8. Function of the following Systems: <ul style="list-style-type: none">- Digestive

6. Microscope operations 7. Sample collection	<ul style="list-style-type: none"> - Renal - Respiratory - Cardiovascular - Reproductive 9. Anatomy of Skin
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List of Tools & Equipments

S.NO	DESCRIPOTION	QUANINTY
1	Human Skeleton	01 Unit
2	Bones of upper & lower Limbs	01 Unit
3	Microscope	03 Unit
4	Slides	15 Unit
5	Sphygmomanometer	04 Unit
6	Stethoscope	04 Unit
7	C.D of Altus Anatomy for visual display.	As required

MODULE- DIETICIAN ASSISTANT

Name	:	Dietician Assistant
Sector	:	Medical & Nursing
Code	:	MED-103
Entry Qualification	:	Minimum 8 th Standard & 14 yrs of age.
Terminal competency_	:	Successful candidates would be able to modify therapeutic or, liquid diets, maintain the hygienic standard in kitchen & maintain the food storage etc to assist Dietician. On completion of this module, the participant can be employed as Dietician Assistant in Public/Private hospital & clinics.
Duration	:	270 hrs
CONTENTS	:	Modification & maintenance of Hygienic standards in kitchen of hospital.

Practical Competencies	Underpinning knowledge (Theory)
1 Practice of safety & health hazards measures.	1. Principles of safety & health hazards measures.
2. Practices of code of conduct.	2. Development of Basic skills.
3. Methods of modifying therapeutic & liquid diet.	3. Modification principles of therapeutic & liquid diet.
4. Identifications & up keeping of stores, utensils, trolleys & instruments..	4. Identification, application methods of using & hazards of utensils, trolleys & various instruments.
5. Maintaining the hygiene standard in kitchen.	

<p>6. Maintenance of food storage according to diet requirement.</p>	<p>5. Principles of maintaining hygiene standards in kitchen.</p> <p>6. Principles & methods of food storage.</p> <p>7. Brief idea of most common food borne diseases.</p>
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List of Tools & Equipments/Raw materials

S.NO	DESCRIPOTION	QUANINTY
1	Refrigerator.	To be made available with industry/organization
2	Refrigerator with humidity control	To be made available with industry/organization
3	Serving trolleys.	As Required
4	Foiled disposables.	As Required
5	Open trolley.	As Required
6	Weighing balance.	As Required
7	Measuring cups & spoons.	As Required
8	Water purifier.	As Required
9	Kitchen utensils.	As Required
10	Diet food.	As Required
11	Sterilizer.	As Required
12	Washing soap.	As Required

MODULE

INOCULATOR

NAME	:	INOCULATOR
SECTOR	:	MEDICAL & NURSING
CODE	:	MED104
ENTRY QUALIFICATION	:	Minimum 8 th Standard & 14 yrs of age.
TERMINAL COMPETENCY	:	Successful candidates would be able to operate Microscope, Autoclave, Hot air Oven, incubator & prepare culture media used in microbiology. On completion of this module, the participants can be employed as Inoculator in Public/Private hospitals & clinics.
DURATION	:	300 hrs
CONTENTS	:	Operation of Microbiologic equipments to culture various pathogenic micro-organisms.

Practical Competencies	Underpinning knowledge (Theory)
1. Practices of safety methods & code of conduct.	1. Principles of safety methods.
2. Identification & operation of : - Microscope. - Autoclave. - Hot air oven. - Incubator.	2. Definition, principle of operation, procedure, precautions & maintenance of : - Microscope. - Hot air Oven. - Autoclave. - Incubator.
3. Collection of specimen : - Urine. - Blood.	3. Definition & morphology of bacteria.
4. Preparation of specimen.	4. Staining : - Gram stain.

5. Procedure of inoculation.	- Z – N stain.
6. Preparation of various culture media & Stains :	- Giensa stain.
- ZN stain.	5. Types of media.
- Gram stain etc.	6. Cultural characteristics..
7. Staining procedures.	7. Methods of inoculation.
8. Identification & motility of bacteria.	8. Principles of specimen collection.
9. Incineration procedure.	9. Incineration.

List of Tools & Equipments/Raw materials

S.NO	DESCRIPTION	QUANTITY
1.	Microscope.	06 Unit
2.	Hot air oven.	01 Unit
3.	Autoclave.	01 Unit
4.	Incubator.	01 Unit
5.	Wire loop : straight & loop.	As required
6.	Petry dish.	As required
7.	Prepared Agar : - Nutrient agar. - Mac'konky Agar - Blood Agar	As required
8	Sensitivity drugs : - Gram +ve - Gram - ve.	As required
9.	Spirit lamp.	12 Unit
10	Spirit..	As required
11	Crystal violet	As required
12	Gram iodine..	As required
13	Soframine.	As required
14	Acetone	As required
15	Carbol fuschin	As required
16	Methelene blue	As required
17	H ₂ SO ₄ .	As required
18	Pepton water.	As required
19	Distilled water	As required
20	Normal saline	As required

21	Urine culture bottle	As required
22	Syringe : 2ml, 5ml	As required
23	Slide.	As required
24	Gimsa stain.	As required
25	Flat bottom flask.	As required
26	Cotton.	As required
27	Tissue roll.	As required
28	Face mask.	As required
29	Gloves.	As required
30	Slide Tray.	As required
31	Slide Box	As required
32	Staining through	As required

LIST OF EXPERTS / TRADE COMMITTEE MEMBERS

1. Sh. D. Mallick, Regional Director, RDAT Kanpur
2. Dr. Apoorv Mittal, Dental Surgeon, Mai Kamli Wali Hospital, Rajouri Garden, New Delhi
3. Dr. Shradha Mishra, Dental Surgeon, Lal Dental Clinic, JG-3/16, Vikaspuri, New Delhi-18
4. J. Dasgupta, Chairman, Baba Saheb Ambedkar ITC, Vikaspuri, New Delhi-18
5. Dr. Deepak Kumar, MPT, Assistant Professor (Physiotherapy), BSAITM, Bodhella Vikaspuri, New Delhi-18
6. Dr. Vinod Barua, Occupationalist Therapist, Mahalaxmi Occupational Therapy Centre, A- 39, Janakpuri, New Delhi-58
7. Dr. Manju Verma, MBBS, Bhagwati Hospital, Sector-6, Rohini, New Delhi-18
8. Dr. R.R.Mohanty, MBBS, MS (Surgery), Mohanti Surgical Clinic, DG-III/69, Vikaspuri, New Delhi-18
9. H.S Nigam, JTA, RDAT, Kanpur
10. Smt. Ararti Dasgupta, Managing Director, BSAITM, Vikaspuri, New Delhi-18
11. Abhishek Nigam, 602 A, Secto- 55, Gurgaon, Haryana.
12. Balveer Singh, Pharmacist, Aditya Pharmaceutical Group INC, 544 H Sector-37, Gurgaon, Haryana.

MODULE-VACCINATION TECHNICIAN

NAME : **VACCINATION TECHNICIAN**
SECTOR : **Medical & Nursing**
CODE : **MED-205**
ENTRY QUALIFICATIONS : **Minimum 10th Standard & 14 Yrs. of Age+MED102.**

TERMINAL COMPETENCY: Successful Candidate would be able to do vaccination to human being used in medical treatment & prophylaxis. On completion of this module, the participants can be employed as vaccination technician in public / Private Hospitals & Clinics.

DURATION : **200 Hrs**

CONTENTS : **Vaccination for medical treatment & prophylaxis**

Practical Competencies	Underpinning knowledge (Theory)
<ol style="list-style-type: none"> 1. Practice of safety methods & preservation techniques. 2. Methods of injection <ul style="list-style-type: none"> • Intravenous • Intramuscular • Subcutaneous • Intradermal 3. Application methods of various Vaccines. <ul style="list-style-type: none"> • BCG Vaccine • Oral Polio Vaccine • Inactivated Polio Vaccine • Diphtheria Vaccine • Pertussis Vaccine • Tetanus Vaccine • Measles Vaccine • Rubella Vaccine • Mumps vaccine • Hepatitis B Vaccine • Typhoid Vaccine • Hemophilus Influenza Vaccine • Varicella Vaccine • Rotavirus Vaccine • Cholera Vaccine • Meningococcal vaccine • Preumococcal Vaccine • Influenza vaccine • Rabies Vaccine • Hepatitis A vaccine 4. Safe Methods of disposals 	<ol style="list-style-type: none"> 1. Principles of safety procedure 2. Preservation of vaccine 3. Anatomy of vaccine sites for injection <ul style="list-style-type: none"> • Intravenous • Intramuscular • Subcutaneous • Intradermal 4. Immunization in primary health care. 5. Diseases against which vaccine are available. 6. National Immunization schedule 7. Principal of vaccination <ul style="list-style-type: none"> • Intravenous • Intramuscular • Subcutaneous • Intradermal 8. Composition, dosage, prevention methods & time (age from birth) of application for various vaccines: <ul style="list-style-type: none"> • BCG Vaccine • Oral Polio Vaccine • Inactivated Polio Vaccine • Diphtheria Vaccine • Pertussis Vaccine • Tetanus Vaccine • Measles Vaccine • Rubella Vaccine • Mumps vaccine • Hepatitis B Vaccine • Typhoid Vaccine

	<ul style="list-style-type: none"> • Hemophilus Influenza Vaccine • Varicella Vaccine • Rotavirus Vaccine • Cholera Vaccine • Meningococcal vaccine • Preumococcal Vaccine • Influenza vaccine • Rabies Vaccine • Hepatitis A vaccine
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List of Tools & Equipments/Raw materials

S.NO	DESCRIPOTION	QUANINTY
1	Refrigerator	01
2	Sterilizer	01
3	Syringes	10
4	needles	10
5	vaccination syringe	10
6	cotton	As required
7	Spirit	As required
8	BCG Vaccine	01
9	Oral Polio Vaccine	01
10	Inactivated Polio Vaccine	01
11	Diphtheria Vaccine	01
12	Pertussis Vaccine	01
13	Tetanus Vaccine	01
14	Measles Vaccine	01
15	Rubella Vaccine	01
16	Mumps vaccine	01
17	Hepatitis B Vaccine	01
18	Typhoid Vaccine	01
19	Hemophilus Influenza Vaccine	01
20	Varicella Vaccine	01
21	Rotavirus Vaccine	01
22	Cholera Vaccine	01
23	Meningococcal vaccine	01
24	Preumococcal Vaccine	01
25	Influenza vaccine	01
26	Rabies Vaccine	01
27	Hepatitis A vaccine	01
28	Dummy for injection	01

MODULE- DRESSER

NAME	:	DRESSER.
SECTOR	:	MEDICAL & NURSING.
CODE	:	MED-206
ENTRY QUALIFICATION	:	Minimum 10th Standard & 14 yrs of age + MED102
TERMINAL COMPETENCY	:	Successful candidates would be able to do bandaging, stitching, injection pricking, I.V infusion, dressing of wounds, cleaning of stomach etc to assist the Surgeon/Physician. On completion of this module, the participant can be employed as Dresser in Public/Private hospital & clinics.
Duration	:	270 hrs
CONTENTS	:	Bandaging, Dressing & Stitching of wound to assist surgeon and physician

Practical Competencies	Underpinning knowledge (Theory)
1 Practice of safety & health hazards measures. 2. Practice of aseptic surgical procedures :- : <ul style="list-style-type: none"> - Theatre dressing. - Hand washing prior to surgery. - Gowning - Gloving 3. Practice of sterilization of surgical articles. 4. Practice of Dressing : <ul style="list-style-type: none"> - Dry gauze dressing. - Wet dressing 	1. Principles of of safety & health hazards measures. 2. Principles & various steps taken in surgical aseptic procedures. 3. Principles & various methods of sterilization : <ul style="list-style-type: none"> - Boiling. - Disinfection.. - Fumigation. - Radiation.. - Dry heat sterilization. - Autoclaving. 4. Control of infection. 5. Wound : <ul style="list-style-type: none"> - Definition.

<ul style="list-style-type: none"> - Pressure dressing - Transparent dressing. <p>5. Preparation of patient for wound dressing.</p> <p>6. Practice of injection methods :</p> <ul style="list-style-type: none"> - Intravenous. - Intramuscular. - Sub dermal. - Intradermal <p>7. Practice of bandaging procedures.</p> <p>8. Practice of skin stitching procedures.</p> <p>9. Practice of stomach cleaning methods.</p>	<ul style="list-style-type: none"> - Classification. - Wound healing process. - Symptoms of wound infection. - Stages of wound healing. - Factors affecting wound healing. - Complications of wound healing. - Purposes of wound care. <p>6. Dressing :</p> <ul style="list-style-type: none"> - Purposes of dressing. - Types. - Guidelines for wound dressing. - Procedure of wound dressing. - Steps taken & reasons for preparation of Patient. <p>7. Principles of injection methods :</p> <ul style="list-style-type: none"> - Intravenous. - Intramuscular. - Sub dermal. - Intradermal <p>8. Principles of various types of bandaging.</p> <p>9. Guidelines for skin stitching.</p> <p>10. Procedure & precautions of I.V infusion.</p> <p>11. Procedure & precautions of stomach cleaning.</p>
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List of Tools & Equipments/Raw materials

S.NO	DESCRIPOTION	QUANINTY
1	Theatre dress.	15
2	Mask.	15
3	Theatre headwear.	15
4	Gown.	15
5	Gloves.	15
6	Autoclave.	1
7	Artery forceps (different types).	02 each
8	Scissors (Surgical)	05 sets

9	Betadine.	As required
10	Savalon.	As required
11	Hydrogen peroxide.	As required
12	Cotton or sterile gauze.	As required
13	Tincture iodine.	As required
14	Normal saline.	As required
15	Adhesive tape.	10
16	Bandage.	10
17	Binders.	100
18	Sinus forceps.	02
19	Probe.	02
20	Small bowl.	05
21	Safety pins.	20
22	Sterile drape.	As required
23	Sterile Hot tubes.	As required
24	Skin stitching thread.	As required
25	Stitching needle.	As required
26	Injection needle.	As required

MODULE- MIDWIFERY ASSISTANT (LEVEL-II)

NAME : **MIDWIFERY ASSISTANT.**

SECTOR : **MEDICAL & NURSING.**

CODE : **MED-207**

ENTRY QUALIFICATION : **Minimum 10th Standard & 14yrs of age + MED102**

TERMINAL COMPETENCY : Successful candidates would be able to take care of maternity patients. On completion of this module, the participants can be employed as Midwifery Assistant in Public/Private hospitals & clinics.

DURATION : 200 hrs

CONTENTS : **Care for Maternity Patients.**

Practical Competencies	Underpinning knowledge (Theory)
<p>1 Practice of safety & health hazards measures.</p> <p>2. Operation of sterilizer.</p> <p>3. Care for the maternity patients :</p> <ul style="list-style-type: none"> - Check for risk conditions. - Check for danger signs during pregnancy. - Methods of examinations of mother in Labor. - Methods of prevention of problems During 1st stage of labor. - Practice of safe & easier birth procedures. - Check for risk signs at 2nd stage of labor. - Practice of Nursing care in 3rd stage of Labor. 	<p>1. Principles of safety & health hazards measures.</p> <p>2. Principles of working & uses of sterilizer.</p> <p>3. Principles of care for the maternity patients :</p> <ul style="list-style-type: none"> - Risk conditions in pregnancy. - Danger signs during pregnancy. - Stages of labor.. - Normal labor/labor with risk signs.. - Examination of mother in labor. - Methods of preventions of problems during 1st stage of labor. - Safe & easier birth procedures. - Risk signs during birth at 2nd stage of labor. - Nursing care in 3rd stage of labor. - Nursing care of mother in first 6 hrs after Birth. - Nursing care of baby in first 6 hrs after birth

<ul style="list-style-type: none"> - Practice of nursing care of mother in First 6 hrs after birth. - Practice of Nursing care of baby in first 6 hrs after birth. <p>4. What to do in emergency while waiting for help.</p>	4. Principles of emergency care.
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List of Tools & Equipments

S.NO	DESCRIPTION	QUANTITY
1	Thermometer.	03
2	Enema syringe.	03
3	Stethoscope..	03
4	Enema pot..	03
5	Organ developer..	03
6	I.V drip stand.	03
7	Sphygmomanometer.	03
8	Bed Pan.	03
9	Sim's vaginal speculum.	03
10	Hot water bottle.	03
11	Dissecting forceps.	03
12	Fistula director.	03
13	Mosquito forceps.	03
14	Kachee's haemostatic forceps.	03
15	Scalpel.	03
16	Detachable blades.	03
17	Stitch cutting scissor.	03
18	Cuseal Bivalved speculum.	03
19	Tourniquet.	03
20	Fetoscope.	03
21	Infant weight machine.	03
22	Valsellum & Tenaculum.	03
23	Breast cup.	03
24	Alli's tissue forceps.	03
25	Straight scissors with stump points..	03
26	Brodie's fistula director.	03
27	Cheatle's forceps.	03
28	Sponge handling forceps.	03
29	Breast developer.	03
30	Gauge cutting scissor.	03
31	Syringe : 5ml / 2ml.	03
32	Ryles tube	03

MODULE-OPERATION THEATRE TECHNICIAN (LEVEL-II)

NAME : **Operation Theatre Technician**

SECTOR : **Medical & Nursing**

CODE : **MED-208**

ENTRY QUALIFICATIONS : **Minimum 10th Standard & 14 Yrs. of Age..+ MED102**

TERMINAL COMPETENCY: Successful Candidates would be able to operate Boils operator, suction apparatus, ventilator, O.T Table, Oxygen cylinder etc to assist surgeons. On completion of this module, the participants can be Employed as Operation Theatre Technician in public / Private Hospitals & Clinics.

DURATION : **270 Hrs**

CONTENTS : **Operation of equipments in operation theatre to assist surgeon.**

Practical Competencies	Underpinning knowledge (Theory)
<ol style="list-style-type: none"> 1. Practice of safety & health hazard measures 2. Code of conduct in operation theatre 3. Preparation of Trolley for surgery 4. Preparation of patients for surgery 5. Sterilization of operation theatre & surgical instruments 6. Identification & operation of: <ul style="list-style-type: none"> • Bolis operator • Suction apparatus • Ventilator • Operation Theatre table • Autoclave • Cautery machine • Oxygen cylinder • Bone curretor • Regulator 7. Practice of patients transfer / Shifting 8. Practice of injection methods: <ul style="list-style-type: none"> • Intravenous • Intramuscular • Subdermal • Intradermal 	<ol style="list-style-type: none"> 1. Principles of safety & health hazard measures. 2. Principles of code of conduct for O.T technician. 3. List of instruments for the preparation of Trolley 4. Indication , contraindication & dangers of Surgery 5. methods of preparation of patients for surgery 6. Principles of sterilization 7. Principles , Indication & Contraindications of: <ul style="list-style-type: none"> • Bolis operator • Suction apparatus • Ventilator • Operation Theatre table • Autoclave • Cautery machine • Oxygen cylinder • Bone curretor • Regulator 8.Principles of safe transfer of patients 9. Principles, safety & precaution of injection methods:

9. Practice of stitching skin	<ul style="list-style-type: none"> • Intravenous • Intramuscular • Subdermal • Intradermal
	10. Procedure of skin stitching.

List of Tools & Equipments/Raw materials:

1. Boils Operator	-	01
2. Suction apparatus (oral)	-	01
3. Ventilator	-	01
4. Operation Theatre table	-	01
5. Autoclave	-	01
6. Cautery Machine	-	01
7. Oxygen Cylinder (with trolley and accessories)	-	01
8. Bone curretor	-	01
9. Regulator	-	01
10. Face mask	-	02
11. Theatre dress	-	05
12. Theatre headwear	-	05
13. Gown	-	05
14. Towel	-	05
15. Gloves	-	05 sets
16. Cotton or Gauze (sterile)	-	As required
17. Mercurochrome	-	01
18. Tincture iodine	-	As required
19. Savalon	-	As required
20. Cetavlon	-	As required
21. Hydrogen peroxide	-	As required
22. Normal Saline	-	As required
23. Adhesive tapes	-	10
24. Bandages	-	10
25. Binders	-	50
26. Silk suture thread	-	As required
27. Forceps (different types)	-	02 sets each
28. Needle	-	As required
29. Syringe	-	As required
30. Scissor (Surgical)	-	10
31. Spinal needle	-	05
32. Ryles tube	-	02
33. Stretcher with stand	-	01

LIST OF EXPERTS / TRADE COMMITTEE MEMBERS

6. Sh. D. Mallick, Regional Director, RDAT Kanpur
7. Dr. Apoorv Mittal, Dental Surgeon, Mai Kamli Wali Hospital, Rajouri Garden, New Delhi
8. Dr. Shradha Mishra, Dental Surgeon, Lal Dental Clinic, JG-3/16, Vikaspuri, New Delhi-18
9. J. Dasgupta, Chairman, Baba Saheb Ambedkar ITC, Vikaspuri, New Delhi-18
10. Dr. Deepak Kumar, MPT, Assistant Professor (Physiotherapy), BSAITM, Bodhella Vikaspuri, New Delhi-18
6. Dr. Vinod Barua, Occupationalist Therapist, Mahalaxmi Occupational Therapy Centre, A- 39, Janakpuri, New Delhi-58
7. Dr. Manju Verma, MBBS, Bhagwati Hospital, Sector-6, Rohini, New Delhi-18
8. Dr. R.R,Mohanty, MBBS, MS (Surgery), Mohanti Surgical Clinic, DG-III/69, Vikaspuri, New Delhi-18
9. H.S Nigam, JTA,RDAT,Kanpur
10. Smt. Ararti Dasgupta, Managing Director, BSAITM, Vikaspuri, New Delhi-18
11. Abhishek Nigam,602 A, Secto- 55, Gurgaon, Haryana.
12. Balveer Singh, Pharmacist, Aditya Pharmaceutical Group INC, 544 H Sector-37, Gurgaon, Haryana.

MODULE
DENTAL CERAMIC ASSISTANT

NAME : **Dental Ceramic Assistant**
SECTOR : **Medical & Nursing**
CODE : **MED 118**
ENTRY QUALIFICATION : **Minimum 10th Standard & 14 Yrs of age**

TERMINAL COMPETENCY: Successful candidate would be able to take impression, cast models and identify & use the various equipments used in ceramic dentistry. On completion of this module, the participants can be employed as Dental Ceramic Assistant in public/ private hospital or Clinic.

DURATION : **120 hrs.**

CONTENTS : **Making impression, cast model for ceramic dentistry**

PRACTICAL COMPETENCIES	UNDERPINNING KNOWLEDGE (THEORY)
2. Making impression 3. Making Cast models 4. Identification & use of the following equipments / materials: <ul style="list-style-type: none"> • Wax • Impression materials • Types of gypsum • Trays • Bowls • Spatula • Gas welding Unit • Soldering Machine 	1. Impression material 2. Gypsum 3. Dental cement 4. Waxes 5. Dental Casting investing materials 6. casting procedure 7. Dental casting Alloy 8. Dental Ceramic 9. Abrasions & Polishing 10. Tarnish & Corrosion 11. Soldering & Welding

List of Tools & Equipments

S.NO	DESCRIPTION	QUANTITY
1.	Impression material	01
2.	Tray	03
3.	Bowl	02
4.	Spatula	01
5.	P.O.P	04
6.	Wax	As required
7.	Gas Welding Unit	01
8	Soldering machine.	As required

**MODULE
DENTAL CERAMIC TECHNICIAN (LEVEL-II)**

NAME : **Dental Ceramic Technician**

SECTOR : **Medical & Nursing**

CODE : **MED219**

ENTRY QUALIFICATION : **Minimum 10th Standard & 14 Yrs of age + MED118**

TERMINAL COMPETENCY: Successful candidate would be able to take working cast & dies, make wax patterns, make pontic design, do metal & all ceramic restoration, do finishing & polishing of cast etc. On completion of this module, the participants can be employed as Dental Ceramic Assistant in public/ private hospital or Clinic.

DURATION : **450 hrs.**

CONTENTS : **Making of cast, dies, wax pattern for ceramic restoration.**

PRACTICAL COMPETENCIES	UNDERPINNING KNOWLEDGE (THEORY)
<ol style="list-style-type: none"> 1. Working cast & dies 2. Making of Wax pattern 3. Frame work design & metal selection for metal ceramic restoration 4. pontic design 5. Investing & casting 6. Selection of color & shade 7. Metal ceramic restoration 8. All ceramic restoration 9. Finishing the Cast 10. Polishing 11. Soldering & welding 	<ol style="list-style-type: none"> 1. Principles of Wax patterns making 2. Pontic design 3. Principles of color & shade selection 4. Metal ceramic restoration 5. All metallic restoration 6. Finishing the cast

List of Tools & Equipments/Raw materials

S.NO	DESCRIPTION	QUANTITY
1.	Resin	02 Unit
2.	Tray	25 Unit
3.	Electroplated dies	As required
4.	Bunsen burner	06 Unit
5.	Inlay Wax	As required
6.	Waxing Instrument	06 Unit
7.	Sharp Colored Pencil	As required
8	Separating Liquid	02 Unit

9.	Soft Tooth brush	25 Unit
10	Double sided brushes	12 Unit
11.	Marking tape	06 Unit
12.	Wax saw	06 Unit
13	Scalpel	25 Unit
.14	Metals Ceramic bound finishing stone	06 Unit
15	Ceramic bound finishing stone	As required
16	Sand paper disks	06 Unit
17	Round Carbide Unit	06 Unit
18	Rubber Carbide bur	06 Unit
19	Airborne abrasion unit	06 Unit
20	Porcelain tweezers	25 Unit
21	Ceramist's Brushes	10 Unit
22	Whipping Brush	02 Unit
23	Cyanoacrylate resin	02 Unit
24	Diamond Stone	06 Unit
25	Diamond Disc	06 Unit
26	Quartz	As required
27	Vacuum Mixer & bowl	As required
28	Vibrator	02 Unit
29	Broken arm centrifugal casting machine	02 Unit
30	Crucible	02 Unit
31	Blow torch/ Gas welding	01 Unit
32	Tongs	02 Unit
33	Casting Alloy	02 Unit
34	Flux	02 Unit
35	Aluminium core ceramics	02 Unit
36	Slip cast ceramics	02 Unit
37	Hot pressed Ceramics	02 Unit
38	Metal reinforced system	02 Unit
39	Resin bonded ceramic	02 Unit
40	Solder	02 Unit
41	Soldering flux	As required
42	Soldering antflux	02 Unit
43	Porcelin Furnace	01 Unit
44	Metal Furnace	01 Unit
45	Micromotor with hand piece	02 Unit
46	Vita shade range	01 Unit
47	Trimming machine	02 Unit
48	LPG Cylinder with Burner	02 Unit
49	Procelain: Body, Opaque, Incisa	02 Unit

MODULE
DENTAL HYGIENE ASSISTANT

NAME : **Dental Hygiene Assistant**

SECTOR : Medical & Nursing

CODE : **MED120**

ENTRY QUALIFICATION: Minimum 10th Standard & 14 yrs of age.

TERMINAL COMPETENCY : Successful candidates would be able to manipulate dental cements, impression material, operate dental chair, etc. to assist dental hygienist. On completion of this module, the participant can be employed as Dental hygiene Assistant in Public/Private hospital & clinics.

DURATION : **300 hrs**

CONTENTS : **Operation & manipulation of dental chair, cement & impression.**

Practical Competencies	Underpinning knowledge (Theory)
1 Manipulating dental cements, POP & impression material.	1. Manipulation, types & uses of - Dental cements. - Plaster of Paris. - Impression materials.
2. Methods of loading in trays..	- Tray
3. Identification of dental instruments.	2. Operating methods of dental chair.
4. Operation of dental chair.	3. Principles of Ultrasonic scaling.
5. Scaling.	

6. Holding & developing dental X-ray.	4. Principle & procedure of handling & developing dental X-ray films.
7. Instrument sterilization.	5. Dental instruments & their uses.
8. Maintenance of dental unit.	6. Sterilizers : types & uses.
9. Dispensing of instruments.	7. Dispensing methods of dental instruments.

List of Tools & Equipments/Raw materials.

S.NO	DESCRIPTION	QUANTITY
1.	Dental chair.	01 Unit
2.	Dental X-ray unit.	01 Unit
3.	Developer & fixer of X-ray films	As required
4.	Scaler unit.	As required
5.	Light cure unit.	As required
6.	Autoclave.	01 Unit
7.	Periodontal probe.	10
8	Periodontal mirror	10
9.	Tweezer	10
10	Bowl & spatula.	10
11.	Wax carver.	10
12.	Wax knife.	10
13	Cement spatula.	10
.14	Cement callies.	10
15	Condenser.	10
16	Depein dish.	10
17	Burs	10
18	Straight hand piece.	01
19	Contra angle hand piece.	01
20	Air motor hand piece.	01
21	Trays.	10
22	Extraction forceps.	02 Kits
23	Elevator forceps.	02 Kits
24	Boiling sterilizer.	01
25	Curettes	10
26	X-Ray films (Dental)	10
27	Kidney tray.	10
28	Suture material.	02
29	Pariosteal elevator	10
30	Cold cure powder & liquids.	As required

31	Wax sheet.	02
32	Green stick.	As required
33	Impression compound.	As required
34	P.O.P	As required
35	Zinc oxide powder & Eugenol.	As required
36	Glass inomer cement.	As required
37	Calcium Hydroxide.	As required
38	Zinc phosphate.	As required
39	Files : 15, 20, 25, 30, 35, 40	As required
40	GP Point.	As required
41	Cotton	As required
42	RCT Box	As required
43	Crown remover.	As required
44	Gloves.	As required
45	Face mask.	As required
46	Patient's apron.	As required
47	Suction tips.	As required
48	Glass slaps.	As required
49	Coldmould seal	As required
50.	Polishing paste	As required

MODULE
DENTAL MECHANIC

Name : **Dental Mechanic.**
Sector : **Medical & Nursing**
Code : **MED121**
Entry Qualification : **Minimum 10th Standard & 14 yrs of age.**

Terminal competency: Successful candidates would be able to take impressions, make occlusion rim, bend wire etc to assist dental technicians. On completion of this module, the participant can be employed as Dental mechanic in Public/Private hospital & clinics.

Duration : **220 hrs**

CONTENTS : **taking Impression to make occlusion rim & teeth.**

Practical Competencies	Underpinning knowledge (Theory)
1 Handling the impression trays.	1. Principles of handling the impression trays.
2. Pouring of impression : - POP - Stone plaster - Die stone.	2. Methods of pouring impressions : - POP - Stone plaster - Die stone.
3. Making of occlusion rim.	3. Procedure of making occlusion rim..
4. Handling the articulator.	4. Principles of handling the articulator.
5. Selection of teeth..	5. Identification methods for selection of teeth.
6. Flasking, Dewaxing & packing.	6. Procedures of flasking, dewaxing & packing.
	7. Procedures of Curing, Deflasking, trimming

7. Curing, Deflasking, trimming & polishing	& polishing.
8. Denture reliving & rebasing.	8. Principles of Denture relining & rebasing.
9. Wire bending.	9. Principles of wire bending.

List of Tools & Equipments/Raw materials:

S.NO	DESCRIPTION	QUANTITY
1.	Trays : - dentalous - Edentulous	10
2.	P.O.P.	As required
3.	Dental stone.	As required
4.	Die stone.	As required
5.	Wax	As required
6.	Wax Knife.	10
7.	Lacren carver.	10
8	Bowl.	10
9.	Spatula.	10
10	Articulator.	10
11.	Acrylic Flask.	10
12.	Sticky wax.	As required
13	Cement spatula.	10
.14	Ronak, Buff & Polishing machine.	02
15	Cutter.	10
16	Adams plier.	10
17	Cold cure : - Powder - Liquid	As required
18	Heat cure : - Powder - Liquid	As required
19	Trimming machine or, lathe cut machine	01 Unit
20	Hanging motor with hand piece	01 Unit

LIST OF EXPERTS / TRADE COMMITTEE MEMBERS

1. Sh. D. Mallick, Regional Director, RDAT Kanpur
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9. H.S Nigam, JTA,RDAT,Kanpur
10. Smt. Ararti Dasgupta, Managing Director, BSAITM, Vikaspuri, New Delhi-18
11. Abhishek Nigam,602 A, Secto- 55, Gurgaon, Haryana.
12. Balveer Singh, Pharmacist, Aditya Pharmaceutical Group INC, 544 H Sector-37, Gurgaon, Haryana.

MODULE- PHARMACY ASSISTANT

NAME	:	Pharmacy Assistant.
SECTOR	:	Medical & Nursing
CODE	:	MED124
ENTRY QUALIFICATION	:	Minimum 10th Standard & 14 Yrs of age
TERMINAL COMPETENCY	:	Successful candidates would be able to read the prescription, identify & arrange medicine in medicine shop, identify & use first aid equipments, give injections, book orders, operate sphygmomanometer etc. On completion of this module, the participants can be employed as Pharmacy Assistant in Public/Private hospital's Pharmacy shop.
DURATION	:	180 hrs
CONTENTS	:	Identifying & arranging medicines and various equipments in pharmacy shop

<u>Practical Competencies</u>	<u>Underpinning knowledge (Theory)</u>
1. Practice of safety & health hazard measures of drugs.	1. Principles of safety & health hazard measures of drugs.
2. Practice of reading prescriptions.	2. Study of rules for :
3. Practice of reading the ingredients written on medicine..	- reading prescriptions. - reading ingredients written on medicine. - arranging companywise draws/box of medicine.
4. Identifying the following : - company wise draws/box of medicine. - Batch number & expiry date of medicine - OTC medicine & its use	- identifying batch number & expiry date of medicine. - first aid equipments & storage. 3. Definition of OTC, schedule H medicine, Restricted medicine & ethical medicine.

<ul style="list-style-type: none"> - schedule H medicine from Prescription. - restricted medicine from prescription & its storage. - first aid equipments, its storage. <p>5. Application methods of different antiseptic creams & lotions.</p> <p>6. Methods of bandaging.</p> <p>7. Methods of injection pricking :</p> <ul style="list-style-type: none"> - Intravenous. - Intramuscular. - Subdermal - Intradermal. <p>8. Keeping medicine in different racks of shop as per systems alphabetic order :</p> <ul style="list-style-type: none"> - antibiotics. - OTC medicines. - General medicine. - Gynecological medicine. <p>9. Arranging medicine as per expiry date.</p> <p>10. Stock taking of sold medicine to order new medicine from the vendor.</p> <p>11. Booking order both manually & computerized from customer & vendor.</p>	<p>4. Rule of issuing medicine & necessary check points.</p> <p>5. Definition of antiseptic & cosmetic creams/lotions.</p> <p>6. Principles of sterilization of first aid equipments.</p> <p>7. General principles of injection, sterilization & cleanliness of syringe & other tools used during injection.</p> <p>8. Types of injection pricking & precautions taken care during injection pricking.</p> <p>9. Bandaging & its various types.</p> <p>10. Procedures of the following :</p> <ul style="list-style-type: none"> - Keeping medicine in systematic way - maintaining stock ledger for availability of medicine. - maintaining data as per the expiry date of medicine. - maintaining sale register after everyday distribution of medicine. - placing purchase order as per requirement. - calculating purchase price & setting the sale price. <p>11. Basic computer applications (Microsoft</p>
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12. Distribution of booked order.	office).
13. Preparing manual/computerized purchase order from vendors.	12. Blood pressure :
14. Preparing list of Wholesale cost price, retail price & selling price.	- definition.
15. Keeping inventories.	- Normal values.
16. Use of computer for store keeping with relevant software.	- precautions while measuring & handling of sphygmomanometer.
17. Operations of normal & digital sphygmomanometer.	13. Various parts & use of Stethoscope.
18. Operations & use of stethoscope.	

Lists of Tools & Equipment/raw materials:

DESCRIPTION	QTY	DESCRIPTION	QTY
-	-	-	
1. Various medicines with their trade names alphabetically from A to Z.	As required	14. Soframycin ointment	10
2. Racks, draws & Cupboards of various size & shape.	As required	15. Syringes : 2ml/5ml	10
3. OTC medicines.	As required	16. Needles.	10
4. Schedule H medicines.	As required	17. Suturing needle.	10
5. Restricted medicines.	As required	18. Catgut.	10
6. Cotton.	As required	19. Register for maintaining stock.	As required
7. Cotton bandage.	As required	20. Register for purchase orders.	As required
8. Crape bandage :	As required	21. Register for booked orders.	As required
		22. Sphygmomanometer :	
- Small			
- Medium		- Digital	02
- large		- Manual	04

9. P.O.P bandage.	As required	23. Stethoscope.	04
10. Spirit.	10	24. Thermometer.	06
11. Betadine.	10	25. Computer & printer with relevant software for store keeping.	01
12. Savalon.	10	-	
13. Dettol.	10	-	

MODULE- BASIC TESTING EQUIPMENTS

NAME	:	BASIC TESTING EQUIPMENTS
SECTOR	:	Medical & Nursing
CODE	:	MED225
ENTRY QUALIFICATION	:	Minimum 10th Standard & 14 Yrs of age + Level 1(PHA101)
TERMINAL COMPETENCY	:	Successful candidates would be able to identify and use of Digital Testing Equipments like Blood Pressure, Blood Sugar, ECG, Nebuliser, Peak Flow Meter etc. . On completion of this module, the participants can be employed as Pharmacy Assistant in Public/Private hospital's Pharmacy shop.
DURATION	:	180 hrs
CONTENTS	:	Identifying and testing of various testing equipments in pharmacy shop.

Practical Competencies	Underpinning knowledge (Theory)
<p>Practical on Blood Pressure Testing Machine</p> <ol style="list-style-type: none"> 1. Sample of various Blood Pressure Machine. 2. Difference between manual and electronics Blood pressure equipments. 3. Practical on detecting pulse of human body. 4. Practical on hearing pulse through stethoscope on : <ol style="list-style-type: none"> a. Chest b. Intervenes 5. Procedure of installing manual B/P machine on human body. 6. Practical to attain accuracy to pumping & hearing the pulse to detect High / Low blood pressure. 7. Practical on detecting Blood Pressure on Electronics Equipments. 8. Readancy of measurements to find out accurate result in electronic equipments 	<p>Blood Pressure Machine</p> <ol style="list-style-type: none"> 1. Knowledge of Blood Pressure. 2. Requirement of measuring Blood Pressure. 3. Difference between High and Low Pressure. Charts of Normal Blood Pressure as per age. 5. Relation between Blood Pressure and Pulse. 6. Precautions while measuring and handling of Blood Pressure Machine Equipments. 7. Precautions while handling Blood Pressure Patients

<p>Practical on Blood Sugar Testing Machine</p> <ol style="list-style-type: none"> 1. Types of detecting Blood Sugar. 2. Practical on taking Blood Sample. 3. Measurements : Types of measuring Instruments 4. Demo of measuring of Blood Sugar with digital machine. <p>Practical of ECG Machine</p> <ol style="list-style-type: none"> 1. Fixing Electrode with the help of gel in Human Body. 2. Practice of using ECG machine in Screen and without screen format. 3. Take and retake of ECG result. 4. Procedure of taking ECG measurements. 5. Precautions while using ECG Machine 	<p>Use of Blood Sugar Testing Machine</p> <ol style="list-style-type: none"> 1. Introduction 2. Units of Sugar in Normal Body. 3. Requirement & disadvantages of Sugar in Blood 3. Factor responsible for increase Blood Sugar in human body. 4. Principles of measuring Blood Sugar. 5. Sterilization & cleanliness while taking Blood. 6. Precautions while measuring and handling of Blood 7. Charts of Normal Blood Sugar Label in Different ages in human Body. <p>Use of ECG Machine</p> <ol style="list-style-type: none"> 1. What is ECG ? 2. Requirement of ECG. 3. Study of different graph under normal cardio condition. 4. Study of different graph under abnormal cardio condition. 5. Study of Human hearts and its valves. Knowledge of Attires & Veins. 6. Knowledge of Different types of ECG Machine. 7. Difference between Analog / Digital and Hybrid Computers. 8. Knowledge of various attachments, spots while using ECG machine.
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List of Equipments:

1.	Blood Pressure Testing Kit	07
2.	Blood Pressure Testing Machine – Automatic	02
3.	Blood Sugar Testing Kit	02
4.	ECG Machine with accessories.	01

LIST OF EXPERTS / TRADE COMMITTEE MEMBERS

6. Sh. D. Mallick, Regional Director, RDAT Kanpur
7. Dr. Apoorv Mittal, Dental Surgeon, Mai Kamli Wali Hospital, Rajouri Garden, New Delhi
8. Dr. Shradha Mishra, Dental Surgeon, Lal Dental Clinic, JG-3/16, Vikaspuri, New Delhi-18
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10. Dr. Deepak Kumar, MPT, Assistant Professor (Physiotherapy), BSAITM, Bodhella Vikaspuri, New Delhi-18
6. Dr. Vinod Barua, Occupationalist Therapist, Mahalaxmi Occupational Therapy Centre, A- 39, Janakpuri, New Delhi-58
7. Dr. Manju Verma, MBBS, Bhagwati Hospital, Sector-6, Rohini, New Delhi-18
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9. H.S Nigam, JTA,RDAT,Kanpur
10. Smt. Ararti Dasgupta, Managing Director, BSAITM, Vikaspuri, New Delhi-18
11. Abhishek Nigam,602 A, Secto- 55, Gurgaon, Haryana.
12. Balveer Singh, Pharmacist, Aditya Pharmaceutical Group INC, 544 H Sector-37, Gurgaon, Haryana.

MODULE- OPTICIAN

NAME : **Optician**

SECTOR : Medical & Nursing

CODE : **MED122**

ENTRY QUALIFICATION : Min 8th standard & 14 yrs of age

TERMINAL COMPETENCY: Successful candidates would be able to take measurements of optical frame and perform cutting, grinding, polishing, fitting and aligning the glass in the optical frame. On completion of this module, the participants can be employed as optical technician in public/private hospitals, clinics or, optical shop.

DURATION : 120 hrs.

CONTENTS : Performing cutting, grinding and polishing of glass to make spectacle.

<i>Practical Competencies</i>	Underpinning Knowledge(Theory)
<ol style="list-style-type: none"><u>1.</u> Practice of safety & health hazard measure.<u>2.</u> Practice procedure of taking measurement (size and shape) of the optical frame.<u>3.</u> Procedure of glass cutting according to optical frame measurement (size & shape)<u>4.</u> Procedure of grinding the glass.<u>5.</u> Procedure of polishing the glass.<u>6.</u> Procedure of accurate & secure fitting of polished glass in optical frame.<u>7.</u> Checking alignment of both side glasses in optical frame.	<ol style="list-style-type: none"><u>1.</u> Principle of safety & health hazard measure.<u>2</u> Structure & functions of various parts of eye.<u>3</u> Disorders of eye sight:<ul style="list-style-type: none">-myopia-hypermetropia-Anisomeropia-Astigmatism-Presbyopia<u>4</u> Procedure of the following:<ul style="list-style-type: none">-glass cutting-Size and shape measurement of optical frame.

<p><u>8.</u> Procedure of taking measurement of forehead and optical frame for accurate fitting.</p> <p><u>9.</u> Checking the side arms flexibility & stability of optical frame.</p> <p><u>10.</u> Determination of the shape of frame according to the shape of face.</p> <p><u>11.</u> Maintaining record of glass required to order the manufacturer.</p> <p><u>12.</u> Maintaining record of optical frame required to order the manufacturer</p> <p><u>13.</u> Maintaining record of glass for frame stock.</p> <p><u>14.</u> Maintaining the daily input of clients & delivery of ready spectacles.</p> <p><u>15.</u> Vision test</p>	<p>-Grinding the glass -Polishing of glass -Fitting of glass -Alignment check of both side glasses.</p> <p><u>5</u> Rules of taking measurement of forehead & optical frame.</p> <p><u>6</u> Determination of the shape of frame according to the shape of face.</p> <p><u>7</u> Rules of maintaining record:</p> <p>-Glass required to order the manufacturer -Optical frame required to order the manufacturer. -Glass and frame stock. -Input of clients -Delivery of ready spectacles.</p> <p>8. Method of vision test</p>
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List of tools & Equipments/Raw materials:-

S.NO	DESCRIPTION	QTY
1	Trial case	02
2	Distance vision box	01
3	Varying vision chart	01
4	Lensometer	02
5	Grinder	02
6	Diamond column (glass cutter)	04
7	Pliers: 2 types	14
8	Screw drivers: 2-3 types	14
9	Glass marking pencil	14
10	Spare parts	AS REQ

MODULE- OPTOMETRIST

NAME : Optometrist

SECTOR : Medical & Nursing

CODE : **MED123**

ENTRY QUALIFICATION : Min 10th standard & 14 year of age

TERMINAL COMPETENCY: successful candidates would be able to operate retinoscope, keratometer, Lensometer, Retractor, various types of contact lenses & can perform vision test, visual acuity test. On completion of this module, the participants can be employed as optometrist in public/private hospital & clinics.

DURATION : 170 hrs.

Contents : Operation of lensometer, keratometer etc to determine power of lens.

<u>Practical Competencies</u>	<u>Underpinning knowledge (Theory)</u>
<ol style="list-style-type: none"> 1. practice of safely & health hazard measures. 2. Operation of retinoscope. 3. Colour blindness test 4. Various methods of vision test 5. Visual acuity test. 6. Deciding the power of lens on the basis of vision test. 7. Safe handling & application methods of contact lens. 8. Method of using soft lens solution 	<ol style="list-style-type: none"> 1. Principle of safety & health hazard measures. 2. Structure & functions of various parts of eyes. 3. Disorders of eye sight: <ul style="list-style-type: none"> -Myopia -Hypermetopia -Astigmatism -presbyopia 4. Lenses 5. Principle, method of working & use of retinoscope. 6. Colour blindness: testing procedure, causes & remedy. 7. Vision test: various testing Procedure

	8. Mathematical calculation procedure for the determination of power for a patient's eye 9. Contact lens: types, methods of applications, Indications, contraindication & precautions. 10. Soft lens solution: method of application, storage & precautions. 11. visual acuity test: procedure & use. 12. Light & reflection
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Lists of Tools & Equipments/Raw materials:

S.NO	DESCRIPTION	QTY
1	Retinoscope	01
2	Colour blindness test chart	01
3	Snell's chart	01
4	Various types of contact lenses	AS REQ
5	Soft lens solution	AS REQ
6	Keratometer	02
7	Ultra violate light Source	02
8	Trial lens set	02
9	Lensometer or vertexometer	02
10	Refractometer.	01

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MODULE

PHYSICAL MODALITY OPERATOR (Level-II)

NAME	:	PHYSICAL MODALITY OPERATOR
SECTOR	:	Medical & Nursing
CODE	:	MED209
ENTRY QUALIFICATIONS:		10th Standard & 14 Yrs. of Age. + MED102
TERMINAL COMPETENCY::		Successful Candidate would be able to operate Paraffin wax bath, Hydro collator pack, Contrast bath, Whirlpool bath unit and cry therapy unit used in Physiotherapy to assist Physical Therapists. On completion of this Module, the Participants can be employed as Physical modality operator in public /Private Hospitals.
DURATION	:	300 Hrs
CONTENTS	:	Operation of Physical modalities used in Physiotherapy

Practical Competencies	Underpinning knowledge (Theory)
1. Practice and procedure for safety health hazards measures 2. Operations of paraffin wax bath i) Preparation of Patients for PWB treatment ii) Preparation of apparatus iii) Methods of applications: - Dipping - Brushing - Pouring - Wrapping iv) Purification of Wax bath 3. Operation of hydro collator pack units: i) Preparation of Patients for Hot pack treatment. ii) Preparation of apparatus iii) Methods of application 4. Operation of contrast bath units: i) Preparation of Patients for contrast bath treatment. ii) Preparation of the Apparatus	1. Personal safety, dangers, causes & prevention of Electric & earth shock. 2. Thermal modality i) Physiological effects of heat ii) Working principles, Indications, Contraindication & dangers of : - Paraffin Wax bath (PWB) - Hydro collator pack - Contrast bath - Whirlpool bath 3. Cryotherapy: i) Physiological effects of cold ii) Working principles, Indications, Contraindication & dangers of : - Cold Pack - Ice Massage - Cold Compression Units - Ice Towel - Immersion

<p>iii) Methods of application</p> <p>5. Operation of Whirlpool Bath Unit: i) Preparation of Patients for Whirlpool bath treatment. ii) Preparation of apparatus</p> <p>6. Operation Of Cryotherapy Unit : i) Preparation of patients ii) Preparation of Apparatus iii)Methods of Applications.</p> <ul style="list-style-type: none"> - Cold Pack/Ice Pack - Ice Massage - Cold Compression Unit - Ice towel - Immersion - Vapocoalant Spray. 	<p>- Vapocoalant spray</p>
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List of equipments

1. Paraffin Wax bath unit	01
2. Brush	01
3. Mackintosh	04
4. Towel	10
5. Hydro collator Pack Unit	01
6. Tongs	02
7. Contrast bath unit	01
8. Whirlpool bath Unit	01
9. Cryotherapy Unit	01
10. Treatment Couch	04

MODULE

DIATHERMY OPERATOR (Level- II)

NAME	:	DIATHERMY OPERATOR
SECTOR	:	Medical & Nursing
CODE	:	MED210
ENTRY QUALIFICATIONS:		10th Standard & 14 Yrs. of Age. + MED102
TERMINAL COMPETENCY:		Successful Candidate would be able to operate S.W.D, M.W.D, I.R and Therapeutic Ultrasound units used in Physiotherapy to assist, Physical Therapists. On completion of this Module, the Participants can be employed as Diathermy operator in Public/Private Hospital & Clinics.
DURATION	:	300 Hrs
CONTENTS	:	Operation of various diathermy units used in Physiotherapy

Practical Competencies	Underpinning knowledge (Theory)
1. Practice & procedure for safety & health hazards measures. 2. Operation Of SWD: i) Preparation of Patients for SWD treatment ii) Preparation of apparatus iii) Methods of application - Capacitor/Condenser Field Methods - Cable methods/Inducto- Therymy. 3. Operation of MWD: i) Preparation of Patients for MWD treatment ii) Preparation of apparatus iii) Setting up iv) Methods of Application v) Termination of treatment 4. Operation of Therapeutic Ultrasound: i) Preparation of Patients for Ultrasound therapy. ii) Preparation of Apparatus. iii) Testing of the apparatus iv) Termination of treatment 5. Operation of infrared Radiation i) Preparation of Patient for I.R ii) Preparation of Apparatus iii) Techniques of application iv) Follow up v) Termination of treatment	1. Personal safety, dangers, causes & prevention of Electric & earth shock. 2. Short wave diathermy: - Introduction - Components of SWD Machine - Mechanism of production of SWD - Physiological effects - Indications - Contraindications 3. Microwave Diathermy: - Introduction - Components of MWD Circuit - Production of MWD - Physiological Effect - Indication - Contraindication. 4. Therapeutic Ultrasound: - Introduction - Production of Ultrasound - Modes of application - Intensity of ultrasound - Physical & physiological effect - Indications - Contraindication

	<p>5. Infrared radiation:</p> <ul style="list-style-type: none"> - Introduction - Source of Infrared - Physiological effect - Indications - Contraindication
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List of equipments

1. Short Wave Diathermy unit	01
2. Towel	10
3. Treatment couch	04
4. Microwave Diathermy unit	01
5. Therapeutic Ultrasound Unit	01
6. Ultrasonic Gel	As Required
7. Cotton	As Required
8. Infrared Generator	01
9. Infrared Goggle	As Required

MODULE**BIOELECTRICAL MODALITY OPERATOR (Level- II)**

NAME : **BIO ELECTRICAL MODALITY OPERATOR**

SECTOR : **Medical & Nursing**

CODE : **MED211**

ENTRY QUALIFICATIONS: **10th Standard & 14 Yrs. of Age. + MED211**

TERMINAL COMPETENCY: Successful Candidate would be able to operate I.F.T, T.E.N.S, U.V.R and Traction units used in Physiotherapy to assist Physical Therapists. On completion of this Module, the Participants can be employed as bioelectrical modality Operator in Public/Private Hospital & Clinics.

DURATION : **300 Hrs**

CONTENTS : **Operation of various bio-electrical modality used in Physiotherapy**

Practical Competencies	Underpinning knowledge (Theory)
1. Practice & procedure for safety & health hazards measures 2. Operation Of IFT i) Preparation of patients for IFT treatment ii) Preparation of apparatus iii) Setting the treatment parameters iv) Methods of application v) Termination of Treatment 3. Operation of TENS i) Preparation of Patients for TENS ii) Preparation of apparatus iii) Setting the treatment parameter iv) Methods of application v) Termination of treatment 4. Operation Of Ultraviolet Ray i) Preparation of patients for Ultraviolet ray treatment. ii) Preparation of apparatus iii) Setting up iv) Methods of application v) Termination of treatment 5. Operation of Traction Therapy unit	1. Personal safety, dangers, causes & prevention of Electric & earth shock. 2. Interferential Therapy (IFT): - Introduction - Physical Principles of IFT - Treatment parameters - Physiological effects - Indications - Contraindication 3. Transcutaneous Electrical Neuromuscular stimulation (TENS): - Introduction - Pain Modulation - Treatment Parameters - Physiological Effects - Indication - Contraindication 4. Ultraviolet radiation therapy: - Introduction - Classification of Ultraviolet Ray - Production of Ultraviolet ray - Physiological effect - Indication - Contraindication 5. Traction Therapy:

i) Preparation of patients for traction therapy. ii) Preparation of apparatus iii) Setting up iv) Methods of application v) Termination of treatment	- Introduction - Types - Physiological / Physical effect - Indication - Contraindication.
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List of equipments

1. Interferential therapy unit (IFT)	01
2. Straps	01
3. Towel	10
4. Electrode Gel	As Required
5. Adhesive Tapes	As Required
6. TENS Unit	01
7. Ultraviolet Ray Therapy Unit	01
8. Goggles	As Required
9. Cotton	As Required
10. Lumbar & Cervical Traction Unit	01
11. Weighing Machine.	01

MODULE- CHIROPRACTIC OPERATOR

NAME : **CHIROPRACTIC OPERATOR**

SECTOR : **Medical & Nursing**

CODE : **MED212**

ENTRY QUALIFICATIONS : **10th Standard & 14 Yrs. of Age. + MED102**

TERMINAL COMPETENCY: Successful Candidates would be able to deliver various Mobilization techniques used in physiotherapy to assist Physical Therapists .On completion of this module, the participants can be employed as Chiropractic Assistant in public / Private Hospitals & Clinics.

DURATION : **200 Hrs**

CONTENTS : **Applications of various mobilization techniques used in Physiotherapy**

Practical Competencies	<i>Underpinning knowledge (Theory)</i>
<ol style="list-style-type: none"> 1. Practice of safety methods & identification of contraindication 2. Preparation of Patients for peripheral joint mobilization. 3. Application of mobilization to <ul style="list-style-type: none"> • Shoulder joint • Elbow joint • Wrist joint • MCP joint • Hip joint • Knee joint • Ankle joint 4. Preparation of patients for Goniometry 5. Measurement of joint range of motion : <ul style="list-style-type: none"> • Shoulder joint • Elbow joint • Wrist joint • MCP joint 	<ol style="list-style-type: none"> 1. Arthrokinematics <ul style="list-style-type: none"> • Definition • Types of motion ; roll, Slide, Spin • Location of motion • Direction of motion 2. Osteokinematics 3. Convex- Concave rule 4. Capsular position <ul style="list-style-type: none"> • Loose pack position • Closed pack position • Capsular patterns • Five grades of joint play • Goniometry 5. Peripheral joint mobilization techniques <ul style="list-style-type: none"> • Upper limb joints • Lower limb joints • Indications • Contraindication

<ul style="list-style-type: none"> • Hip joint • Knee joint • Ankle joint 	<p>5. Goniometry</p> <ul style="list-style-type: none"> • ROM measurement of upper limb joint • ROM measurement of lower limb joint
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List of equipments :

1. Human Skeleton	01
2. Examination Couch	04
3. Towel	As Required
4. Pillow	As Required
5. Traction belt	01
6. Marker	As Required
7. Goniometer of different types :	02 each
(a) 360 degree	
(b) 180 degree	
(c) Finger Goniometer	

MODULE-BIOMOBILITY TECHNICIAN

NAME : **BIOMOBILITY TECHNICIAN**

SECTOR : **Medical & Nursing**

CODE : **MED213**

ENTRY QUALIFICATIONS: **10th Standard & 14 Yrs. of Age. + MED102**

TERMINAL COMPETENCY: Successful candidates would be able to operate suspension therapy, Tilt table and deliver various therapeutic including slimming exercise techniques used in Physiotherapy to assist Physical Therapists. On Successful Completion of this module, the participants can be employed as Bio-mobility technician in public/private hospital & clinics.

DURATION : **300 Hrs**

CONTENTS : **Applications of various bio-mobility equipments used in Physiotherapy**

Practical Competencies	Underpinning knowledge (Theory)
<ol style="list-style-type: none"> 1. Preparation of patients for physiotherapy treatment. 2. Suspension therapy: <ul style="list-style-type: none"> - Determining fixed points - Making of supporting ropes - Making of various - Suspension for lower limb - Suspension of upper limb 3. Tilt table: <ul style="list-style-type: none"> - Positioning of patient - Angle setting - Strapping technique 4. Isometric exercise 5. Isotonic exercise 6. Slimming techniques 	<ol style="list-style-type: none"> 1. Definition of therapeutic exercise in context of physiotherapy care & services. 2. Paralytic movement: <ul style="list-style-type: none"> - Principle of suspension therapy - Principle of tilt table 3. Arthritic movement: <ul style="list-style-type: none"> - Principle of isometric exercise - Principle of isotonic exercise 4. Principle of slimming

List of equipments :

1. Suspension therapy unit	01
2. Motorized tilt table	01
3. Multigym exerciser	01
4. Vacuum therapy unit	01
5. Slimmer	01

MODULE-THERAPEUTIC MASSAGE TECHNICIAN

NAME : **THERAPEUTIC MASSAGE TECHNICIAN**

SECTOR : **Medical & Nursing**

CODE : **MED214**

ENTRY QUALIFICATIONS: **10th Standard & 14 Yrs. of Age. + MED102**

TERMINAL COMPETENCY: Successful candidates would be able to deliver stroking, pressure manipulation, percussion and vibration massage technique used in physiotherapy to assist Physical Therapists. On Successful Completion of this module, the participants can be employed as therapeutic massage technician in public/private hospital & clinic.

DURATION : **300 Hrs**

CONTENTS : **Applications of various therapeutic massage used in Physiotherapy**

Practical Competencies	Underpinning knowledge (Theory)
<ol style="list-style-type: none">1. Preparation of patients for massage treatment.2. Types of massage application:<ol style="list-style-type: none">(i) Stroking(ii) Pressure manipulation:<ul style="list-style-type: none">- Kneading- Petrissage- Friction(iii) Percussion/Tapotement<ul style="list-style-type: none">- Clapping- Hacking- Tapping- Beating & pounding- Vibratory manipulation	<ol style="list-style-type: none">1. Definition & classification of massage2. Physiological effects on:<ul style="list-style-type: none">- Circulatory system- Blood- Exchange of metabolites- Metabolism- Nervous system- Soft tissue- Respiratory system- Skin- Adipose tissue3. Psychological effects4. Indication and Contraindications of various massage techniques

List of equipments:

- | | |
|---------------------|-------------|
| 1. Cosmetics | As Required |
| 2. Talcum powder | As Required |
| 3. Body massage oil | As Required |
| 4. Tools | As Required |
| 5. Treatment couch | 05 |
| 6. Pillows | As Required |
| 7. Towel | As Required |

MODULE

THERAPEUTIC LASER TECHNICIAN (Level- III)

NAME	:	THERAPEUTIC LASER TECHNICIAN
SECTOR	:	Medical & Nursing
CODE	:	MED315
ENTRY QUALIFICATIONS	:	10th Standard & 14 Yrs. of Age. + MED213/214
TERMINAL COMPETENCY	:	Successful candidates would be able to operate Therapeutic Laser unit used in Physiotherapy to assist Physical Therapists. On Successful Completion of this module, the participants can be employed as therapeutic laser Technician in public/private hospital & clinics.
DURATION	:	300 Hrs
CONTENTS	:	Operation of therapeutic laser units used in Physiotherapy

Practical Competencies	Underpinning knowledge (Theory)
<ol style="list-style-type: none">1. Preparation of the patient2. Preparation of the apparatus3. Application of treatment4. Termination of treatment5. Irradiation parameter settings<ul style="list-style-type: none">- Wavelength- Power output- Irradiance- Energy- Energy density- Pulse repetition rate- Area of treatment	<ol style="list-style-type: none">1. Definition2. Physical characteristics3. Production of laser4. Type of laser5. Physiological effects:<ul style="list-style-type: none">- Cellular effects- Effects on nerve condition & regeneration- Effect on vasodilatation6. Contraindication7. Precaution

List of equipments :

1. Laser therapy unit	01
2. Goggles	As Required
3. Towel	As Required
4. Treatment couch	01

MODULE- EMG TECHNICIAN (Level- III)

NAME	:	EMG TECHNICIAN
SECTOR	:	Medical & Nursing
CODE	:	MED316
ENTRY QUALIFICATIONS	:	10th Standard & 14 Yrs. of Age. + MED213/214
TERMINAL COMPETENCY	:	Successful candidates would be able to operate EMG biofeedback unit used in physiotherapy to assist Physical Therapists. On successful completion of this module, the participants can be employed as EMG Technician in public/private hospital & clinics.
DURATION	:	300 Hrs
CONTENTS	:	Operation of therapeutic EMG units used in Physiotherapy

Practical Competencies	Underpinning knowledge (Theory)
2. Preparation of patients for electromyographic diagnosis and treatment. 3. Technique of placement of electrodes on: <ul style="list-style-type: none"> - Upper limb - Lower limb - Trunk 4. Recording of EMG from: <ul style="list-style-type: none"> - Upper limb - Lower limb - Trunk 	1. Anatomy a physiology of muscle & nerve. 2. Instrumentation & recording procedure used in EMG: <ul style="list-style-type: none"> - Extra cellular & intra cellular recording technique - Recording electrodes used in EMG - Components of signal processors. - Neuromuscular stimulators in ENMG 5. Principles of electromyography: <ul style="list-style-type: none"> - Normal a abnormal electrical activity in skeletal muscle at rest - Normal a abnormal electrical activity in skeletal muscle during volitional activation

List of equipments :

1. Electromyography unit	01
2. Spirit	As Required
3. Cotton	As Required
4. Recording surface electrodes	As Required
5. Adhesive tape	As Required

LIST OF EXPERTS / TRADE COMMITTEE MEMBERS

16. Sh. D. Mallick, Regional Director, RDAT Kanpur
17. Dr. Apoorv Mittal, Dental Surgeon, Mai Kamli Wali Hospital, Rajouri Garden, New Delhi
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11. Abhishek Nigam,602 A, Secto- 55, Gurgaon, Haryana.
12. Balveer Singh, Pharmacist, Aditya Pharmaceutical Group INC, 544 H Sector-37, Gurgaon, Haryana.

MODULE (LEVEL-II)- OCCUPATIONAL THERAPY ASSISTANT

NAME	:	OCCUPATIONAL THERAPY ASSISTANT.
SECTOR	:	MEDICAL & NURSING
CODE	:	MED217
ENTRY QUALIFICATION	:	MINIMUM 10TH STANDARD & 14 YRS OF AGE + MED102
TERMINAL COMPETENCY	:	Successful candidates would be able to operate Bio feed back machine, C.P chair and deliver various therapeutic exercises etc used in occupational therapy to assist occupational therapists. On completion of this module, the participant can be employed as Occupational therapy Assistant in Public/Private hospital & clinics.
DURATION	:	300 HRS
CONTENTS	:	Operation of various therapeutic exercise units used in O.T.

Practical Competencies	Underpinning knowledge (Theory)
1 Practice of safety & health hazards measures..	1. Principles of safety & health hazards measures.
2. Practice of therapeutic activities with : - Medicine ball. - Quadriceps exerciser	2. Principles, indications & contra-indication of : - Medicine ball.

<ul style="list-style-type: none"> - T-pulley exerciser. - Vertical shoulder exerciser. - semicircular shoulder exerciser. - Pronator supinator exerciser. - Hand gripper exerciser.. - Ankle exerciser. - Finger ring exerciser. - Finger dexterity board. - ADL board. <p>3. Operation of Biofeedback machine.</p> <p>4. Handling the cerebral palsy child.</p> <p>5. Operation of :</p> <ul style="list-style-type: none"> - C.P. chair. - Swinging exerciser. - Corner chair. - Wheel chair. 	<ul style="list-style-type: none"> - Quadriceps exerciser - T-pulley exerciser. - Vertical shoulder exerciser. - semicircular shoulder exerciser. - Pronator supinator exerciser. - Hand gripper exerciser.. - Ankle exerciser. - Finger ring exerciser. - Finger dexterity board. - ADL board. <p>3. Working principle, indications & precautions of Biofeedback therapy.</p> <p>4. Definition, types & clinical features of cerebral palsy child.</p> <p>5. Working principles, indications & precautions of :</p> <ul style="list-style-type: none"> - C.P. chair. - Swinging exerciser. - Corner chair. - Wheel chair.
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Lists of Tools & Equipments:

S.NO	DESCRIPTION	QTY
1	Examination couch.	01
2	Exercise Mat..	01
3	Medicine Ball.	01
4	Quadriceps exerciser.	01
5	T-pulley exerciser.	01
6	Vertical shoulder exerciser..	01
7	Semicircular shoulder exerciser.	01
8	Pronator-supinator exerciser.	01
9	Hand gripper exerciser.	01
10	Thera band	01

11	Ankle exerciser.	01
12	Finger ring exerciser	01
13	Finger Dexterity board..	01
14	ADL board.	01
15	Biofeedback unit.	01
16	C.P. chair.	01
17	Swinging exerciser.	01
18	Corner chair.	01
19	Wheelchair	01

LIST OF EXPERTS / TRADE COMMITTEE MEMBERS

1. Sh. D. Mallick, Regional Director, RDAT Kanpur
2. Dr. Apoorv Mittal, Dental Surgeon, Mai Kamli Wali Hospital, Rajouri Garden, New Delhi
3. Dr. Shradha Mishra, Dental Surgeon, Lal Dental Clinic, JG-3/16, Vikaspuri, New Delhi-18
4. J. Dasgupta, Chairman, Baba Saheb Ambedkar ITC, Vikaspuri, New Delhi-18
5. Dr. Deepak Kumar, MPT, Assistant Professor (Physiotherapy), BSAITM, Bodhella Vikaspuri, New Delhi-18
6. Dr. Vinod Barua, Occupationalist Therapist, Mahalaxmi Occupational Therapy Centre, A- 39, Janakpuri, New Delhi-58
7. Dr. Manju Verma, MBBS, Bhagwati Hospital, Sector-6, Rohini, New Delhi-18
8. Dr. R.R, Mohanty, MBBS, MS (Surgery), Mohanti Surgical Clinic, DG-III/69, Vikaspuri, New Delhi-18
9. H.S Nigam, JTA, RDAT, Kanpur
10. Smt. Ararti Dasgupta, Managing Director, BSAITM, Vikaspuri, New Delhi-18
11. Abhishek Nigam, 602 A, Sector- 55, Gurgaon, Haryana.
12. Balveer Singh, Pharmacist, Aditya Pharmaceutical Group INC, 544 H Sector-37, Gurgaon, Haryana.

Module-I (Level-I)

Course : **Yoga Therapist**
Sector : **Medical & Nursing**
Course Code : **MED126**
 Minimum educational : 10th Passed
 Qualification
 Terminal competency : On completion of course the participant would be able to :

1. Work as Yoga therapist which in turn may help in personal, social and spiritual development.

Duration : 360 Hours

Content

Practical Competencies	Under Pinning knowledge
# Preparation of Room for Yogic practice # Preparation of Yoga session # Practise of various Asanas # Practise of Pranayam # Cleanness of Pots and other appliance of Kriyas # Preparation of Shudhhikriyas and their practice # Study of Human Anatomy and Physiology	# Study of Human Anatomy and Physiology Explanation about the structure and various function in Human body # Concept of Health & Diseases Diabetes, Hypertension, Obesity, Br. Asthama, Heart problems, Headache, Joint-Pain. # Concept of Hygiene # Indian approach of Vedic & Post Vedic period # Various darshans and their common goal for self reliasation # Textual basis of Yoga # Techniques for yogic practice & th role in Human-Health. # Basic principles and methods of various Asanas with their application of for various ailments. # Modification of Yogic Practise

Module-II (Level-II)

Course : Advance Yoga Therapist

Sector : Medical & Nursing

Course Code : MED227

Minimum educational Qualification: 10th Passed and having completed the course on Yoga therapist

Terminal competency: On completion of course the participant would be able to :

1. Work as Senior Yoga therapist which in turn may help in personal, social and spiritual development of human beings.

Duration : 360 Hours

Practical Competencies	Under pinning knowledge
#Practise on advance yogic Asanas #History taking of patients. #Application of Yogic-programe on various Diseases. #Special programe on various diseases like Obesity, Hypertension, Heart problems, Diabetes #To know the contraindication of Yogic-Practices #Selection of diet for Yoga. #Clealiness of surrounding-area. #Application of Teaching methods	#Techniques of advance Yogic Asanas #Basic principles and methods of Yogic-Practices #Modification of Yogic-Practices. #Ideal Diet for Yoga. #Nutritional Regulation. #Special Dietary Items. #Revision of of Human-physiology.

Tools/Machinery required

- 1 Room of size suitable to comfortably sit 20 persons at time
2. carpet /Mats for individual for sitting
- 3.Jala Neti, Sutra-Neti pots, Danda-Dhouti & Vastra-Dhoutis
- 4.Tub-bath
5. Checking tables
6. Stethoscope
- 7.B.P. Apparatus.
- 7Towles/napkins
8. Pots for cleansing appliances
- 9.Gas stove
- 10.Thermometer & weighing M/C
11. Model Human skull for study of Anatomy

Note: Items at Sl no 2& 3 are required one for each participant. Other items One set for each batch.

Raw Material

- 1.Salt
2. Clean Water –Cold & warm
- 3.Honey & Ghee

Note: Quantity of is Raw material as per need

Module-III (Level-I)

Course : **Naturopathist I**

Sector : **Medical & Nursing**

Course Code : **MED128**

Minimum educational : 10th Passed

Qualification

Terminal competency : On completion of course the participant would be able to :

1. Work as naturopathist which in turn may save and protect the people from the side effect of modern medicine
2. May guide people to stay with Nature as a Naturopath

Duration : 360 Hours

Content :

Practical Competencies	Under Pinning knowledge
#Preparation for Naturopathy treatment #Methods of nature cure. #Preparation of food #Preparation of Naturopathic dishes for specific disorders. #Storage method of food #Preparation for Sun-Bath. #Preparation for Fasting #Preparation of Wheat-Grass	#Basic Naturopathy History of Development of Nature cure # Concept of Hygiene: personal & social Hygiene #Definition of Health, Hygiene and importance of Diet. #Modes of treatment in Naturopathy: Mud therapy, Hydrotherapy, Sun-ray treatment Magnetic-therapy #Massage therapy & other treatments in Naturopathy #Preservation and Restoration of general Health #Fasting & Elimination of waste products of the body #Importance of Exercise and regular Diet

Module-IV (Level-II)

Course : Naturotherapist II

Sector : Medical & Nursing

Course Code : MED229

**Minimum educational
Qualification:**

**10th Passed and having completed course on
Naturotherapist I**

Terminal competency : On completion of course the participant would be able to :

- 1. Work as Senoir Naturotherapist which in turn may save and protect the people from the side effect of modern medicine**
- 2. May guide people to stay with Nature as a Sr Naturopath**

Duration : 360 Hours

Content :

Practical Competencies	Under Pinning knowledge
1.Preparation of Diet -Therapy.	1. Role of Naturopathy in
2.Application of Mud on body.	Maintenance of
3.Methods of Massage.	Health
4.Methods of various Hydrotherapy:-	2.Hygenical values of modes of
--	treatmen-
Footbath,Katisnan, Enema,Steam	in Naturopathy
bath and other water therapy.	3.Systemwise purification of Body
5.Preparation of Sauna bath.	Through Naturopathy
6.Practise on Magnetic therapy	4.Food,Water& Air Pollution and
	Prevention
	5.Physical & Mental Hygiene.

List of Tools/equipments

Sl No	Name of equipment	Qty
1	Enema pot and Catheter	One for a batch
2	Icebag.,Hot Water Bag. Juicer.	One for a batch

3	Steam bath Cabinet. Vibrator	One for a batch
4	Sauna Bath Cabinet.	One for a batch
5	Foot Bath Tub, Full BathTub	One for a batch
6	Spinal Bath Tub. Infra Red Lamp.	One for a batch
7	Magnets and Magnetic Belts	One for a batch
8	Weighing Machine.	One for a batch
9	Plastic Trays for mud and Wheat grass.	One for a batch
	Consumables	
1	Body massage oil	As per requirement
2	water:--- Cold and Warm Water.	As per requirement
3	Different types of Mud.	As per requirement
4	Lemon Juice.	As per requirement
5	Fruit juices.	As per requirement

Module-V (Level-I)- External Therapist

Course	: External Therapist
Sector	: Medical & Nursing
Course code	: MED130
Duration	: 380 hrs.
Qualification	: 10th Standard & 14 years of age
Terminal Competency	: After completion of course the participant will be able to : Assist patients of different ailments like Headache, Spondylitis (cervical and lumbar) Frozen shoulder, problems of Indigestion, Acidity, constipation, diarrhea, vomiting, And nausea, sciatica, Heel pain, Insomnia, Fatigue, Stress reduction, Correction of mal Position of the fetus, Knee joint pain.

Contents:

Practical Competencies	Under Pinning Knowledge(Theory)
1. Palpation techniques	1. Hand exercise for palpation method
2. Use of cupping set	2. Use of anatomical charts
3. Maintenance of moxa sticks	3. Skeleton of human for study of bones and joints
5. Use of jimmy for palpation	4. Theory of cupping
6. Handling of seeds for auricular therapy	5. Theory of Moxibustion
7. Use of Guasha comb or stones	6. Basic acupuncture theory
8. Use of Lubricating oil	7. Auricular therapy principles
9. Sterilization of plum blossom needles	8. Sterilization techniques
10. Treatment of small burns.	9. Audit of fire hazard and any their application
	10. Type of low frequencies and their Application
	11. Basic Su-Jok theory

List of tools & equipments

1. Room for the treatment suitable for 10 patients
2. Bed for the patient
3. Chairs for other patients
4. Cupping set
5. Skeleton model
6. Other models like Ear
7. Guasha comb with oil

8. Different oils for Guasha therapy
9. Some External application creams like vicks, iodex, narayan oil.
10. Plum blossom needles
11. Ear seeds with tape
12. Low frequency machine
13. Moxa sticks
14. Jimmy for su-Jok testing & treatment
15. TCM Meridian charts
16. Ear acupuncture charts

Note :Above quantity is one for each batch.

Sl No	Proposed Module	Level	Entry Qualification	Duration In hours	Remarks
1	Yoga Therapist I	I	10 th Passed	360	
2	Yoga Therapist II	II	10 th Passed +course at Sl 1 above	360	
3	Naturopathist I	I	10 th Passed	360	
4	Naturopathist II	II	10 th Passed +course at Sl 3 above	360	
5	External Therapist	I	10 th Passed	360	

List of Trade committee members

- | | | |
|---|--|--------------|
| 1. Dr. Aneel Morey.
B.A.M.S.(mum), C.Y.C., C.Y.N., D.Y.T. | H.O.D.: - Yoga & Naturopathy Dept. -- Trade Expert
Kala-Vidya-Sankul, Charni Rd
Mumbai | |
| 2. Mrs. Khyatee (Archana) Morey.
Bsc., D.M.L.T., C.Y.N., D.Y.E | Specialist In Yoga (Kriya Yoga) and ---
Nature- Cure. | Trade expert |
| 3. Mr. Manoj Samant | Principal-Kala Vidya Sankul
Mumbai | Member |
| 4. Mr. D K Jatav | RDAT, Mumbai | Member |
| 5. Mr. I R Bhilegaoker | DVET, Mumbai | Member |

LEVEL – I
MODULE - 1

1. Name of the Module : **DIALYSIS ASSISTANT**
2. Sector : Medical and Nursing
3. Code : **MED131**
4. Entry Qualification : 12th Standard.
3. Age : 18 years and above
4. Terminal Competency : After completing the training the candidate will be able to
1) Understand the role of Dialysis Assistant 2) Do the basic functions on Dialysis and 3)
Assist the Renal Physician.
5. Duration : 450 Hrs.
6. **Contents**

Practical competencies	Underpinning knowledge (Theory)
<ul style="list-style-type: none"> • Self protection & Medical hazards. • Physiological principle and urea kinetic Modeling. • Vascular access for Hemodialysis. • Acute Hemodialysis prescription. • Chronic Hemodialysis prescription. • Complication during Hemodialysis. • Anticoagulation. • Use of dialysis and Hem perfusion in treatment of poisoning. • Hemodialysis Machine: maintenance. • Water Treatment Plant: maintenance. • Initiation of dialysis Hem dialysis. • Hemodialysis Apparatus • Complication and management of complication during dialysis. • Assessment of adequacy of dialysis • Apparatus of peritoneal dialysis. • Peritoneal access devices • Physiology of peritoneal dialysis • Peritonitis and exit site infection • Solute transport and volume status 	<ol style="list-style-type: none"> 1. Self protection & Medical hazards. 2. Basics of renal Anatomy & physiology Acute Renal Failure/Chronic renal failure. 3. Physiological principle and urea kinetic Modeling. 4. Vascular access for Hemodialysis. 5. Acute Hemodialysis prescription. 6. Chronic Hemodialysis prescription. 7. Complication during Hemodialysis. 8. Anticoagulation 9. Use of dialysis and Hem perfusion in treatment of poisoning. 10. Hemodialysis Machine: Working Principles 11. Water Treatment Plant: Working Principles 12. Complication and management of complication during dialysis. 13. Assessment of adequacy of dialysis. <p style="text-align: center;"><u>PERITONIAL DIALYSIS</u></p> <ol style="list-style-type: none"> 14. Physiology of peritoneal dialysis 15. Peritonitis and exit site infection 16. Solute transport and volume status

Tools and Equipments

1. Hemodialy Dialysis Machines & Accessories..... : As required
2. Reverse Osmosis plant (R O Plant). : As required

LEVEL – I
MODULE - 2

1. Name of the Module : **MEDICAL RECORD TECHNICIAN**
2. Sector : Medical and Nursing
3. Code : **MED132**
4. Entry Qualification : 12th Standard + Computers basics

5. Age : 18 years and above

6. Terminal Competency : After completing the training the candidate will be able to understand and do the work in Medical Record Section of Pathology.

7. Duration :450Hrs.

8. **Contents:**

Practical Competencies	Underpinning Knowledge (Theory)
<ul style="list-style-type: none"> • Basic keyboard operations of computer and operation of other standard office equipment. • Techniques, system and methods for interpreting, encoding medical records. • Maintain records and compile statistics for research. • Interpret medical records to assign diagnostic codes and prepare medical record abstracts. • Evaluate the quality, completeness and accuracy of medical records. • Practice on, data processing, data base management. 	<ul style="list-style-type: none"> • Basics of Computer • Basic medical terminology. • Government, hospital, and Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) standards for medical records. • Healthcare insurance reimbursement programs • Knowledge of Medical law • Knowledge of notifying diseases. • Knowledge of, data processing, data base management. • Basics on Medical terminology.

Tools & Equipments

SI No.	Name of the Equipment	Qty.
1	Computers and Accessories –	10 nos.
2	Printers. -	10 nos.
3	Scanners –	10 nos.

4	Photo copier machine	1 no.
5	Internet connection	Multi user
6	Furniture –	as required
7	Filing cabinets –	as required
8	Books for International Classification diseases	as required
9	Record room	1

LEVEL – I
MODULE - 3

1. Name of the Module : **HEALTH CARE MULTIPURPOSE WORKER**
2. Sector : Medical and Nursing
3. Code : **MED 133**
4. Entry Qualification : 10th Standard
5. Age : 18 years and above
6. **Terminal competency** : Successful candidates would be able to 1) Read the prescription, 2) Identify medicines in store, 3) Identify & use first aid equipments, 4) Administer injections, book orders, operate sphygmomanometer etc. 5) I/M injection, Setting up I/V line, Oxygen inhalation, and use of Nebulizer. They can be employed as Pharmacy Assistant, ward assistant, dresser in a dispensary and in a Hospital.
7. Duration : 450Hrs (75 Days)
8. **Contents**

Practical Competencies	Underpinning knowledge (Theory)
1. Practice of safety & health hazard measures of drugs. 2. Practice of reading prescriptions. 3. Practice of reading the ingredients written on medicine. 4. Identifying the following: - company wise draws/box of medicine. - Batch number & expiry date of medicine - OTC medicine and its use - Schedule H medicine from Prescription. - Restricted medicine from presentation & its storage. - First aid equipments, its storage. 5. Application methods of different antiseptic creams & lotions. 6. Methods of Bandaging 7. Methods of injection pricking: Intramuscular	1. Principles of safety & health hazard measures of drugs. 2. study of rules for: -reading prescriptions. -reading ingredients written on medicine. -arranging company wise draws/box of medicine. -identifying batch number & expiry date of medicine -first aid equipments & storage. 3. Definition of OTC, schedule H medicine, Restricted medicine & ethical medicine. . 4. Rule of issuing medicine & necessary check points. 5. Definition of antiseptic & cosmetic creams/ Lotions. 6. Principles of sterilization of first aid equipments. 7. General principles of injection, sterilization & cleanliness of syringe & other tools used during injection. 8. Types of injection pricking & precautions taken care during injection pricking. 9. Bandaging & its various types, Dressing and

<p>8. Keeping medicines in different racks of shops as per systems/ alphabetic orders:</p> <ul style="list-style-type: none"> - antibiotics. - OTC medicines - General medicine. - Gynecological medicine. <p>9. Arranging medicines as per expiry date</p> <p>10. Stock taking and sold medicine to order new medicine from the vendor.</p> <p>11. Booking order both manually & computerized from customer & vendor.</p> <p>12. Distribution of booked order</p> <p>13. Preparing manual/computerized purchase order from vendors.</p> <p>14. Preparing list of Wholesale cost price, retail price & selling price.</p> <p>15. Keeping inventories</p> <p>16. Use of computer for store keeping with relevant software.</p> <p>17. Operations and use of stethoscope.</p> <p>18, Knowledge of Ayush.</p>	<p>Splinting (Handling of injured patient, Knowledge of first aid)</p> <p>10.Procedures of the following:</p> <ul style="list-style-type: none"> - Keeping medicine in systematic way - maintaining stock ledger for availability of medicine. - maintaining data as per the expiry date of medicine. - maintaining sale register after everyday distribution of medicine. - placing purchase order as per requirement. - calculating purchase price & setting the sale price <p>11. Basic computer applications (Microsoft office)</p> <p>12. Blood pressure:</p> <ul style="list-style-type: none"> - Definition - Normal value - Precautions while measuring and handling of sphygmomanometer. <p>13. Various parts & use of Stethoscope.</p>
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List of Tools & Equipment / raw materials:

DESCRIPTION	QTY	DESCRIPTION	QTY
1. Various medicines with their trade names alphabetically from A to Z.	As required	14. Soframycin ointment	10 nos
2. Racks, draws & Cupboards of various size & shape.	As required	15. Syringes: 2ml/5ml	10 nos
3. OTC medicines.	As required	16. Needles.	10 nos
4. Schedule H medicines.	As required	17. Suturing needle.	10 nos
5. Restricted medicines.	As required	18. Catgut.	10 nos
6. Cotton.	As required	19. Register for maintaining stock.	As required
7. Cotton bandage.	As required	20. Register for purchase orders.	As required
8. Crape bandage:	As required	21. Register for booked orders.	As required

LEVEL – I
MODULE - 4

1. Name of the Module : **Nursing Aides**
2. Sector : Medical and Nursing
3. Code : **MED 134**
- 4: Entry Qualification : 10th Standard.
5. Age : 14 years or above
6. Terminal competency : After completion of course participant will be able to:
1. Perform basic first aid, CPR, take vital signs and apply proper body mechanics in bed making and lifting & turning patients.
 2. Help patients with his hands on experience in daily living activities, such as feeding, changing lines, taking blood pressure and handling medical equipment.
7. Duration : 400 hours
8. Contents

Practical Competencies	Underpinning Knowledge (Theory)
<ul style="list-style-type: none"> - Review of Anatomy & Physiology i.e Demonstration of human skeleton and human dummy / chart, Identification and familiarization of circulatory, respiratory, digestive, genito urinary, nervous and endocrine systems . - Methods of hand-washing and waste segregation. Management of needle-stick injury and blood spill. - Demonstration of bed-making and types of beds - Practice of taking vital signs (TPR/BP) - Sponge / bed bath, care of hair, nail, mouth, ear, hands, feet, perineum and back care) - Demonstration of Dressing - Demonstration of administration of drugs - Demonstration of steam inhalation - Demonstration of patient feeding - Demonstration of using wheel-chair and stretcher and shifting / transferring patients 	<p><u>Personal Hygiene and Environmental Sanitation</u></p> <p>1. Personal Hygiene</p> <ul style="list-style-type: none"> a. Introduction - Concept of Health and Its Relation to Successful Living b. Maintenance of Good Physical Health: <ul style="list-style-type: none"> - Care of Skin, Hair, Teeth, Eyes, Hands & Feet and Menstrual Hygiene - Importance of Clothing, Rest, Sleep, Relaxation and Recreation, Exercise Posture and Elimination - Health Habits, Immunization, Correction of Defects and Food Nutrition c. Mental Health: <ul style="list-style-type: none"> - Foundation of Contributing Factors, Characteristics of a Mentally Healthy Person, Adjustments and Causes of Maladjustments. <p>2. Environmental Sanitation</p> <ul style="list-style-type: none"> a. Introduction: <ul style="list-style-type: none"> - Relation of Environment with Health b. Maintaining a Clean Environment

<ul style="list-style-type: none"> - Demonstration of using bedpan - Demonstration of sample collection for laboratory (sputum, urine and stool) - Demonstration of sterilization 	<ul style="list-style-type: none"> - Air and Ventilation, Safe Water and Good Housing, Disposal of Waste c. Promotion of Environmental Health - Individual Responsibility and Community Responsibility
	<p><u>Elementary Nursing</u></p> <p>1. Introduction</p> <ul style="list-style-type: none"> a. Patient as a Person b. Family Structure in India c. Socio-Economic Factors Influencing Sick Persons and Their Family d. Impact of Various Types of Diseases or Human Behaviour Reaction of a Patient to Their Various Ailments, to Patient's Personality, Family Members & to Illness Itself. e. Role of Religious Practices in Treatment of Ailing Patient. f. Role of Hospital Aides in Caring the Sick Patients. <p>2. Caring for the Sick</p> <ul style="list-style-type: none"> a. Environment: <ul style="list-style-type: none"> - In Home and Hospital (Air, Light, Noise, Smell and Ventilation) - Cleanliness and Cleaning. b. Beds: <ul style="list-style-type: none"> - Types of Beds (Closed, Open, Fowlers & Cardiac Bed) - Bed Making- with patient, without patient, changing linen, body posture mechanism, care of bed and linen. c. Comfort: <ul style="list-style-type: none"> - Importance of rest and sleep. Body support and posture in bed, use of comfort devices. Various positions and positioning, lifting and moving in and out of bed. Exercise- active and passive. Protection from injury-accidents and infection and sterilization. Elimination- giving and taking bedpan and urinals, its care. d. Hygiene: <ul style="list-style-type: none"> - Care of mouth- mouth wash. Care of hair- combing, washing,

pediculosis treatment. Bath-bed bath, bathroom bath, care of hands, feet, nails. Skin care: causes and prevention of skin diseases, pressure sore, back care and clothing.

e. Nutrition:

- Importance of diet in heart sickness. Types of diet, preparation of simple food. Serving diet and feeding patients.

f. Observation and Recording:

- Importance of taking T.P.R. activity, appetite, fluid intake and output, character of pain, condition of mouth, tongue, skin, changes in urine, stool, body discharges, mental state and collection of specimen.

g. Ethics and Legal Responsibilities

- Professional responsibilities

h. Simple Nursing Treatment:

- Hot Application: hot water bags, fomentation
- Cold Application: ice caps, cold compress and cold sponge
- Drug Administration: Principles of drug administration, administration of oral drugs, care of drugs, steam inhalation (under the supervision of professionals).
- Local Application: Instillation of drops, gargles, external applications
- Enemas: Types and Administration

i. Care of:

- Dying patients and dead, chronically ill patients, convalescing patients, patients with infectious diseases, old age patients, care of unconscious patients.

j. Health Teaching:

- Concept and Principles, Role of nurse as a teacher, informal and incidents teaching, exposure to primary healthcare

k. Home Remedies:

- Simple Home Remedies

l. Care & Maintenance of Equipments

First Aid and Bandaging

	<p style="text-align: center;">1. Principles of First Aid</p> <p>2. Emergencies: First Aid treatment in- fainting and shock, fracture, haemorrhage, wounds, asphyxia, burns, poisoning, fits, bites, heamo-wounds and infectious burns and scalds. Artificial respiration, Transport of patients.</p> <p>3. Bandaging: General principles, types, application bandages to different parts of the body.</p>
	<p style="text-align: center;"><u>Mother and Childcare Nutrition</u></p> <p>1. Nutrition and Diet</p> <ul style="list-style-type: none"> - Nutrition and Its Relation to Health - Functions and Value of Nutrients in Foods - Balanced Diet, Proper Selection, Storage and Preparation of Food - Simple Cooking Methods (Demonstration) <p>2. Care of Mother</p> <ul style="list-style-type: none"> - During Antenatal Period: Understanding of Conception and Foetal Growth - Care During Antenatal Period: Breast, Skin, Clothing, Antenatal Check-up. - Diet in Pregnancy, Exercise, Preparation for Delivery, Minor Ailments and treatment. <p>3. Care of Children</p> <p>a. Care of New Born</p> <ul style="list-style-type: none"> - Care of the cord, eye, skin, bathing, handling, clothes, breast feeding, preparation of formula, bottle feeding and importance of cleanliness. <p>b. Maintenance of Health</p> <ul style="list-style-type: none"> - Growth and Development from birth to five years. Nutrition during 1st year, diet for 1-5 years and feeding. Importance of play. Prevention of infection, accidents, Immunization, Minor ailments in children and treatment

- c. Taking Care of: invalid, infirm and handicapped
- d. Elementary Paediatric Nursing Care
 - Physical assessments of children: Weighting, height, length, chest, circumference etc.

Tools and Equipments:

Description	Quantity
Thermometer	03nos
Enema syringe	03 nos
Stethoscope	03 nos
Enema pot	03 nos
Organ developer	03 nos
I.V drip stand	03 nos
Sphygmomanometer	03 nos
Bed Pan	03 nos
Sim's vaginal speculum	03 nos
Hot water bottle	03 nos
Dissecting forceps	03 nos
Fistula director	03 nos
Mosquito forceps	03 nos
Kachee's haemostatic forceps	03 nos
Scalpel	03 nos
Detachable blades	03 nos
Stitch cutting scissor	03 nos
Cuseal Bivalved speculum	03 nos
Tourniquet	03 nos
Fetoscope	03 nos
Infant weight machine	03 nos
Valsellum & Tenaculum	03 nos
Breast cup	03 nos
Alli's tissue forceps	03 nos
Straight scissors with stump points	03 nos
Brodie's fistula director	03 nos
Cheatle's forceps	03 nos
Sponge handling forceps	03 nos
Breast developer	03 nos
Gauge cutting scissor	03 nos
Syringe: 5ml / 2ml	03 nos
Ryles tube	03 nos

LEVEL – I
MODULE - 5

- | | |
|------------------------|---|
| 1. Name of the Module | : Infection Control Assistant |
| 2. Sector | : Medical and Nursing |
| 3. Code | : MED135 |
| 4: Entry Qualification | : 10 th Standard. |
| 5. age | : 14 years or above |
| 6. Terminal competency | : : After completion of course participant will be able to:
1. Monitor the Infection Control Practices
2. Help the Infection control nurse/consultant |
| 7. Duration | : 180 hours |
| 8. Contents | |

Practical Competencies	Underpinning Knowledge (Theory)
<ul style="list-style-type: none"> - Biomedical Waste management - Hand wash technique - Universal Precaution - Needle Stick Injury 	<ul style="list-style-type: none"> - Nosocomial Infection / Hospital Acquired Infection - Universal precaution - Personal Protective Equipment - Hand Wash / Hand Rub - Techniques - Bio-medical waste - Handling Infectious Waste - Disinfection/Disinfectant - Needle stick injury - HIV / Hepatitis B Awareness - Infection Control Parameters like - QA Score Card

Tools and Equipments:

Description	Quantity
<ul style="list-style-type: none"> - Biomedical waste bags and boxes - Safety goggles - Mask - Gloves 	<ul style="list-style-type: none"> As required Each Each Each

LEVEL – II
MODULE - 6

1. Name of the Module : **CSSD ASSISTANT** (Central Sterile Supply Department)
2. _Sector : Medical and Nursing
3. Code : **MED 236**
4. Entry Qualification : 8th Standard + MED 102(Basics of Anatomy & Physiology)
5. Age : 18 years and above
6. Terminal Competency : After completing the training the candidate will be able to understand the roll of CSSD assistant and perform basic functions of CSSD.
7. Duration :180 Hrs.
8. **Contents:**

Practical competencies	Underpinning knowledge (Theory)
<ol style="list-style-type: none"> 1. Preparation and Packaging for sterilization equipment. 2. Cleaning of equipment. 3. Practice in sterilizing equipment, by using the following methods: <ul style="list-style-type: none"> • <i>Steam</i> • <i>Sterrad Low temp Hydrogen Peroxide</i> • <i>Steris System 1 Paracetic Acid</i> 4. Practice of using the CSSD machines, there function running and cleaning. 5. Monitoring and storage of sterile stock. 6. Sterilization of Flexible endoscopes and preparation of disinfectants. 7. Organize and set up trolleys for theatre. 8. Tracking and recall of equipment and items. 9. Tracking and recall of equipment and items. 10. Checking in and out of loan instruments. 11. General assistance to technician as required.. 	<p>Knowledge on</p> <ul style="list-style-type: none"> • Sterilization, Cleanliness, Vacotainers • Waste management • Awareness of safe handling of chemicals. • The Principles of infection control. • Self- precaution while handling instruments and linen • Basics use of CSSD machines and how to maintain them. • Records & register maintenance. • Biological indication and quality control • Demonstrates a commitment to excellence in customer service for all internal and external. • Sets performance related goals, evaluates own progress and participates in <i>Performance, reviews & Quality</i>

Tools & Equipments

Name of Tools	Quantity
1. Autoclave (Steam & Sterilizer), Horizontal (high speed, normal speed)	1 no.
2. STERRAD (H ₂ O ₂ sterilizer)	1 no
3. Steris system 1 Peracetic acid	1 no
4. Incubator	1 no
5. Hot air oven	1 no

6. Trolleys for supply	1 no
7. Demineralisation plant	1 unit
8. Fogger machine	1 no
9. Washer	1 no
10. Different types of trap.	As required

LEVEL – II
MODULE - 7

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|------------------------|--|
| 1. Name of the Module | :LAB ASSISTANT |
| 2. Sector | : Medical and Nursing |
| 3. Code | : MED 237 |
| 3. Entry Qualification | : 10 th Standard + MED102 (basics of anatomy and physiology) |
| 4. Age | :18 years and above |
| 5. Terminal Competency | :After completing the training the candidate will be able to assist the Technician & Pathologist in the Lab. |
| 6. Duration | :450 hrs. |
| 7. Contents: | |

Practical competencies	Underpinning knowledge (Theory)
<u>Pathology (140 hrs)</u>	
<ul style="list-style-type: none"> • Techniques and labeling of the sample Preparation of anticoagulants • RBC, WBC, platelet count, CBC and complete Haemogram. • ESR stands & ESR estimation • PCV & calculation of RBC indices • Urine - Physical Examination & Chemical Examination 	<ul style="list-style-type: none"> • Blood Collection procedure • Precaution and smearing • Chemicals used in different types of tests. • Hb estimation by different methods • Stool, Biological fluids examination. • Knowledge on Vacotainer.
<u>MICROBIOLOGY (150 hrs)</u>	
<ul style="list-style-type: none"> • Cleaning and care of glassware, syringes, apparatus, preparation of Pasteur Pipettes. • Handling and care of Microscope • Operation of Autoclave, Incubator, waterbath, seitzfilter • Preparation of various Media • Preparation of stains and smears 	<ul style="list-style-type: none"> • Lab instructions for Personal Safety precaution' • Receipt and recording a specimen in the lab and dispatch of specimen • Methods of collection of microbiology specimen-and its importance and processing.
<u>BID-CHEMISTRY (160 'Hrs)</u>	

<ul style="list-style-type: none"> • Collection of Capillary blood • Collection of Venous blood • Separation of Serum from clotted blood • Separation of plasma from blood • Preparation of protein free blood filtrate • Lab glass ware <ul style="list-style-type: none"> i. Identification ii. Handling iii. Care and Maintenance iv. Uses • Lab instruments <ul style="list-style-type: none"> i. Centrifuges ii. Balances iii. Photo Electric colorimeter iv. Spectrophotometer • Preparation of <ul style="list-style-type: none"> i. Percentage solutions ii. Normal solutions • 	<ul style="list-style-type: none"> • Reception and registration procedure. • Understanding of blood related terms <ul style="list-style-type: none"> i. Capillary blood ii. Venous blood iii. Serum, Plasma, Protein iv. Clotted blood • Collection procedures of Blood • Knowledge on different types of lab instruments. • Qualitative identification tests of sugars • Qualitative identification tests of proteins • Quantitative determination of Blood sugar • Glucose Tolerance test • Quantitative determination of Blood urea • Quantitative determination of Serum creatinine • Quantitative determination of Urine Sugar
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Tools & Equipments

Sl No.	Name of Equipment	Qty.
Biochemistry		
1	Hot Plate	1 no
2	Gas Cylinder with burner	1 no
3	Spirit lamp	15 nos
4	Electrical Centrifuges	1 no
5	Refrigerator 165 lit.	1 no
6	Calorimeter	1 no
7	Hot air Oven	1 no
8	Water bath	1 no
9	Analytical balance	1 no
10	Physical balance	1 no
11	Spectro Photometer	1 no
12	Flourimeter	1 no
13	PH meter	1 no
14	Incubator	1 no
15	Computer	1 no
16	Semi auto analyser	1 no
Glassware		
1	Test tubes -	
	18 X 150 mm	100
	15 X 150 mm	100
	15 X 125 mm	100

2	Centrifuge Tubes	
	16 X 100 mm	200
3	Beaker Glass and polypropylene 250 ml	5
4	Micro Pipettes	
	1 – 20 ml	5 sets
	20 – 200 ml	5 sets
	200 – 1000 ml	5 sets
5	Volumetric capacity	
	2 ml	6 nos.
	5 ml	5 nos.
	10 ml	5 nos.
	20 ml	5 nos.
	25 ml	5 nos.
6	Burettes	
	25 ml	4 nos
	50 ml	4 nos
7	Reagent Bottles	
	60 ml	10 nos
	120 ml	10 nos
	250 ml	20 nos
	500 ml	5 nos
	1000 ml	5 nos
8	Dropper bottles 30 ml	5 nos
9	Watch glass (assorted sizes)	6 nos
10	Volumetric Flasks	
	25 ml	6 nos
	50 ml	6 nos
	100 ml	10 no
	250 ml	10 nos
	500 ml	10 nos
	1000 ml	5 nos
11	Stoppered graduated Test Tubes	
	15 ml -	10 nos.
	40 ml -	10 nos.
	50 ml -	10 nos.
12	Round Bottom flask 500 ml - 1 no. 1000 ml -.	1 no
13	Filter Paper - Ordinary -	1 Ream
14	Whatman Filter Paper 46x57 cm No 1 - 20 sheets, No 2 - 10 sheets	
15	Cotton (absorbent)	5 Rolls
16	Glass slides	5 boxes
17	Plastic Wash bottles 50 ml.	10 nos.
18	Mortar/Pestle -	2 nos.
19	Round Bottom flask 500 ml, 1000 ml.	1no each
Microbiology		
1	Student Microscope -	3 nos
2	Centrifuge	2 nos
3	Refrigerator	1 no

4	Autoclave	1 no
5	Hot air oven	1 no
6	Incubator	1 no
7	Pipette washer	1 no
8	Anaerobic Jar	1 no
9	Vacuum Pump	1 no
10	Analytical Balance	1 no
11	Water Bath	1 no
12	VDRL Rotator	1 no
13	Petri dishes - 100 x 17	100 nos
14	14. Test Tubers - 150 x 19	100 nos
15	100 x 12	100 nos
16	Pipettes(micro)	
	10 ml	10 nos
	5 ml.	10 nos
	1 ml	10 nos
17	Wash bottles - 5	5 nos
18	Spatulas - 12	12 nos
19	Reagent bottles - 10	10 nos
20	Measuring Cylinders 50 ml – 5	5 nos
21	Gas cylinder & burner	1 no
22	Platinum loops.	1 no
Pathology		
1	Microscope	1 no
2	Hot air oven	1 no
3	Incubator	1 no
4	Centrifuge	1 no
5	Blood cell counter	2 nos
6	Water Bath	1 no
7	Chemical Balance	1 no
8	Hot plate	1 no
9	Stopwatch	1 no
10	Haemometer	1 no
11	ESR stand	5 nos
12	ESR Tubes	5 nos
13	Mortar and Pestle	1 no
14	Urinometer	1 no
15	Spirit lamp	2 nos
16	Syringe (Vacutainer)	
	20 ml-	10 nos
	10 ml-	10 nos
	5 ml-	5 nos

	2 ml-	2 nos
17	Beaker	
	100 ml -	5 nos
	250ml -	5 nos

LEVEL – II
MODULE - 8

- 1. Name of the Module** : **Dialysis Technician**
- 2. Sector** : Medical and Nursing
- 3. Code** : **MED 238**
- 4. Entry Qualification** : 12th Standard and completed the course on “DIALAYSIS ASSISTANT”(MED131)
- 5. Age** : 14 Years or above

6. Terminal Competency :After completion of course participant will be able to:

1. Provide Quality care through relevant assessment of patients and by planning, implementation & monitoring of dialysis therapy.
2. Apply standard principles of Universal precaution and Infection control while carrying out all activities.
3. Handling dialysers, tubings, Dialysis machines and RO plant, and carrying out operative maintenance of the same.
4. Coordinate with respective agencies for equipment calibrations and preventive maintenance.

Duration : 270 hours

Content :

Practical Competencies	Underpinning Knowledge (Theory)
<ul style="list-style-type: none"> - Demonstration of Dialysers, Dialysis machine and Dialysate - Demonstration of haemodialysis, Cannulation, - Preparation of Dialysate - Predialysis and post dialysis vital signs taking - Dialysis initiation and termination process - Water treatment - Demonstration of Access to IV Cannula 	<ul style="list-style-type: none"> - History of Dialysis & introduction to kidney disease and dialysis: Anatomy & physiology of kidney, nature of kidney disease, acute renal failure, chronic renal failure - Physiological principles of dialysis: Osmosis, diffusion, convection - Dialysis System: (a) Dialysers; (b) Dialysate; (c) Dialysis Machine - Introduction of patient to Haemodialysis and early course on dialysis: Pre-dialysis education of the patient, initiation of haemodialysis timing, the start of haemodialysis, cannulation, complication during first dialysis,

<ul style="list-style-type: none"> - Manage acute complications during dialysis - Reuse of dialyser - Peritoneal dialysis - Steps of quality management 	<p>convulsion due to dialysis disequilibrium syndrome, serum osmolality, serum potassium, metabolic acidosis.</p> <ul style="list-style-type: none"> - Access: General description of cannula system, cannula implantation, activity & immobilization of the cannulated limb, position of cannulated limb, cannula cleaning, cannula complication, cannula infection, cannula clotting, declotting of subcutaneous A-V fistula advances in the access to the circulation, subclavian, femoral access, shunt, graft, single needle dialysis. - Dialysate: (a) Dialysate composition; (b) Preparation of dialysate; (c) Types of concentrate; (d) Precautions to be taken during preparation of dialysate; (e) Care in handling concentrate; (f) Quality maintenance of dialysate; (g) Maintenance & trouble shooting; (h) Mixing of Dialysate; (i) Monitoring Conductivity, Temp, Flow. - Dialysis Machine: Water pretreatment, water pressure regulation, temperature control, temperature sensors, chemical proportioning, degassing, flow & negative pressure control, monitors conductivity cell, chemical concentration monitor, temperature monitors, pressure monitors, flow rate monitors, blood leak monitors readout devices alarm. - Anticoagulation: (a) Anticoagulation; (b) Anticoagulant; (c) Heparin; (d) Heparin dose determination; (e) Coagulation study & it's relation with anti coagulation; (f) Methods – intermittent infusion & continuous infusion, systemic heparinization, regional heparinization, rigid heparinization; (g) Heparin rebound; (h) Heparin modeling; (i) Heparin free dialysis; (j) lower molecular heparin. - Predialysis, post dialysis & Intradialysis assessment: Vital signs, temperature, pulse, respiration, different types of pulse, blood pressure
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systolic, diastolic.

- Initiation of haemodialysis: Monitoring dialysis: Terminating dialysis:

Description of the dialyser, cleaning the dialyser, priming of dialyser, monitoring dialysate concentration monitoring dialysate flow monitoring dialysate temperature, negative pressure & drip chamber pressure monitoring, blood leak detector, air bubble detectors, monitoring heparin infusion & blood flow monitoring, discontinuation, saline rinse, cleaning and storage of dialyser.

- Acute complications during dialysis:

Line cannula separations, Blood leak, Clotting, Acute bleeding, Hypotension, Hypertension, Fever, Nausea, Pyrogenic reaction, Vomiting, Headache, Cardiac arrhythmias, Chest pain, Muscle cramp, restlessness, Pruritis, convulsion.

- Reuse of dialyser:

(a) History of dialyser reuse; (b) Benefits & risk of reuse; (c) Ethical consideration; (d) Steps in Reprocessing; (e) Automated v/s Manual reprocessing; (f) Regulation / Guidelines; (g) Occupational safety & health; (h) Quality Assurance.

- Medical problems in the chronic haemodialysis patients:

Hypertension, Congestive heart failure, Secondary hyperthyroid disease, metastatic calcification, blood requirement, peripheral neuropathy, Arthritis, Hepatitis, Uremic pericarditis, Renal anemia, Renal Bone disease.

- Water treatment:

(a) Purpose of water treatment; (b) Types of contaminant & it's effect on patient; (c) Components of water treatment system; (d) Monitoring a water treatment system.

- Bacteriology of Haemodialysis:

(a) Identification of common infections; (b) Types & principles of Disinfection & sterilization – steam Autoclave sterilization, ETO sterilization, Gamma rays sterilization; (c) Chemical

	<p>Disinfectants – formaldehyde, clinitest, per acetic acid, sterilant test.</p> <p>- Adequacy of dialysis: Clinical well being, UKM.</p> <p>- Infection control in dialysis unit: (a) Universal precautions; (b) CDC guidelines; (c) OSHA guidelines for blood borne pathogens; (d) Dialysis unit & infection control method; (e) Hepatitis Virus Infection – Type, Epidemiology, Transmission, Screening & diagnostic test, Hepatitis vaccination; (f) HIV – Epidemiology, Diagnostic test, HIV patient & unit policy; (g) Bacterial infection; (h) Vascular access infection; (i) MIRSA, VRE.</p> <p>- Acute dialysis: Indications for dialysis, special precautions during the dialysis for acutely ill patients.</p> <p>- Peritoneal dialysis: Indication for P. D., Complication, Management, CAPD, CCPD, APD.</p> <p>- Paediatric dialysis</p> <p>- Plasmapheresis and Hemoperfusion</p> <p>- Nutritional management of patients</p> <p>- Psychological aspects of hemodialysis management</p> <p>- Dialysis unit administration</p> <p>- Renal bone disease</p> <p>- Renal Transplantation</p> <p>- Drugs used on Hemodialysis</p> <p>- Interpretation of laboratories values</p> <p>- Quality assurance, Clinical audit</p> <p>- Disaster Management</p>
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Tools and Equipments:

Description	Quantity
<ul style="list-style-type: none"> - Dialysis Machine – HD & CRRT - RO Plant - Dialyser - Tubing - Hemodialysis tray - O2 Cylinder - Suction Machine 	As required

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|--|--|
| <ul style="list-style-type: none">- Intubation tray- Emergency Medicine trolley- Weighing scale- BP Instrument- Stethoscope- Eye Shield (Goggle)- Dialyser Reprocessor | |
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LEVEL – II
MODULE -9

- 1. Name of the Module** : **Radiology Technician**
- 2. Sector** : Medical and Nursing
- 3. Code** : **MED 239**
- 4. Entry Qualification** : 10th Standard + Course on “Basic of Anatomy & Physiology”(MED102)
- 5. Age** : 14 yrs or above
- 6. Duration** : 270 hours
- 7. Terminal Competency** : **After Completion course participant will be able to:**
1. Use Techniques in Radiology and Imageology and Dark Room Techniques.
 2. Know Radiological Emergencies & radiation Hazards.
 3. Upkeep of M/C & equipment
- 8. Contents** :

Practical Competencies	Underpinning Knowledge (Theory)
<u>Review of Anatomy, Physiology & Related Pathology</u> i.e. Surface Marking & Identification of various parts and structures in of Human body ,Identification of bones and parts on X-Ray Film	Review of Anatomy, Physiology & Related Pathology
<u>X-Ray Equipment for Radiographers:</u> <ul style="list-style-type: none"> • X-Ray tubes and general features and Mobile equipment • Image Intensifier • Care and Maintainance of X-Ray equipment • To study affects of KV and MAS. Demonstration of radiation safety devices • To Survey X-Ray control for Radiation • X-Ray intensifying Screens • Demonstrate the uses of grid, potter bucky and Radio graphic contrast • Demonstrate effects of improper centering of X-Ray tube • Radiation field coincidence. 	<ul style="list-style-type: none"> • Electrical system, Main Supply, Components and controls in X-ray circuits Generation of electrical energy, distribution and uses of electrical energy, High tension transformer, the rectification of high tension, the control of kilo voltage, filament circuit and tube current • Exposure switches and exposure timers, switching and timing system exposure switching & its Radiographic application • X-Ray Tubes, Portable X-Ray equipment general Features of X-Ray, Fixed and rotating Anodes, Characteristics of X-Ray Tubes of Mammography and Faults in X-Ray Tube. • Image Intensifier/Fluoro Scopic equipment, standard Fluoro scopic table, Table for Myelography, X-Ray image intensifier Tube, Radiation protection and Radiation Hazards,

	<ul style="list-style-type: none"> • Dental Radiographic equipment specialized dental X-Ray equipment • Care and Maintenance of X-Ray Tube • Ionization Chamber, GM and Scintillation counter, Measuring radiation dose, absorption co-efficient, grid, cones and filters. • Inverse square law, scattered Radiation Radio Activity, Curie, Half life, Decay Factor, Doses, Film Badge, Pocket Ionization chamber, Maximum permissible dose. • Patient safety
<p><u>Basics of Imageology:</u></p> <ul style="list-style-type: none"> • Demonstrate on USG machine • Demonstrate on mammography machine • Demonstration on patients 	<ul style="list-style-type: none"> • Conventional (Ultra Sonography and Doppler Ultra Sound and Color Doppler flow imaging Principles of ultra sound, types of transducers basics of Doppler ultra sound system • Mammography (Basics and Equipment) • Interventional Radiology (Definition Names of different types of procedures.) • Ultrasound: Conventional Doppler & Color Doppler, Preparation, Indication, Clinical application. • Interventional radiology: Preparation of patient, indications & contraindications, techniques of various procedures & systems in the body • Mammography: Techniques in mammography & indications. • Digital radiography & computed radiography
<p><u>Radiographic and dark room techniques:</u></p> <ul style="list-style-type: none"> • Dark room lights (safe light) be tested for safety • Intensifying screens be tested for uniform contrast • Developer, Fixer • Load, unload and processing of X-Ray films • Taking X-Ray of all parts of Human body as per the theory syllabus 	<ul style="list-style-type: none"> • Photography and Film Material: a) Image produced by Radiation, b) Latent Image formation, c) Structure of X-Ray Film, d) Sensitivity and contrast of film, e) Types of Films including Laser Film, f) Storage of Exposed films and unexposed films • Screens and Cassettes: a) Construction of intensifying screen. b) Choice of Fluorescent material, c) Care of intensifying screens, d) Types of Screen, e) Care of a cassette, f) Mounting of intensifying screen in the cassette • Film Processing and Developing: a) Constituents of processing solution and replenisher factor affecting the developer, b) Components of developer, Fixer and replenisher, c) Film rinsing,

	<p>washing and drying, d) Film processing equipment ; i) Manual, ii) Automatic</p> <ul style="list-style-type: none"> • Dark Room Design: a) Outline structure of dark room and materials used, b) Miscellaneous: i) Trimming, ii) Identification of films, iii) Records Filing, iv) Records Distribution • Radiography: a) Upper limb (i) Fingers, ii) Hand, Carpal Tunnel, iii) Wrist Joint, iv) Fore arm, v) Elbow Joint, vi) Head of Radius and Ulna, vii) Humerus, viii) Shoulder Joint, ix) Acromio-clavicular joint, x) Scapula, xi) Sterno clavicular joint: b) Lower Limb i) Toes, ii) Foot, iii) Calcaneum, iv) Intercondylar Notch, v) Ankle Joint, vi) Tibia and Fibula, vii) Patella, viii) Knee Joint, ix) Femur; c) Hips and Pelvis: i) Theatre procedure for Hip Pinning and Reduction, ii) Pelvis, iii) Sacro Iliac Joint, iv) Pelvic Bone, v) Acetabulum, d) Vertebral Column: i) Atlanto - Axial Joint, ii) Odolontoid Peg, iii) Cervical Spine, iv) Thoracic Spine, v) Lumbar spine, vi) Lumbo Sacral spine, vii) Sacrum, viii) Coccyx, ix) Scoliosis, x) Kyphosis, 6. Bones of the Thorax, 7. Skull: a) Land Marks, Planes Cranium, Facila Bones, Maxilla, Mandible, ZygoMetric Bone, Temparo - Mandibular Joint, Mastoids, Petrous bones, Optic Foraman, Sella Turcica, Para Nasal Sinuses, 8. Abdomen:a) Acute Abdomen, b) Pregnancy, c) Pelvimetry, 9. Dental Radiography
<p><u>Special Investigation:</u></p> <ul style="list-style-type: none"> • Radiography in various position for all the special radiological procedures, using contrast media as per syllabus • Positioning and treatment of various cancer patients by using; a) Prescribed filters and wedges, b) Protecting various organs 	<ul style="list-style-type: none"> ○ General Pathology in relation to radiology. Define pathology, cell growth, cell damage, ○ Neoplasia (a) Benign, b) Malignant, c) Mode of growth, d) Metastases ○ Causes of Disease (a) Congenital, b) Traumatic, c) Metabolic, d) Deficiency ○ Blood Diseases (a) Leukemia, b) Anemia ○ Special Procedures and Related Contrast Media (a) Contrast Media, b) Emergencies in Radiology Department, c) Excretory System ;i) IVP, ii) RGU, iii) MCUG, d) Oral Cholecystography, e) Percutaneous Transhepatic Chologigraphy, f) G.I. Tract, i) Barium Swallow, ii) Barium Meal Series, iii) Barium Meal Follow Through, iv) Barium Enema, g) Hystero Salpingo graphy, h)

	Angio Graphy, i) Myelography, j) Tomography, k) Venography, l) Lymphagiography, m) Mammography, n) Dacryo Systography, o) Sialography, p) Sinography, q) Laryngo graphy, r) Brancho graphy, s) Arthrography
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Tools and Equipments:

Description	Quantity
<p>I. Conventional Radiography</p> <p>A. X-Ray Machine</p> <ol style="list-style-type: none"> 1. 60 MA portable 2. Pan Orthrogram 3. 100 MA or 4. 300 MA X-Ray Machine <p>B. Dark Room with accessories</p> <p>C. Cassettes All Sizes 6 1/2 x 8"2</p> <p>D. Screens All Sizes 10" x 8</p> <p>E. Hangers All sizes 10" x 12"</p> <p>F. X-Ray Film All sizes 12' x 14', 12' x 15'</p> <p>II. Radiation Protection</p> <ol style="list-style-type: none"> 1. Lead Apron 2. Lead divider 3. Lead Markers 4. Lead Gloves 5. Lead Screens 6. Gonad and thyroid protectors <p>III. Imagealogy</p> <ol style="list-style-type: none"> 1. Ultra sound scanner (portable) 3.5. MHZ with single probe and 5.0 MHZ with multiple frequency 2. Colour Doppler ultrasound scanner 3. Mammography 	As required

LEVEL – II
MODULE -10

1. Name of the module : **Central Sterile Supply Dept (CSSD) Technician**
2. Sector : Medical and Nursing
3. Code : **MED 240**
4. Entry Qualification : 10th Standard and completed basic course on Anatomy and Physiology.
5. Age : 14 years or above
6. Terminal competency : After completion of course participant will be able to:
- 1.Clean, pack and sterilize surgical instruments & to prepare dressing material and Linen.
 - 2.Carry out all CSSD activities applying standard principles of disinfection and sterilization.
 3. Understand the handling CSSD Equipments & to carry out operative maintenance.
 - 4.Coordinate with respective agencies for equipment Calibration & preventive maintenance.
 - 5.Take responsibility for Quality control aspects related to CSS
7. Duration : 270 hrs
8. Contents

Practical Competencies	Underpinning Knowledge (Theory)
<p><u>HOSPITALS VISIT AT CSSD AND OPERATION THEATRE AND MICROBIOLOGY LAB</u></p> <p><u>PRACTICAL: CSSD, OPERATION THEATRE AND MICROBIOLOGY LAB</u></p> <ul style="list-style-type: none"> - Operating of Steam Sterilizer, Gas Sterilizer, Ultrasonic Cleaner and washer disinfectant. - Measurement of Various Electrical Parameters like Voltage, Current, and power. - Carry out the Electrical connection of the equipment - Trouble shooting the minor Electrical Problems 	<p><u>APPLIED MICROBIOLOGY AND STERILE SUPPLY SERVICES</u></p> <p>Unit: 1 Organization of Hospital and Functions of various departments - Organization of central sterile supply department – Functions of CSSD – Relationship of CSSD with the operation room, ICU, Emergency room and other wards – Role and responsibilities of CSSD technician.</p> <p>Unit: 2 Definition and importance of Microbiology for CSSD technicians – Classification of Microorganisms – Brief morphological features of Microbes – General properties of Bacteria, Viruses and Fungus.</p>

<ul style="list-style-type: none"> - Carry out the Preventive Maintenance Schedule in Steam Sterilizer, Gas Sterilizer, Ultrasonic Cleaner and washer disinfectant. - Carry out the Predictive Maintenance of Steam Sterilizer, Gas Sterilizer, Ultrasonic Cleaner and washer disinfectant. - Attend the Break down Maintenance of Steam Sterilizer, Gas Sterilizer, Ultrasonic Cleaner and washer disinfectant Steam Sterilizer, Gas Sterilizer, Ultrasonic Cleaner and washer disinfectant. - To maintain the efficacy of the Sterilizer by using the Microbiological Report and maintain the Record. - Assessment of quality of the sterilization. - Checking of the water quality (used for sterilizer) - Ensuring the safety (both man and materials) in the CSSD (Viva) - Special precaution when using the gas sterilizers (Viva). 	<p>Unit: 3 Definition of Infection – Chain of infection – Sources of Microbes, Routes of Infection, and Mode of spread – Hospital acquired infection and prevention of hospital acquired infection – Immunity and its types.</p> <p>Unit: 4 Sterilization – Definition and classification, various methods of sterilization, preparation and sterilization of surgical packs disinfection – definition and classification, methods of disinfection, Principles of cleaning and disinfecting the rubber goods, glasswares, packs, linens and equipments. Special precautions while handling instruments linen and other items used for patients with HIV, HBV or HCV.</p> <p>Unit: 5 Collection and transport of specimen, standard precaution for prevention of blood bone infection. Biomedical waste segregation and waste management.</p>
	<p><u>CSSD EQUIPMENT HANDLING & MAINTENANCE AND FUNDAMENTALS OF ENGINEERING</u></p> <p>Unit: 1 Introduction to CSSD, Types of Sterilizer, Operating and Maintenance of - Steam Sterilizer (Autoclave (High speed, High pressure 134 C) Autoclave (Low speed, Low pressure 121 C)). Water Quality, Types of water, Types of treating water and Compressed Air - Operating & Maintenance (Preventive, Breakdown and Predictive) of gas sterilizers (ETO sterilizer, Hydrogen peroxide).</p> <p>Unit: 2 Operating & Maintenance (Preventive, Breakdown and Predictive) of Ultrasonic Cleaner, Operating & Maintenance of</p>

	<p>washer disinfectant.</p> <p>Unit: 3 Basic electrical – Voltage, Current, Power, Fuse, Open circuit, Short circuit, Single Phase, Three Phase, Ground, Power factor. Electrical Components – Resistor, Capacitor and Inductor – Basic principle, various types and package, Effect in electrical line, connection (Series circuit connection and Parallel circuit connection) Application of each items.</p> <p>Unit: 4 Measurement of various electrical parameters – Voltage, Current, Power, Earth Voltage. Electrical power supply – Transformer, Principle, Construction, Different types of Transformers, Working, Various applications.</p> <p>Unit: 5 Safety Regulations and Quality control – Prevention and Precaution of Electrical Shock and Electrical Fire, Hazardous in gas sterilization, checking efficacy of steam sterilizer, Maintenance of records.</p>
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Tools and Equipments:

Description	Quantity
• Steam Sterilizer	As required
• Gas Sterilizer	As required
• Ultrasonic Cleaner	As required
• Washer Disinfectant	As required
• Dry oven	As required
• Gauze cutter	As required
• Needle flushing device	As required
• ETO sterilizer	As required
• Work benches with marble / stainless steel top	As required
• Storage cupboards and racks	As required
• Linen folding table	As required
• Soaking sinks	As required
• High pressure water jets	As required

LEVEL – II
MODULE -11

1. Name of the module: **Operation Theatre (OT) Assistant**
2. Sector : Medical and Nursing
3. Code : **MED241**
4. Entry Qualification : 10th Standard and completed basic course on Anatomy and Physiology.
5. Age : 14 years or above
6. Terminal Competency : After completion of course participant will be able to:
 1. Look after all the work and management of the operation theatre including managing the patients
- 7 Duration : 270 hours
8. Contents :

Practical Competencies	Underpinning Knowledge (Theory)
- Practical exposure to the OT environment. Infection control concept and transmission of microbes.	- Basic concept of sterility in OT and OT environment. What are microbes-- bacteria, viruses, protozoa and so on. How these are transmitted from articles to persons, persons to articles, and persons to persons. Also importance of sterility of air in OT.
- Practise of hygiene .Method of hand washing.	- Need for absolute hygiene in OT and sanctity of sterility .Importance of wearing masks, caps. Hand hygiene. Why street clothes should not be permitted in OT.
- Practical on wearing of gown, mask and cap.	- Correct technique of Gowning – practical demonstration, types of gowns.
- Methods of surgical hand washing, the different scrubs used and its importance.	- Hand washing technique. Importance of same.
- Practice on wearing surgical gloves, their removal and disposal.	- Technique of wearing gloves. Practical demonstrations.
- Method of sterilization of environment like fogging, fumigation. Various agents available for sterilization.	- Need for periodic sterilization of OT. Methods of sterilization of OT – safe techniques for same.
- Methods of sterilizing the various	- Sterilization techniques – their merits

<p>instruments and equipments in the OT.</p> <ul style="list-style-type: none"> - Introduction to the various available aseptic solutions and their use. - Techniques of sterilization of OT equipments. - Techniques of sterilization and packing of trays and drums - Aseptic precautions in the operation theatre - Handling of the OT tables - hands on training in the OT. - Hands on training on the use of OT lights and their use during operation - Introduction the subject of Aneesthesiology, types, positions, drugs and requirements. - Use of OT lights during operation. - Practical demonstration of the various OT instruments, their handling, care and washing. - Demonstration on the setting up of various OT trolleys. - Practical on types of linen material and their preparation used in OT. 	<p>and demerits. Boiling, Autoclaving, Chemical sterilization - techniques in details. Safety measures for same.</p> <ul style="list-style-type: none"> - Various Antiseptics available. Methods of using them. - Sterilization Drums – How they are to be used. Correct techniques of packing them. How they are to be maintained. - Dressing drums, Instrument drums. Categorization of Drums and proper labeling of same. - Concept of No – touch technique. - Operation Table – Types of tables available. How they are operated and correct ways of operating them. Need for thorough cleaning OT table after surgery. - Operation lights – various types, operating techniques, maintenance. - Role of anesthesia and anesthetist in OT. Description of types of anesthesia. Awareness of various requirements of anesthetist. - Practical Demonstration of adjusting OT light to field of surgery. - Surgical Instruments – Names, Types, overview of areas of use of these instruments. Maintenance of instruments – techniques of washing and cleaning them. Methods of storing them. - Trolleys – Types of trolleys. Indications for use of specific trolleys in various operations. Cleaning and maintenance of trolleys. - Preparation for various dressing materials. Cutting gauze pieces, etc. of specific sizes. Various types, sizes of bandages.
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<ul style="list-style-type: none"> - Various suture material used in OT. - Demonstration of all drugs in OT inventory. - Hands on use of Oxygen, Nitros, CO2 cylinders-their operation and storage. - Proper labeling of OT specimens. - Hands on shifting of patients in and out of the OT. - Waste segregation in the OT. - Concept of patient confidentiality. 	<ul style="list-style-type: none"> - Overview of suture materials – types, concept of different sizes and materials. Storage of suture materials and categorizing and labeling them for easy retrievability. - Storage and labeling of various drugs used in OT. Concept of emergency drugs and need for prompt accessibility. - Oxygen and Anesthetic cylinders. Operating the various parts. Determining whether they need to be re-filled. Techniques of changing cylinders. Maintenance of cylinders. - Significance of Biopsy specimens and samples of pus, etc. Need for proper labeling, preservation in formalin, etc. Safe delivery to concerned deptt. e.g. pathology deptt. - Patient shifting trolleys – Types, Correct technique of shifting patient from OT table to transfer trolley. Correct technique of shifting patient transfer trolley to bed of patient. Safety considerations and description of types of accidents that can occur - injuries, etc. - Concept of liquid and solid waste management – both biomedical and otherwise. Proper methods of segregation. Various color bags and the types of waste to be put in each. Safe storage of same. - Need for NOT talking with patient or relatives about medical aspects of the patient.
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Tools and Equipments (Specify batch size):

Description	Quantity
Boyles apparatus	01 no
Suction apparatus (oral)	01 no
Ventilator	01 no
Operation Theatre table- ortho attachments	01 no

Autoclave	01 no
Cautery Machine- bipolar,uniopolar,Harmonic	01 no
Oxygen Cylinder (with trolley and accessories)	01 no
Bone curretor	01 no
Regulator	01 no
Face mask	02 nos
Theatre dress	05 nos
Theatre headwear	05 nos
Gown	05 nos
Towel	05 nos
Gloves	05 sets
Cotton or Gauze (sterile)	As required
Mercurochrome	01 no
Tincture iodine	As required
Savalon	As required
Cetavlon	As required
Hydrogen peroxide	As required
Normal Saline	As required
Adhesive tapes	10 nos
Bandages	10 nos
Binders	50 nos
Silk suture thread	As required
Forceps (different types)	02 sets each
Needle	As required
Syringe	As required
Scissor (surgical)	10 nos
Spinal needle	05 nos
Ryles tube	02 nos
Stretcher with stand	01 nos
OT lights	01 nos
Neuro microscope	01 nos
Recording system	01 nos
Laparoscopic instruments	01 nos
Light source	01 nos
Ophthal Microscope	01 nos
Ortho Torniquet	01 nos
Pulse lavage	01 nos
Suture material	As required
Anaesthesia drugs	As required
OT trolleys	As required

LEVEL – III
MODULE - 12

1. Name of the Module : **LAB TECHNICIAN**
2. Sector : Medical and Nursing
3. Code : **MED242**
4. Entry Qualification : 10th Standard + Lab Technician (level-II)
5. Age : 18 years and above
6. Terminal Competency : After completing the training the candidate will be able to understand the work function of Pathology Lab as a whole and assist the Pathologist.
7. Duration : 450Hrs.
8. **Contents:**

Practical competencies	Underpinning knowledge (Theory)
MICROBIOLOGY (160Hours)	
<ol style="list-style-type: none"> 1. Collection of clinical materials like blood, urine, stool, sputum, swabs etc. 2. Parasitology - collection, preservation and transportation of faecal material for examination of parasites. Concentration techniques of stool for ova and cyst. Wet preparation of faecal sample for ova and cyst. Identification of ova and cyst in stool sample. 3. Identification of organisms with Biochemical reactions of common organism like - staphylococcus, E.coli - Klebsiella, shigella, Salmonilia, Proteus, Psudomonas. 4. Antibiotic Sensitivity tests 5. Preservation of stock culture 6. Bacteriology of water 7. Bacteriology of Milk 8. Bacteriology of food <p>Mycology</p> <ol style="list-style-type: none"> 9. Collection of specimen for fungal examination like skin scrapings, swabs, CSF. 10. Fungal examination by wet preparation 11. Fungal culture. 12. Automation in Microbiology and quality control. 13. VDRL Tests 	<ol style="list-style-type: none"> 1. Procedure of techniques of sputum for AFB. 2. Procedure of skin clipping of Leprae Bacilli. 3. Parasitology - collection, preservation and transportation of faecal material for examination of parasites. Concentration techniques of stool for ova and cyst. Wet preparation of faecal sample for ova and cyst. Identification of ova and cyst in stool sample. 4. Identification of organisms with Biochemical reactions of common organism like - staphylococcus, E.coli - Klebsiella, shigella, Salmonilia, Proteus, Psudomonas 5. Antibiotic Sensitivity tests 6. Preservation of stock culture 7. Bacteriology of water 8. Bacteriology of Milk 9. Bacteriology of food <p>Mycology</p> <ol style="list-style-type: none"> 10. Collection of specimen for fungal examination like skin scrapings, swabs, CSF. 11. Fungal examination by wet preparation 12. Fungal culture. 13. Automation in Microbiology and quality control.

14. Preparation of widal Antegens & widal tests 15. Brucella Agglutination test 16. Weil felix test 17. Paul Bunnel test 18. RA test/ EE cell, ANA 19. CRP test/ ASO Titer 20. TPHA Virology 21. ELISA test 24. Western blot test	14. VDRL Tests 15. Preparation of widal Antegens & widal tests 16. Brucella Agglutination test 17. Weil felix test 18. Paul Bunnel test 19. RA test/ EE cell, ANA 20. CRP test/ ASO Titer 21. TPHA 22. ELISA test 23. Western Blot test
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Biochemistry (160 hrs)

<ol style="list-style-type: none"> 1. Electrophoretic fractionation of serum proteins and lipo proteins. 2. Separation of amino acids and carbohydrates by paper chromatography. 3. Determination of plasma prothrombin time/ APTT 4. Oral glucose tolerance test 5. Estimation of serum calcium and inorganic phosphate 6. Practice and use of automated pipettes 7. Turbidimetric method of determination of plasma fibrinogen 8. Estimation of HDL cholesterol, Lipid profile 9. Determination of Urinary 17 ketosteroids and VMA 10. Determination of CPK, LDH, GGT and G6PD activities 11. Determination of urine proteins by turbidimetric method 12. CSF analysis - Pandy's test, Nonne - Apelt 13. Demonstration of working of Auto analysers 14. Training of Computer basics 15. Estimation of serum sodium and potassium by Electrolytes. 16. Estimation of serum bicarbonate by titrimetric method. 17. Demonstration of RIA 18. Demonstration of enzyme linked immuno assays 19. Qualitative identification of urine sugars 20. Qualitative identification of urine proteins 21. Qualitative identification of urine BS & BP, uropotrans, Blood Nitrates 	<ol style="list-style-type: none"> 1. Electrophoretic fractionation of serum proteins and lipo proteins. 2. Separation of amino acids and carbohydrates by paper chromatography. 3. Determination of plasma prothrombin time/ APTT 4. Oral glucose tolerance test 5. Estimation of serum calcium and inorganic phosphate 6. Practice and use of automated pipettes 7. Turbidimetric method of determination of plasma fibrinogen 8. Estimation of HDL cholesterol, Lipid profile 9. Determination of Urinary 17 ketosteroids and VMA 10. Determination of CPK, LDH, GGT and G6PD activities 11. Determination of urine proteins by turbidimetric method 12. CSF analysis - Pandy's test, Nonne - Apelt 13. Demonstration of working of Auto analysers 14. Training of Computer basics 15. Estimation of serum sodium and potassium by Electrolytes. 16. Estimation of serum bicarbonate by titrimetric method. 17. Demonstration of RIA 18. Demonstration of enzyme linked immuno assays
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<p>22. Demonstration of Ion selective electrodes</p> <p>23. Practice of Liver functions tests, and interpretation</p> <p>24. Practice of Renal functions tests, and interpretations</p> <p>25. Practice of Thyroid function tests and interpretations</p> <p>26. Practice and interpretation of cardiac profile and lipid profile</p> <p>27. Practice of quality control measures.</p> <p>28. ABG, Knowledge of automation in Lab.</p>	<p>19. Qualitative identification of urine sugars</p> <p>20. Qualitative identification of urine proteins</p> <p>21. Qualitative identification of urine BS & BP, uroporphyrins, Blood Nitrates</p> <p>22. Demonstration of Ion selective electrodes</p> <p>23. Practice of Liver functions tests, and interpretation</p> <p>24. Practice of Renal functions tests, and interpretations</p> <p>25. Practice of Thyroid function tests and interpretations</p> <p>26. Practice and interpretation of cardiac profile and lipid profile</p> <p>27. Practice of quality control measures.</p> <p>28. ABG, Knowledge of automation in Lab.</p>
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Pathology

<p><u>Automatic & Manual Tissue Processor</u></p> <p>Microtome & Knives</p> <p>Centrifuge</p> <p>Hot air oven & Incubator</p> <p>Busm beaker, stop watch</p> <p>Glass Makers</p> <p>Simple balance & colorimeter</p> <p>Water bath - for tissue flotation Knowledge</p> <p>Maintenance & cleaning</p> <p>Care about tissue equipment</p> <p><u>II. Maintenance & preservation of</u></p> <p>Cytology slides</p> <p>M.P. blocks & slides</p> <p>Histopathology specimens and process</p> <p>Preparation of form section material</p> <p><u>III. Glass ware</u></p> <p>Microslides & coverstips</p> <p>Sample collection bottles</p> <p>Micro Cytology.</p> <p><u>IV. Immuno Haematology & blood banking</u></p> <p>ABO blood grouping techniques</p> <p>RH Factor</p> <p>Coombs test - Direct & indirect methods</p>	<p><u>Automatic & Manual Tissue Processor</u></p> <p>Microtome & Knives</p> <p>Centrifuge</p> <p>Hot air oven & Incubator</p> <p>Busm beaker, stop watch</p> <p>Glass Makers</p> <p>Simple balance & colorimeter</p> <p>Water bath - for tissue flotation Knowledge</p> <p>Maintenance & cleaning</p> <p>Care about tissue equipment</p> <p><u>II. Maintenance & preservation of</u></p> <p>Cytology slides</p> <p>M.P. blocks & slides</p> <p>Histopathology specimens and process</p> <p>Preparation of form section material</p> <p><u>III. Glass ware</u></p> <p>Microslides & coverstips</p> <p>Sample collection bottles</p> <p>Micro Cytology.</p> <p><u>IV. Immuno Haematology & blood banking</u></p> <p>ABO blood grouping techniques</p> <p>RH Factor</p> <p>Coombs test - Direct &</p>
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<p>Blood Banking procedures & Techniques</p> <p><u>V. Histopathology</u></p> <p>1. Fixation of biopsy tissue</p> <p> 2. Processing of tissue</p> <p> Fixation</p> <p> Dehydration</p> <p> Clearing</p> <p> Impragnation</p> <p> Mounting</p> <p> Decalcification</p> <p> Mounting of specimens</p> <p><u>VI. Cytology</u></p> <p>Use of Fixations</p> <p>Fluid preparation for cytological exam Slide preparation and staining</p> <p>Pap staining</p> <p>Mounting and preservation</p> <p><u>VII. Sickle Cell Preparation</u></p> <p><u>VIII. Bone Marrow' Smears Preparation & Staining</u></p> <p><u>IX. Coagulation Test, BT, CT. PT</u></p>	<p>indirect methods</p> <p>Blood Banking procedures & Techniques</p> <p><u>V. Histopathology</u></p> <p>3. Fixation of biopsy tissue</p> <p> 4. Processing of tissue</p> <p> Fixation</p> <p> Dehydration</p> <p> Clearing</p> <p> Impragnation</p> <p> Mounting</p> <p> Decalcification</p> <p> Mounting of specimens</p> <p><u>VI. Cytology</u></p> <p>Use of Fixations</p> <p>Fluid preparation for cytological exam Slide preparation and staining</p> <p>Pap staining</p> <p>Mounting and preservation</p> <p><u>VII. Sickle Cell Preparation</u></p> <p><u>VIII. Bone Marrow' Smears Preparation & Staining</u></p> <p><u>IX. Coagulation Test, BT, CT. PT</u></p>
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List of Tools and Equipments

Sl No.	Name of the Equipment	Qty.
<i>Biochemistry 1</i>		
1.	Hot Plate	1no
2	Gas Cylinder with Burner	1 no
3	Spirit lamps	5 nos
4	Electrical Centrifuges	2 nos
5	Refrigerator 165 lit.	1 no
6	Colorimeter	1 no
7	Hot air oven	1 no
8	Water bath	1 no
9	Analytical Balance	1 no
10	Physical Balance	1 no
11	Spectro Photometer	1 no

12	PH Meter	1 no
13	Incubator	1 no
14	Electrophoresis apparatus	1 no
15	Computer	1 no
16	Semi auto analyser	1 no
	Glassware	
1	Test tubes	
	18 x 150 mm -	100 nos
	15 x 150 mm -	100 nos
	15 x 125 mm -	100 nos
2	Centrifuge tubes	
	16 x 100 mm -	200 nos
3	Beaker-glass and polypropylene 250 ml	5 nos
4	Pipettes-Micro-	3 sets
	Volumetric-capacity	
	2 ml -	6 Nos
	5 ml-	5 Nos
	10 ml-	6 Nos
	20ml-	5Nos
	25 ml -	5 Nos
5	Reagent Bottles	
	60 ml -	10 nos.
	120 ml -	
	250 ml -	10 nos.
	500 ml -	20 nos.
	100 ml-	5 nos.
6	Dropper bottles 30 ml	5 nos.
7	Watch glass (Assorted sizes) -	6 Nos
8	Volumetric Flasks	
	25 ml -	6 nos.
	50 ml -	6 nos
	100 ml -	10 nos.
	250 ml -	10 nos.
	500 ml -	10 nos.
	1000 ml -	5 nos.
9	Stoppered graduated Test Tubes	
	15 ml -	10 nos.
	40 ml -	10 nos
	50 ml -	10 nos.
10	Condensor	1 no.
11	Round Bottom Flask 500 ml - 1 no. 1000 ml -	1 no.
12	Filter Paper - Ordinary -	1 Ream
13	Whatman Filter Paper 46><57 cm No 1 - 20 sheet No 2 - 10 sheets	

14	Cotton (absorbant)	5 Rolls
15	Glass slides	5 boxes
16	Plastic Wash bottles 50 mi.	10 nos.
17	Mortar/Pestle –	1 no.
	Microbiology	
1	Student Microscope -	3 nos
2	Centrifuge -	2 nos
3	Refrigerator -	1
4	Autoclave -	1
5	Hot air oven -	1
6	Incubator -	1
7	Pipette washer -	1
8	Anaerobic Jar -	1
9	Vaccum Pump -	1
10	Analytical (Electronic) Balance -	1
11	Water Bath -	1
12	VDRL Rotator -	1
13	Electrophoresis apparatus -	2 nos
14	Petri dishes - 100 x 17 -	100 nos
15	Test Tubers –	
	150 x 19 -	100 nos.
	100 x 12 -	100 nos.
16	16. Pipettes micro	
	10 ml -	10 nos.
	5 ml -	10 nos.
	1 ml -.	10 nos
17	Wash bottles -	5 nos
18	Spatulas	12 nos
19	Reagent bottles	10 nos
20	Measuring Cylinders 50 ml	5 nos
	Pathology	
1	Microscope	1 no
2	Hot air oven	1 no
3	Incubator	1 no
4	Centrifuge	1 no
5	Blood cell counter	2 nos
6	Water Bath	1 no
7	Chemical Balance	1 no
8	Hot plate	1 no
9	Stopwatch	1 no
10	Haemometer	2 nos

11	ESR stand	10 nos
12	ESR Tubes	10 nos
13	Mortar and Pestle	1 no
14	Urinometer	1 no
15	Spirit lamp	2 nos
16	Syringe	
	Vacotainer	5 each
17	Beaker	
	100 ml-	5 nos
	250 ml- .	5 nos

