Model Curriculum

Dialysis Technician

SECTOR: HEALTHCARE

SUB-SECTOR: ALLIED HEALTH & PARAMEDICS

OCCUPATION: DIALYSIS TECHNICIAN

REF ID: HSS/Q2701, VERSION 1.0

NSQF LEVEL: 4

Skill India

Healthcare Sector Skill Council

N·S·D·C National Skill Development Corporation
Transforming the skill landscape

Certificate

CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

HEALTHCARE SECTOR SKILL COUNCIL

for the

MODEL CURRICULUM

Complying to National Occupational Standards of
Job Role/ Qualification Pack: '**Dialysis Technician**' QP No. '**HSS/Q 2701 NSQF Level 4**'

Date of Issuance: **November 30th, 2016**

Valid up to: **March 31st, 2018**

** Valid up to the next review date of the Qualification Pack*

Authorised Signatory
(Healthcare Sector Skill Council)

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Dialysis Technician

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a "Dialysis Technician", in the "Healthcare" Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	**< Dialysis Technician>**		
Qualification Pack Name & Reference ID.	HSS/Q2701, version 1.0		
Version No.	1.0	**Version Update Date**	15 – 12 – 2015
Pre-requisites to Training	Class XII		
Training Outcomes	• After completing this programme, participants will be able to: • Demonstrate knowledge about Renal Failure (ARF & CRF) and its management. • Demonstrate pre dialysis patient assessment. • Demonstrate dialyzer extracorporeal blood circuit priming and setting up the machine for dialysis procedure. • Demonstrate aseptic cannulation of AVF/AVG and dialysis initiation. • Demonstrate aseptic acute vascular access catheter care and dialysis initiation. • Demonstrate alarm processing,continuous monitoring of patient and machine during procedure. • Demonstrate aseptic decannulation and catheter care after termination of dialysis. • Demonstrate meticulous infection control measures. • Operate and maintain R.O Water treatment plant. • Demonstrate machine disinfection methods. • Demonstrate dialysis machine maintenance methods. • Demonstrate dialyzer reprocessing, both manual and automated(Operating RENATRON,INTERFACE Module & RENALOG-RM software.) • Demonstrate polite and strategic communication skills,grooming skills, professional etiquettes and leadership qualities.		

This course encompasses 19 out of 19 National Occupational Standards (NOS) of "Dialysis Technician" Qualification Pack issued by "SSC: Healthcare Sector Skill Council".

S.No	Module	Key Learning Outcomes	Equipment Required
1	**Introduction to Healthcare Systems** **Theory Duration** (hh:mm) 05:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/N 2701, HSS/N2702, HSS/N2703, HSS/N2704, HSS/N 2705, HSS/N2706, HSS/N 2707	• Understanding the structure of Healthcare Service Providers (primary, secondary & tertiary) • Understanding various Hospital Functions • Understanding the systems of Dialysis centers • Understanding the functioning of Dialysis unit at different level (National / State / District)	Visit to healthcare facility in different regions to assess different levels of healthcare facility
2	**Human Anatomy & Physiology** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/N 2701, HSS/N 2703, HSS/N 2704, HSS/N 2710, HSS/N 2706	• Comprehending the anatomic definitions, cells and tissues of human body. • Understanding all the body systems and its functions. • Understanding different fluid compartments in human body. • Understanding various membrane transport mechanisms in human body.	Mannequins, chart presentations
3	**Medical Terminology** **Theory Duration** (hh:mm) 10:00	• To develop broad understanding of commonly used medical terms. • To develop understanding of medical abbreviations. • To develop Understanding of commonly used	Internet usage and self learning

S.No	Module	Key Learning Outcomes	Equipment Required
	Practical Duration (hh:mm) 05:00 **Corresponding NOS Code** HSS/N 2701, HSS/N 2702, HSS/ N 2703, HSS/N 2703, HSS/N 2705, HSS/N 2707, HSS/N 2708	medical equipment in dialysis unit.	
4	**Pharmacology Basics** **Theory Duration** (hh:mm) 07:00 **Practical Duration** (hh:mm) 03:00 **Corresponding NOS Code** HSS/N 2707, HSS/N 2708, HSS/N 2709, HSS/N 2711	• Understanding the principles of pharmacodynamics and pharmacokinetics. • Understanding classification of drugs. • Understanding different routes of drug administration. • Understanding commonly used emergency drugs. • Describe SALA medicines, precautions and ADR.	Internet usage and self learning
5	**Renal Anatomy And Physiology** **Theory Duration** (hh:mm) 07:00 **Practical Duration** (hh:mm) 03:00 **Corresponding NOS Code** HSS/N 2701, HSS/N 2703, HSS/N 2704, HSS/N 2706	• Understand macroscopic anatomy of Kidneys. • Understand microscopic anatomy of kidneys. • Understand major physiological functions of kidneys.	Mannequins, chart presentations
6	**Personnel Hygiene**	• To develop understanding of the concept of Healthy Living • To develop understanding & procedures of Hand	PPE, Patient safety equipment's and tools, vaccinations, hand sanitizers

S.No	Module	Key Learning Outcomes	Equipment Required
	Theory Duration (hh:mm) 08:00 **Practical Duration** (hh:mm) 12:00 **Corresponding NOS Code** HSS/N 9610, HSS/N 9606	Hygiene • To develop techniques of Grooming • To be equipped with Techniques of Use of PPE • To be vaccinated against common infectious diseases	
7	**Safety & First Aid** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS/N 9606, HSS/N 9603, HSS/N 2709, HSS/N 2707, HSS/N 2705	• To develop understanding and precautions to ensure Patient's Safety • To develop basic understanding and precautions to ensure sample preservation while Transporting • Describe common emergency conditions and what to do in medical emergencies • Describe basics of first aid • To develop understanding and precautions to ensure self-safety	Patient safety tools such as wheel chairs, trolleys, side rails, PPE, First Aid kit, betadine, cotton, bandages, sanitizers, disinfectants etc
8	**Bio-Medical Waste Management** **Theory Duration** (hh:mm) 12:00 **Practical Duration** (hh:mm) 08:00 **Corresponding NOS Code** HSS/ N 9609	• To gain understanding of importance of proper and safe disposal of bio-medical waste & treatment • To gain understanding of categories of bio-medical waste • To learn about disposal of bio-medical waste – colour coding, types of containers, transportation of waste, etc. • To gain broad understanding of standards for bio-medical waste disposal • To gain broad understanding of means of bio-medical waste treatment	Different coded color bins, different variety of bio medical waste management, Visit to treatment plan of bio medical waste etc.
9	**Patients Right & Environment**	• Describe necessary steps taken to ensure safety and comfort to the patient during the procedure	internet use to learn patient rights

S.No	Module	Key Learning Outcomes	Equipment Required
	Theory Duration (hh:mm) 10:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/N 2703, HSS/N 2704, HSS/N 2706, HSS/N 2710, HSS/N 2711	• Describe importance and methodology of cleanliness, and hygiene environment in collection space • Understand sensitivities involved in patient's right and responsbilities • Learn dialysis technician's role in maintaining patient's rights	
10	**Soft Skills & Communication** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/N 2701, HSS/N 2703, HSS/N 2706, HSS/N 2710, HSS/N 2711, HSS/N 2713, HSS/N 9604	• Understand Art of Effective Communication • Able to handle effective Communication with Patients & Family • Able to handle effective Communication with Peers/ colleagues using medical terminology in communication • Learn basic reading and writing skills • Learn sentence formation • Learn grammar and composition • Learn how to enhance vocabulary • Learn problem solving • Understand need for customer service and service excellence in Medical service • Understand work ethics in hospital set up • Learn Goal setting, team building, team work, time management, thinking and reasoning & communicating with others	Self learning and understanding
11	**Role of the Dialysis Technician** **Theory Duration** (hh:mm) 05:00 **Practical Duration** (hh:mm) 05:00	• To develop broad understanding of the Role of DT • To identify Dialysis maintenance needs to be taken care by DT • To develop Understanding of Patient Comforts and Safety • To exhibit Ethical Behaviour	Brainstorming, chart presentation, discussions, visit to healthcare facility

S.No	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code Introduction		
12	**Renal Failure And Management** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/ N 2708, HSS/N 2710, HSS/N 2711, HSS/ N 2703, HSS/ N 2704	• To understand acute renal failure. • To understand chronic renal failure characteristics and management. • To understand the importance of Dialysis as a therapeutic measure for CRF.	Internet use to learn theory, mannequin, chart presentation
13	**History And Introduction Of Hemodialysis** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** (HSS/ N 2702, HSS/ N 2704, HSS/ N 2706, HSS/ N 2709, HSS/ N 2712)	• To develop understanding about history of Hemodialysis. • To develop understanding of evolution of dialyzer.	Internet use to learn theory, mannequin, chart presentation
14	**Principles Of Hemodialysis** **Theory Duration** (hh:mm) 08:00 **Practical Duration**	• To gain broad understanding of solute, solvents and semipermeable membrane. • To learn Diffusion and Osmosis process. • To gain broad understanding of Ultrafiltration, Adsorption and convection. • To gain understanding of Electrolytes.	Internet use to learn theory, mannequin, chart presentation

S.No	Module	Key Learning Outcomes	Equipment Required
	(hh:mm) 07:00 **Corresponding NOS Code** HSS/ N 2702, HSS/ N 2703, HSS/ N 2704, HSS/ N 2706, HSS/ N 2707		
15	**Vascular Access** **Theory Duration** (hh:mm) 02:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/ N 2710, 2711, 2704, 2706	• To learn about arterial and venous vasculature of the upper arm. • To learn about temporary vascular access in detail. • To learn about permanent vascular access in detail. • To learn about monitoring and surveillance of vascular access	Internet use to learn theory, mannequin, chart presentation, vascular and venous arms
16	**Anticoagulation In Hemodialysis** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/ N 2702, HSS/ N 2712	• To learn about hemostasis and steps involved in hemostasis. • To learn about various anticoagulant drugs used during hemodialysis. • To learn about alternative anticoagulation measures. • To gain broad understanding of heparin free Haemodialysis	Internet use to learn theory, mannequin, chart presentation, anti-coagulant (Heparin)
17	**Dialyzer & Extracorpeal Circuit** **Theory Duration** (hh:mm) 10:00 **Practical Duration**	• To learn about types of dialyzer, components of diayzer and characteristics of dialyzer. • To learn about different membrane materials. • To learn priming of dialyzer and extra corporeal circuit. • To learn dialyzer reprocessing techniques(Both manual and automatic).	Internet use to learn theory, mannequin, chart presentation, dialysis machine

S.No	Module	Key Learning Outcomes	Equipment Required
	(hh:mm) 11:00 **Corresponding NOS Code** HSS/ N 2712, HSS/ N 2702		
18	**Dialysate Composition In Hemodialysis** **Theory Duration** (hh:mm) 12:00 **Practical Duration** (hh:mm) 09:00 **Corresponding NOS Code** (HSS/ N 2702, HSS/ N 2709, HSS/ N 2711, HSS/ N 2712)	• To learn about dialysate. • To learn about the chemical composition of dialysate solutions.	Internet use to learn theory, mannequin, chart presentation, dialysis machine
19	**Dialysis Machine** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS/ N 2702, HSS/ N 2704, HSS/ N 2706, HSS/ N 2709, HSS/ N 2712	• To learn about various components of Dialysis machine. • To learn functions of dialysis machine. • To learn about the operation and maintenance of HD machine.	Internet use to learn theory, mannequin, chart presentation, dialysis machine
20	**Water Treatment For Hemodialysis** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS**	• To learn about terminologies used in the dialysis water treatment system operation. • To learn about mechanical components of a dialysis water treatment system. • To learn about the operation and maintenance of a water treatment plant. • To learn about microbiological monitoring of water treatment plant.	Internet use to learn theory, mannequin, chart presentation, dialysis machine, water treatment plant, RO water treatment

S.No	Module	Key Learning Outcomes	Equipment Required
	Code HSS/ N 2713, 9603, 9606		
21	**Complications Of Hemodialysis And Management** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS/ N 2705, HSS/ N 2707, HSS/ N 2708, HSS/ N 2711	• To learn about various patient complications which occur during hemodialysis • To learn about the management of patient complications during treatment.	Internet use to learn theory, mannequin, chart presentation, dialysis machine
22	**Infection Control In Hemodialysis Unit** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS/ N 9610	• To learn about infection, mode of transmission and standard precautions in the dialysis unit (Pre, during & post procedure) • To learn safe injection practices. • To learn aseptic AVF/AVG cannulation and decannulation procedure. • To learn aseptic catheter care procedure. •	Hand sanitizers, PPE, Hand washing techniques, steriliser, disinfectants, policies and procedures for infection control
23	**Peritoneal Dialysis(Pd)** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 10:00	• To learn principles of PD. • To learn aseptic PD procedure. • To learn aseptic PD catheter care. • To learn about PD complications and management. • To learn about PD adequacy measuring protocols .	Internet use to learn theory, mannequin, chart presentation, dialysis machine

S.No	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code HSS/ N 2702, HSS/ N 2704, HSS/ N 2706, HSS/ N 2708		
24	**Extra Corporeal Detoxification** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS/ N 2702, HSS/ N 2707, HSS/ N 2709	• To learn about extra corporeal detoxification and it's complications. • To learn about Plasmapheresis • To learn about Plasma Exchange • To learn about various toxins which can be removed by extra corporeal detoxification • To learn about different modalities for extra corporeal detoxification.	Internet use to learn theory, mannequin, chart presentation, dialysis machine
25	**Dialysis Modalities for ARF** **Theory Duration** (hh:mm) 20:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/ N 2701, HSS/ N 2705, HSS/ N 2708	• To learn about Acute Renal Failure(ARF) • To learn about principles behind continuous dialytic techniques or Continuous Renal Replacement Therapy (CRRT). • To learn about different modalities and complications of CRRT.	Internet use to learn theory, mannequin, chart presentation, dialysis machine
26	**Care Of Patients On Dialysis** **Theory Duration** (hh:mm) 03:00	• To learn about pre dialysis patient assessment. • To learn about pre dialysis vascular access care. • To learn about intra dialysis patient care. • To learn about post dialysis patient care. • To learn about pre, intra, post dialysis patient care in different settings.	Internet use to learn theory, mannequin, chart presentation, dialysis machine

S.No	Module	Key Learning Outcomes	Equipment Required
	Practical Duration (hh:mm) 04:00 **Corresponding NOS Code** HSS/ N 2708, HSS/ N 2703, HSS/ N 2704, HSS/ N 9603		
27	**Renal Transplant(Rt)** **Theory Duration** (hh:mm) 03:00 **Practical Duration** (hh:mm) 02:00 **Corresponding NOS Code** HSS/ N 2708, HSS/ N 2701	• Basic sensitization about Renal Transplantation • To learn about pre- requisite of renal transplant • To learn about various investigations required for transplantation. • Introduction to graft failure, graft rejection and their management.	Internet use to learn theory, mannequin, chart presentation, dialysis machine
28	**Urea Kinetic Modelling** **Theory Duration** (hh:mm) 12:00 **Practical Duration** (hh:mm) 03:00 **Corresponding NOS Code** HSS/N2711, HSS/N 2701, HSS/ N 2707	• To learn about characteristics of urea. • To learn about dialysis adequacy. • To learn about various methods used to measure dialysis adequacy. • To learn about fractional clearance index of urea or Kt/V. • To learn about urea reduction ratio(URR).	Internet use to learn theory, mannequin, chart presentation, dialysis machine
29	**Dialysis Unit Management** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm)	• To learn about the general lay out of a dialysis facility/ unit. • To learn about general conditions required for a dialysis unit. • To learn about personnel required for the smooth operation of dialysis unit. • To learn about standards of dialysis unit.	Internet use to learn theory, mannequin, chart presentation, dialysis machine

S.No	Module	Key Learning Outcomes	Equipment Required
	15:00 Corresponding NOS Code HSS/ N 2701, HSS/ N 2702, HSS/ N 2709, HSS/ N 9604, HSS/ N 9606, HSS/ N 9610		
30	**Observing And Reporting** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 15:00 **Corresponding NOS Code** HSS/ N 2701, HSS/ N 2705, HSS/ N 2707, HSS/ N 2710, HSS/ N 9604	• Understand the importance and method of observing and reporting while dealing with patients during pre and post dialysis • Understand the importance and method of Observing and reporting while assisting the nephrologist and other members of the team during the dialysis • Understand the importance and method of observing and reporting the adverse reactions/events. • To learn about effective communication system in order to inform the person in authority	Use of internet to adopt best practises across the world for professional etiquettes
31	**Documentation & Records** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/ N 2701, HSS/ N 2707	• Understand guidelines for documentation • Understand Guidelines for Collecting documentation • Learn various types of records in Dialysis set up • Understand use and importance of record maintenance in Dialysis set up • Understand abbreviations and symbols • Enter, transcribe, record, store, or maintain information in written or electronic/magnetic form	Sample performa
32	**Professional Behaviour In Healthcare Setting** **Theory Duration** (hh:mm) 05:00	• How to maintain restful environment • Learn General and Specific etiquettes to be observed on duty • Understand need for compliance of organizational hierarchy and reporting • Understand the legal and ethical issues • Understand importance of conservation of resources in dialysis unit	Use of internet to adopt best practises across the world for professional etiquettes

S.No	Module	Key Learning Outcomes	Equipment Required
	Practical Duration (hh:mm) 05:00 **Corresponding NOS Code** HSS/ N 9604, HSS/ N 9606, HSS/ N 9609, HSS/ N 9603		
	Total Duration **Theory Duration (hh:mm)** **329:00** **Practical Duration (hh:mm)** **227:00** **OJT Duration (hh:mm)** **800:00**	**Unique Equipment Required:** DIALYSIS MACHINE, Custom made pressurised water loop for Hemodialysis Machine, Dialysate Filter, Sodium Hypochlorite Solution 10% V/V, Formaldehyde Solution, Paracetic Acid Solution, Acetic Acid/Vinegar, Dialyzer(Low Flux), HD Blood Tubing set, Transducer protecters(TP), IV set, 20 Ml syringe, Standard unfractionated Injection Heparin 25000 IU, Normal Saline 1 Ltr Vac, Double Lumen Central venous catheter, Acid concentrate solution, Bicarbonate powder packets, Sterile Surgical gloves 7.5 Inch, Nonsterile Examination Gloves, AVF back eyed needle (16 G), Customised Mannequin for cannulation demonstration., Hydrogen Peroxide, Citro sterile solution, R.O.Plant, Antiscalent solution, K+ free can (29ltrs), AVF needles **Class Room equipped with following arrangements:** • Interactive lectures & Discussion • Brain Storming • Charts & Models • Activity • Video presentation • Visit to Primary Health Centre, Hospital set-up and Dialysis Centre **Skill lab equipped with following arrangements:** • Unique equipment as enlisted at the last • Practical Demonstration of various functions • Case study •Role play Reference's and use of internet	

Grand Total Course Duration: 0556:00 Hours (Theory Duration: 329:00+ Practical Duration: 227:00) Mandatory 800:00 Hours of OJT/Internship/Clinical or Laboratory Training)

This syllabus/ curriculum has been approved by SSC: Healthcare Sector Skill Council)

Trainer Prerequisites for Job role: "Dialysis Technician" mapped to Qualification Pack: "HSS/Q2701, version 1.0"

Sr. No.	Area	Details
1	**Description**	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack "HSS/Q2701".
2	**Personal Attributes**	Aptitude for conducting training, and pre/ post work to ensure competent, employable candidates at the end of the training. Strong communication skills, interpersonal skills, ability to work as part of a team; a passion for quality and for developing others; well-organised and focused, eager to learn and keep oneself updated with the latest in the mentioned field.
3	**Minimum Educational Qualifications**	B.Sc. in dialysis technician or MBBS with three year of experience in dialysis center/department or BSc. nursing/ GNM with five year of experience in dialysis center/department Specialist teachers or Dialysis technicians with experience of 5 years will be permitted to teach special topics. Topics related to Dialysis Machines operations and managements Level 4 certified Dialysis Technician with minimum 5 years of experience.
4a	**Domain Certification**	Certified for Job Role: "Dialysis Technician" mapped to QP: "HSS/Q2701", version 1.0 with scoring of minimum 80%.
4b	**Platform Certification**	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/Q0102" with scoring of minimum 80%.
5	**Experience**	Experience in teaching Dialysis Technician course HSS/Q2701 5 years of experience for Level 4 certified Dialysis Technician HSS/Q2701

Annexure: Assessment Criteria

Assessment Criteria for Dialysis Techncian	
Job Role	Dialysis Technician
Qualification Pack Code	HSS/Q 2701, version 1.0
Sector Skill Council	Healthcare Sector Skill Council

Sr. No.	Guidelines for Assessment
1.	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2.	The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3.	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
4.	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
5.	To pass the Qualification Pack, every trainee should score as per assessment grid.
6.	In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

Skills Practical and Viva (80% weightage)	
	Marks Allotted
Grand Total-1 (Subject Domain)	400
Grand Total-2 (Soft Skills and Communication)	100
Grand Total-(Skills Practical and Viva)	500
Passing Marks (80% of Max. Marks)	400
Theory (20% weightage)	
	Marks Allotted
Grand Total-1 (Subject Domain)	80
Grand Total-2 (Soft Skills and Communication)	20
Grand Total-(Theory)	100
Passing Marks (50% of Max. Marks)	50
Grand Total-(Skills Practical and Viva + Theory)	600
Overall Result	**Criteria is to pass in both theory and practical individually. If fail in any one of them, then candidate is fail**
Detailed Break Up of Marks	**Skills Practical & Viva**
Subject Domain	**Pick any 2 NOS each of 200 marks totaling 400**

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
1.HSS / N 2701 : Collect and assess the patient's chart and vitals	PC1. Read and understand the patients' reports	200	40	20	20
	PC2. Take measurements of non-invasive blood pressure, body temperature, body weight, breathing rate and/or other vital parameters, as appropriate		40	20	20
	PC3. Recognise the levels of vital parameters under which dialysis can be performed safely		50	20	30
	PC4. Identify and manage potential and actual risks to the quality and safety of work		30	10	20
	PC5. Maintain competence within one's role and field of practice		20	10	10
	PC6. Evaluate and reflect on the quality of one's work and make continuing improvements		20	10	10
			200	**90**	**110**
HSS / N 2702 : Manage dialysis machine set up and assemble the extracorporeal circuit	PC1. Needs to know and understand the mechanics and functioning of all parts of the dialysis machine being used	**200**	50	20	30
	PC2. Should know how to calibrate the machine without error		50	20	30
	PC3. Should ensure that the dialysis unit has been sterilised after previous use		40	10	30
	PC4. Should ensure that all the components required are adequately present		30	10	20
	PC5. Should know how to assemble and check the extracorporeal circuit parts i.e. the patient connectors, Dialyzer connectors, Drip chamber and bubble trap, Blood pump segment, Heparin infusion line, and saline infusion line		30	10	20
			200	70	130
3.HSS / N 2703 : Prepare and position the patient for treatment	PC1. Maintain patients' privacy	**200**	30	10	20
	PC2. Drape the patient such that it facilitates connecting the patient to the dialysis unit		30	10	20
	PC3. Explain the need to dress and be placed in particular position for dialysis to patient		40	20	20
	PC4. Perform actions gently to avoid causing pain specially taking care to not disturb any catheters, IV lines already present		50	20	30

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
	PC5. Keep the patient in a comfortable posture		30	10	20
	PC6. Provide the appropriate linen including covering sheet depending on the patient (male, female, child) and should know from where to obtain the same		20	0	20
			200	70	130
.HSS / N 2704 : Connect patient to the dialysis machine	PC1. Use standard protocols for inserting IV lines and making connections to prevent infection and reduce discomfort to the patient	200	50	20	30
	PC2. Understand how to utilise existing catheters for performing dialysis		50	20	30
	PC3. Be aware of the protocol of starting the dialysis		50	20	30
	PC4. Minimise inconvenience and pain for the patient while performing the procedure		50	20	30
			200	80	120
5.HSS / N 2705 : Monitor technical/ clinical vitals during the treatment	PC1. Understand the various indicators, alarms and sensors of the dialysis machine	200	50	20	30
	PC2. Know the corrective steps to be taken when a particular alarm goes off		50	20	30
	PC3. Be alert and quick in his/her responses		50	20	30
	PC4. Know whom and how to inform in case of medical emergency		50	30	20
			200	90	110
6.HSS/ N 2706: Unhook patient from the machine	PC1. Know when dialysis is completed	200	50	20	30
	PC2. Detach all connections between patient and unit		50	10	40
	PC3. Carefully remove IV cannulas with minimum discomfort to patient		50	10	40
	PC4. Suitably dress the canola/ catheter to keep it sterile and pain- free for future use if the doctor/nurse instructs		30	10	20
	PC5. Understand needs of the patient and help them to be comfortable		20	10	10
			200	60	140
HSS / N 2707 : Record the	PC1. Follow the right format for documenting the dialysis on the patient's chart	200	50	20	30

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
treatment	PC2. Record the components/ constituents and their quantities used		50	20	30
	PC3. Understand the importance of documenting the procedure on the patient's chart		50	30	20
	PC4. Record the quantity and type of constituents like dialysate, acid mixture etc. used during the process		50	30	20
			200	100	100
HSS/ N 2708: Conduct pre and post dialysis evaluation	PC1. Read and understand the patients' reports	200	30	10	20
	PC2. Take measurements of non-invasive blood pressure, body temperature, body weight, breathing rate and/or other vital parameters, as appropriate		30	10	20
	PC3. Recognise the levels of vital parameters under which dialysis can be performed safely		40	15	25
	PC4. Be alert in noticing any change or distress in the patient during or after dialysis		40	10	30
	PC5. Communicate effectively with patient, doctors and nurses to enable quick remedial action		30	10	20
	PC6. Document the changes as per protocol		30	15	15
			200	70	130
HSS/ N 2709: Maintain and disinfect the delivery system	PC1. Clean up any spillage	200	50	25	25
	PC2. Know when the dialysate, dialyzer or other constituents need to be replaced		50	20	30
	PC3. Follow standard sterilisation and cleaning procedure for the unit		30	10	20
	PC4. Disinfect dialysis machine according to the manufacturer's recommendations		40	20	20
	PC5. The dialysate circuit should be exposed to disinfectant		30	10	20
			200	85	115
HSS/ N 2710: Evaluate and prepare the site for cannulation	PC1. Describe the three main types of vascular access (fistulae, grafts and catheters)	200	10	5	5
	PC2. Identify the predialysis assessments for all types of vascular access.		10	5	5
	PC3. Describe the methods of needle insertion for		10	5	5

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
	AVFs and grafts.				
	PC4. Describe the predialysis assessment, accessing procedure, exit site care, and monitoring of catheters		10	5	5
	PC5. Describe how fistulae are created and the pros and cons of these		10	5	5
	PC6. Assess the maturity of a fistula		5	3	2
	PC7. Describe how grafts are created and the pros and cons of these		10	7	3
	PC8. Describe how catheters are placed and the various methods of catheter placement (both short and long term)		10	5	5
	PC9. Describe the pros and cons of catheters		5	3	2
	PC10. Describe the types of catheter and port/catheter devices		10	5	5
	PC11. Assess a fistula or graft prior to each treatment by inspecting (looking for infection, steal syndrome, stenosis, etc.), auscultating (listening for bruit and deep access location), and palpating (feeling for skin temperature, thrill, stenosis, vein diameter etc.) the access		10	5	5
	PC12. Assess the blood flow before inserting a needle into the fistula/ graft		5	2	3
	PC13. Assess catheters prior to dialysis treatment		5	2	3
	PC14. Describe the considerations for accessing catheters and cleansing exit sites		5	2	3
	PC15. Describe the various methods for preparing a patient's skin for cannulation		5	2	3
	PC16. Prepare a patient's skin for cannulation using anti-bacterial solutions		10	4	6
	PC17. Apply a tourniquet		5	1	4
	PC18. Select a site for cannulation and insert a needle into the patient's vein		5	1	4
	PC19. Understand the concept of Antegrade and retrograde needle direction		10	8	2
	PC20. Understand how to rotate cannulation sites for fistulae and grafts		10	3	7

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
	PC21. Secure needles after insertion		10	4	6
	PC22. Describe common complications that occur due to: a. Fistulae, grafts and catheters b) b. Poor needle site rotation, c) c. Dialysis		10	5	5
	PC23. Monitor catheters during the treatments		10	3	7
	PC24. Describe post-dialysis care for fistulae, catheters and grafts		10	5	5
			200	95	105
HSS/ N 2711: Respond to dialysis related emergencies in patient and equipment	PC1. Clean up any spillage	200	30	10	20
	PC2. Know when the dialysate, dialyzer or other constituents need to be replaced		50	30	20
	PC3. Follow standard sterilisation and cleaning procedure for the unit		30	10	20
	PC4. Disinfect dialysis machine according to the manufacturer's recommendations		50	20	30
	PC5. The dialysate circuit should be exposed to disinfectant		40	10	30
			200	80	120
HSS/ N 2712: Reprocess dialyserstreatment guidelines.	PC1. Clean up any spillage	200	30	10	20
	PC2. Know when the dialysate, dialyzer or other constituents need to be replaced		50	30	20
	PC3. Follow standard sterilisation and cleaning procedure for the unit		30	10	20
	PC4. Disinfect dialysis machine according to the manufacturer's recommendations		50	20	30
	PC5. The dialysate circuit should be exposed to disinfectant		40	10	30
			200	80	120
HSS/ N 2713: Operate and maintain water treatment plant	PC1. Check the incoming water temperature	200	10	2	8
	PC2. Look around the RO(reverse osmosis) system for any visible fluid leaks		20	5	15
	PC3. Check and record the pressure gauge		20	5	15
	PC4. Measure and record the pressures before and after the endotoxin filter		10	5	5

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
	PC5. Record all checks, including time and initials, on the Daily Dialysis Water Equipment Monitoring Log Sheet		20	5	15
	PC6. Check and record the pump, reject, and product pressures		10	5	5
	PC7. Check and record the recycle, waste, and permeate flow rates		10	5	5
	PC8. Check and record the inlet and permeate conductivities		10	5	5
	PC9. Read the RO monitor and record the conductivity and percent rejection		10	2	8
	PC10. Check and record the pump run hours		10	5	5
	PC11. Check the multi-media sediment filter		10	5	5
	PC12. Measure and record the pressures before and after the multi-media filter		10	5	5
	PC13. Check the water softener		10	2	8
	PC14. Measure and record the pressures before and after the water softener		10	5	5
	PC15. Check and record the setting for the regeneration timer. The timer should be set to activate when the facility, especially the RO, is not operating		20	5	5
	PC16. Check the brine tank		10	2	8
	Total		200	70	130
HSS/ N 9610 (Follow infection control policies and procedures)	PC1. Preform the standard precautions to prevent the spread of infection in accordance with organisation requirements	**200**	5	0	5
	PC2. Preform the additional precautions when standard precautions alone may not be sufficient to prevent transmission of infection		5	0	5
	PC3. Minimise contamination of materials, equipment and instruments by aerosols and splatter		5	5	0
	PC4. Identify infection risks and implement an appropriate response within own role and responsibility		20	10	10
	PC5. Document and report activities and tasks that put patients and/or other workers at risk		5	0	5

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
	PC6. Respond appropriately to situations that pose an infection risk in accordance with the policies and procedures of the organization		5	0	5
	PC7. Follow procedures for risk control and risk containment for specific risks		10	0	10
	PC8. Follow protocols for care following exposure to blood or other body fluids as required		10	0	10
	PC9. Place appropriate signs when and where appropriate		20	10	10
	PC10. Remove spills in accordance with the policies and procedures of the organization		5	0	5
	PC11. Maintain hand hygiene by washing hands before and after patient contact and/or after any activity likely to cause contamination		5	0	5
	PC12. Follow hand washing procedures		5	0	5
	PC13. Implement hand care procedures		5	0	5
	PC14. Cover cuts and abrasions with water-proof dressings and change as necessary		5	5	0
	PC15. Wear personal protective clothing and equipment that complies with Indian Standards, and is appropriate for the intended use		5	0	5
	PC16. Change protective clothing and gowns/aprons daily, more frequently if soiled and where appropriate, after each patient contact		5	0	5
	PC17. Demarcate and maintain clean and contaminated zones in all aspects of health care work		20	10	10
	PC18. Confine records, materials and medicaments to a well-designated clean zone				
	PC19. Confine contaminated instruments and equipment to a well-designated contaminated zone				
	PC20. Wear appropriate personal protective clothing and equipment in accordance with occupational health and safety policies and procedures when handling waste		5	0	5
	PC21. Separate waste at the point where it has been generated and dispose of into waste containers that are colour coded and identified		5	0	5
	PC22. Store clinical or related waste in an area that is		5	5	0

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
	accessible only to authorised persons				
	PC23. Handle, package, label, store, transport and dispose of waste appropriately to minimise potential for contact with the waste and to reduce the risk to the environment from accidental release		5	0	5
	PC24. Dispose of waste safely in accordance with policies and procedures of the organisation and legislative requirements		5	5	0
	PC25. Wear personal protective clothing and equipment during cleaning procedures		5	0	5
	PC26. Remove all dust, dirt and physical debris from work surfaces		5	0	5
	PC27. Clean all work surfaces with a neutral detergent and warm water solution before and after each session or when visibly soiled		5	0	5
	PC28. Decontaminate equipment requiring special processing in accordance with quality management systems to ensure full compliance with cleaning, disinfection and sterilisation protocols		5	0	5
	PC29. Dry all work surfaces before and after use		5	0	5
	PC30. Replace surface covers where applicable		5	0	5
	PC31. Maintain and store cleaning equipment		5	5	0
Total			200	55	145
Grand Total-1 (Subject Domain)		**400**			
Soft Skills and Communication		**Pick one field from both parts each carrying 50 marks totaling 100**			

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (100)	Out Of	Marks Allocation	
				Viva	Observation/ Role Play
Part 1 (Pick one field randomly carrying 50 marks)					
1. Attitude					
HSS/ N 9603 (Act within the limits of one's competence and authority)	PC1. Adhere to legislation, protocols and guidelines relevant to one's role and field of practice	50	5	2	3
	PC2. Work within organisational systems and requirements as appropriate to one's role		5	2	3
	PC3. Recognise the boundary of one's role and responsibility and seek supervision when situations are beyond one's competence and authority		10	5	5
	PC4. Maintain competence within one's role and field of practice		5	3	2
	PC5. Use relevant research based protocols and guidelines as evidence to inform one's practice		5	2	3
	PC6. Promote and demonstrate good practice as an individual and as a team member at all times		10	5	5
	PC7. Identify and manage potential and actual risks to the quality and safety of practice		5	3	2
	PC8. Evaluate and reflect on the quality of one's work and make continuing improvements		5	2	3
			50	24	26
Attitude Total		**50**			
Part 2 (Pick one field as per NOS marked carrying 50 marks)					
1. Team Work					
HSS/ N 9604 (Work effectively with others)	PC1. Communicate with other people clearly and effectively	50	3	0	3
	PC2. Integrate one's work with other people's work effectively		3	0	3
	PC3. Pass on essential information to other people on timely basis		3	0	3
	PC4. Work in a way that shows respect for other people		3	0	3
	PC5. Carry out any commitments made to other people		6	6	0
	PC6. Reason out the failure to fulfil commitment		6	6	0

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (100)	Out Of	Marks Allocation	
				Viva	Observation/ Role Play
	PC7. Identify any problems with team members and other people and take the initiative to solve these problems		16	8	8
	PC8. Follow the organisation's policies and procedures		10	4	6
			50	24	26
2. Safety management					
HSS/ N 9606 (Maintain a safe, healthy, and secure working environment)	PC1. Identify individual responsibilities in relation to maintaining workplace health safety and security requirements	50	6	2	4
	PC2. Comply with health, safety and security procedures for the workplace		4	0	4
	PC3. Report any identified breaches in health, safety, and security procedures to the designated person		4	3	1
	PC4. Identify potential hazards and breaches of safe work practices		6	4	2
	PC5. Correct any hazards that individual can deal with safely, competently and within the limits of authority		6	4	2
	PC6. Promptly and accurately report the hazards that individual is not allowed to deal with, to the relevant person and warn other people who may get affected		6	4	2
	PC7. Follow the organisation's emergency procedures promptly, calmly, and efficiently		6	2	4
	PC8. Identify and recommend opportunities for improving health, safety, and security to the designated person		6	4	2
	PC9. Complete any health and safety records legibly and accurately		6	2	4
			50	25	25
Waste Management					
HSS/ N 9609 (Follow biomedical waste	PC1. Follow the appropriate procedures, policies and protocols for the method of collection and containment level according to the waste type	50	6	2	4
	PC2. Apply appropriate health and safety measures		8	4	4

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (100)	Out Of	Marks Allocation	
				Viva	Observation/ Role Play
disposal protocols)	and standard precautions for infection prevention and control and personal protective equipment relevant to the type and category of waste				
	PC3. Segregate the waste material from work areas in line with current legislation and organisational requirements		4	0	4
	PC4. Segregation should happen at source with proper containment, by using different colour coded bins for different categories of waste		8	4	4
	PC5. Check the accuracy of the labelling that identifies the type and content of waste		4	2	2
	PC6. Confirm suitability of containers for any required course of action appropriate to the type of waste disposal		4	4	0
	PC7. Check the waste has undergone the required processes to make it safe for transport and disposal		4	4	0
	PC8. Transport the waste to the disposal site, taking into consideration its associated risks		4	4	0
	PC9. Report and deal with spillages and contamination in accordance with current legislation and procedures		4	4	0
	PC10. Maintain full, accurate and legible records of information and store in correct location in line with current legislation, guidelines, local policies and protocols		4	4	0
			50	32	18
4. Quality Assurance					
HSS/ N 9611: Monitor and assure quality	PC1. Conduct appropriate research and analysis	**50**	6	2	4
	PC2. Evaluate potential solutions thoroughly		8	4	4
	PC3. Participate in education programs which include current techniques, technology and trends pertaining to the dental industry		4	0	4
	PC4. Read Dental hygiene, dental and medical publications related to quality consistently and thoroughly		8	4	4
	PC5. Report any identified breaches in health, safety, and security procedures to the designated		4	2	2

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (100)	Out Of	Marks Allocation	
				Viva	Observation/ Role Play
	person				
	PC6. Identify and correct any hazards that he/she can deal with safely, competently and within the limits of his/her authority		4	4	0
	PC7. Promptly and accurately report any hazards that he/she is not allowed to deal with to the relevant person and warn other people who may be affected		4	4	0
	PC8. Follow the organisation's emergency procedures promptly, calmly, and efficiently		4	4	0
	PC9. Identify and recommend opportunities for improving health, safety, and security to the designated person		4	4	0
	PC10. Complete any health and safety records legibly and accurately		4	4	0
	Total		50	32	18
Grand Total-2 (Soft Skills and Communication)		**100**			
Detailed Break Up of Marks			**Theory**		
Subject Domain			**Pick all NOS totaling 80**		

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (80)	Marks Allocation
			Theory
1.HSS / N 2701 : Collect and assess the patient's chart and vitals	PC1. Read and understand the patients' reports	5	1
	PC2. Take measurements of non-invasive blood pressure, body temperature, body weight, breathing rate and/or other vital parameters, as appropriate		1
	PC3. Recognise the levels of vital parameters under which dialysis can be performed safely		1
	PC4. Identify and manage potential and actual risks to the quality and safety of work		1
	PC5. Maintain competence within one's role and field of practice		1
	PC6. Evaluate and reflect on the quality of one's work and make continuing improvements		0
	5		
2. HSS / N 2702 : Manage dialysis machine set up and assemble the extracorporeal circuit	PC1. Needs to know and understand the mechanics and functioning of all parts of the dialysis machine being used	5	1
	PC2. Should know how to calibrate the machine without error		1
	PC3. Should ensure that the dialysis unit has been sterilised after previous use		1
	PC4. Should ensure that all the components required are adequately present		1
	PC5. Should know how to assemble and check the extracorporeal circuit parts i.e. the patient connectors, Dialyzer connectors, Drip chamber and bubble trap, Blood pump segment, Heparin infusion line, and saline infusion line		1
	5		
3.HSS / N 2703 : Prepare and position the patient for treatment	PC1. Maintain patients' privacy	10	4
	PC2. Drape the patient such that it facilitates connecting the patient to the dialysis unit		2
	PC3. Explain the need to dress and be placed in particular position for dialysis to patient		5
	PC4. Perform actions gently to avoid causing pain specially taking care to not disturb any catheters, IV lines already present		5
	PC5. Keep the patient in a comfortable posture		2

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (80)	Marks Allocation
			Theory
	PC6. Provide the appropriate linen including covering sheet depending on the patient (male, female, child) and should know from where to obtain the same		2
	10		
4.HSS / N 2704 : Connect patient to the dialysis machine	PC1. Use standard protocols for inserting IV lines and making connections to prevent infection and reduce discomfort to the patient	10	3
	PC2. Understand how to utilise existing catheters for performing dialysis		2
	PC3. Be aware of the protocol of starting the dialysis		2
	PC4. Minimise inconvenience and pain for the patient while performing the procedure		3
	10		
5.HSS / N 2705 : Monitor technical/ clinical vitals during the treatment	PC1. Understand the various indicators, alarms and sensors of the dialysis machine	5	1
	PC2. Know the corrective steps to be taken when a particular alarm goes off		2
	PC3. Be alert and quick in his/her responses		1
	PC4. Know whom and how to inform in case of medical emergency		1
	5		
6.HSS/ N 2706: Unhook patient from the machine	PC1. Know when dialysis is completed	5	1
	PC2. Detach all connections between patient and unit		1
	PC3. Carefully remove IV cannulas with minimum discomfort to patient		1
	PC4. Suitably dress the canola/ catheter to keep it sterile and pain- free for future use if the doctor/nurse instructs		1
	PC5. Understand needs of the patient and help them to be comfortable		1
	5		
7.HSS / N 2707 : Record the treatment	PC1. Follow the right format for documenting the dialysis on the patient's chart	5	1
	PC2. Record the components/ constituents and their		1

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (80)	Marks Allocation
			Theory
	quantities used		
	PC3. Understand the importance of documenting the procedure on the patient's chart		2
	PC4. Record the quantity and type of constituents like dialysate, acid mixture etc. used during the process		1
	5		
8.HSS/ N 2708: Conduct pre and post dialysis evaluation	PC1. Read and understand the patients' reports	**5**	1
	PC2. Take measurements of non-invasive blood pressure, body temperature, body weight, breathing rate and/or other vital parameters, as appropriate		1
	PC3. Recognise the levels of vital parameters under which dialysis can be performed safely		1
	PC4. Be alert in noticing any change or distress in the patient during or after dialysis		1
	PC5. Communicate effectively with patient, doctors and nurses to enable quick remedial action		0
	PC6. Document the changes as per protocol		1
	5		
9. HSS/ N 2709: Maintain and disinfect the delivery system	PC1. Clean up any spillage	**5**	1
	PC2. Know when the dialysate, dialyzer or other constituents need to be replaced		1
	PC3. Follow standard sterilisation and cleaning procedure for the unit		1
	PC4. Disinfect dialysis machine according to the manufacturer's recommendations		1
	PC5. The dialysate circuit should be exposed to disinfectant		1
	5		
10. HSS/ N 2710: Evaluate and prepare the site for cannulation	PC1. Describe the three main types of vascular access (fistulae, grafts and catheters)	**5**	0.5
	PC2. Identify the predialysis assessments for all types of vascular access.		0
	PC3. Describe the methods of needle insertion for AVFs and grafts.		0

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (80)	Marks Allocation
			Theory
	PC4. Describe the predialysis assessment, accessing procedure, exit site care, and monitoring of catheters		0
	PC5. Describe how fistulae are created and the pros and cons of these		0.5
	PC6. Assess the maturity of a fistula		0
	PC7. Describe how grafts are created and the pros and cons of these		0.5
	PC8. Describe how catheters are placed and the various methods of catheter placement (both short and long term)		0.5
	PC9. Describe the pros and cons of catheters		0.5
	PC10. Describe the types of catheter and port/catheter devices		0.5
	PC11. Assess a fistula or graft prior to each treatment by inspecting (looking for infection, steal syndrome, stenosis, etc.), auscultating (listening for bruit and deep access location), and palpating (feeling for skin temperature, thrill, stenosis, vein diameter etc.) the access		0
	PC12. Assess the blood flow before inserting a needle into the fistula/ graft		0
	PC13. Assess catheters prior to dialysis treatment		0
	PC14. Describe the considerations for accessing catheters and cleansing exit sites		0.5
	PC15. Describe the various methods for preparing a patient's skin for cannulation		0.5
	PC16. Prepare a patient's skin for cannulation using anti-bacterial solutions		0
	PC17. Apply a tourniquet		0
	PC18. Select a site for cannulation and insert a needle into the patient's vein		0
	PC19. Understand the concept of Antegrade and retrograde needle direction		0.5
	PC20. Understand how to rotate cannulation sites for fistulae and grafts		0.5
	PC21. Secure needles after insertion		0
	PC22. Describe common complications that occur due to: a.		0

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (80)	Marks Allocation
			Theory
	Fistulae, grafts and catheters b) b. Poor needle site rotation, c) c. Dialysis		
	PC23. Monitor catheters during the treatments		0
	PC24. Describe post-dialysis care for fistulae, catheters and grafts		0
	5		
11. HSS/ N 2711: Respond to dialysis related emergencies in patient and equipment	PC1. Clean up any spillage	**5**	1
	PC2. Know when the dialysate, dialyzer or other constituents need to be replaced		1
	PC3. Follow standard sterilisation and cleaning procedure for the unit		1
	PC4. Disinfect dialysis machine according to the manufacturer's recommendations		1
	PC5. The dialysate circuit should be exposed to disinfectant		1
	5		
12. HSS/ N 2712: Reprocess dialyserstreatment guidelines.	PC1. Clean up any spillage	**5**	1
	PC2. Know when the dialysate, dialyzer or other constituents need to be replaced		1
	PC3. Follow standard sterilisation and cleaning procedure for the unit		1
	PC4. Disinfect dialysis machine according to the manufacturer's recommendations		1
	PC5. The dialysate circuit should be exposed to disinfectant		1
	5		
13. HSS/ N 2713: Operate and maintain water treatment plant	PC1. Check the incoming water temperature	**5**	0
	PC2. Look around the RO(reverse osmosis) system for any visible fluid leaks		0
	PC3. Check and record the pressure gauge		0
	PC4. Measure and record the pressures before and after the endotoxin filter		0
	PC5. Record all checks, including time and initials, on the Daily Dialysis Water Equipment Monitoring Log Sheet		0.5

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (80)	Marks Allocation
			Theory
	PC6. Check and record the pump, reject, and product pressures		0
	PC7. Check and record the recycle, waste, and permeate flow rates		0
	PC8. Check and record the inlet and permeate conductivities		0
	PC9. Read the RO monitor and record the conductivity and percent rejection		0
	PC10. Check and record the pump run hours		0.5
	PC11. Check the multi-media sediment filter		0
	PC12. Measure and record the pressures before and after the multi-media filter		1
	PC13. Check the water softener		0
	PC14. Measure and record the pressures before and after the water softener		1
	PC15. Check and record the setting for the regeneration timer. The timer should be set to activate when the facility, especially the RO, is not operating		1
	PC16. Check the brine tank		1
	5		
14. HSS/ N 9610 (Follow infection control policies and procedures)	PC1. Preform the standard precautions to prevent the spread of infection in accordance with organisation requirements	**5**	0.5
	PC2. Preform the additional precautions when standard precautions alone may not be sufficient to prevent transmission of infection		0.5
	PC3. Minimise contamination of materials, equipment and instruments by aerosols and splatter		0
	PC4. Identify infection risks and implement an appropriate response within own role and responsibility		0.5
	PC5. Document and report activities and tasks that put patients and/or other workers at risk		0
	PC6. Respond appropriately to situations that pose an infection risk in accordance with the policies and procedures of the organization		0
	PC7. Follow procedures for risk control and risk containment		0.5

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (80)	Marks Allocation
			Theory
	for specific risks		
	PC8. Follow protocols for care following exposure to blood or other body fluids as required		0.5
	PC9. Place appropriate signs when and where appropriate		0.5
	PC10. Remove spills in accordance with the policies and procedures of the organization		0
	PC11. Maintain hand hygiene by washing hands before and after patient contact and/or after any activity likely to cause contamination		0
	PC12. Follow hand washing procedures		0
	PC13. Implement hand care procedures		0
	PC14. Cover cuts and abrasions with water-proof dressings and change as necessary		0
	PC15. Wear personal protective clothing and equipment that complies with Indian Standards, and is appropriate for the intended use		0.5
	PC16. Change protective clothing and gowns/aprons daily, more frequently if soiled and where appropriate, after each patient contact		0
	PC17. Demarcate and maintain clean and contaminated zones in all aspects of health care work		0
	PC18. Confine records, materials and medicaments to a well-designated clean zone		0
	PC19. Confine contaminated instruments and equipment to a well-designated contaminated zone		0
	PC20. Wear appropriate personal protective clothing and equipment in accordance with occupational health and safety policies and procedures when handling waste		0
	PC21. Separate waste at the point where it has been generated and dispose of into waste containers that are colour coded and identified		0.5
	PC22. Store clinical or related waste in an area that is accessible only to authorised persons		0
	PC23. Handle, package, label, store, transport and dispose of waste appropriately to minimise potential for contact with the waste and to reduce the risk to the environment from accidental release		0

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (80)	Marks Allocation
			Theory
	PC24. Dispose of waste safely in accordance with policies and procedures of the organisation and legislative requirements		0
	PC25. Wear personal protective clothing and equipment during cleaning procedures		0
	PC26. Remove all dust, dirt and physical debris from work surfaces		0
	PC27. Clean all work surfaces with a neutral detergent and warm water solution before and after each session or when visibly soiled		0
	PC28. Decontaminate equipment requiring special processing in accordance with quality management systems to ensure full compliance with cleaning, disinfection and sterilisation protocols		0.5
	PC29. Dry all work surfaces before and after use		0
	PC30. Replace surface covers where applicable		0
	PC31. Maintain and store cleaning equipment		0.5
5			
Total		**80**	

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (20)	Marks Allocation
			Theory
Part 1 (Pick one field randomly carrying 50 marks)			
1. Attitude			
HSS/ N 9603 (Act within the limits of one's competence and authority)	PC1. Adhere to legislation, protocols and guidelines relevant to one's role and field of practice	**5**	0
	PC2. Work within organisational systems and requirements as appropriate to one's role		1
	PC3. Recognise the boundary of one's role and responsibility and seek supervision when situations are beyond one's competence and authority		1
	PC4. Maintain competence within one's role and field of practice		0
	PC5. Use relevant research based protocols and guidelines as evidence to inform one's practice		0

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (80)	Marks Allocation
			Theory
	PC6. Promote and demonstrate good practice as an individual and as a team member at all times		1
	PC7. Identify and manage potential and actual risks to the quality and safety of practice		1
	PC8. Evaluate and reflect on the quality of one's work and make continuing improvements		1
Attitude Total			
Part 2 (Pick one field as per NOS marked carrying 50 marks)			
1. Team Work			
HSS/ N 9604 (Work effectively with others)	PC1. Communicate with other people clearly and effectively	**5**	1
	PC2. Integrate one's work with other people's work effectively		0
	PC3. Pass on essential information to other people on timely basis		0
	PC4. Work in a way that shows respect for other people		1
	PC5. Carry out any commitments made to other people		0
	PC6. Reason out the failure to fulfil commitment		1
	PC7. Identify any problems with team members and other people and take the initiative to solve these problems		1
	PC8. Follow the organisation's policies and procedures		1
2. Safety management			
HSS/ N 9606 (Maintain a safe, healthy, and secure working environment)	PC1. Identify individual responsibilities in relation to maintaining workplace health safety and security requirements	**5**	1
	PC2. Comply with health, safety and security procedures for the workplace		0
	PC3. Report any identified breaches in health, safety, and security procedures to the designated person		1
	PC4. Identify potential hazards and breaches of safe work practices		1

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (80)	Marks Allocation
			Theory
	PC5. Correct any hazards that individual can deal with safely, competently and within the limits of authority		1
	PC6. Promptly and accurately report the hazards that individual is not allowed to deal with, to the relevant person and warn other people who may get affected		0
	PC7. Follow the organisation's emergency procedures promptly, calmly, and efficiently		0
	PC8. Identify and recommend opportunities for improving health, safety, and security to the designated person		0
	PC9. Complete any health and safety records legibly and accurately		0
Waste Management			
HSS/ N 9609 (Follow biomedical waste disposal protocols)	PC1. Follow the appropriate procedures, policies and protocols for the method of collection and containment level according to the waste type	2.5	0
	PC2. Apply appropriate health and safety measures and standard precautions for infection prevention and control and personal protective equipment relevant to the type and category of waste		0
	PC3. Segregate the waste material from work areas in line with current legislation and organisational requirements		0.5
	PC4. Segregation should happen at source with proper containment, by using different colour coded bins for different categories of waste		0.5
	PC5. Check the accuracy of the labelling that identifies the type and content of waste		0.5
	PC6. Confirm suitability of containers for any required course of action appropriate to the type of waste disposal		0
	PC7. Check the waste has undergone the required processes to make it safe for transport and disposal		0.5
	PC8. Transport the waste to the disposal site, taking into consideration its associated risks		0.5
	PC9. Report and deal with spillages and contamination in accordance with current legislation and procedures		0
	PC10. Maintain full, accurate and legible records of		0

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (80)	Marks Allocation
			Theory
	information and store in correct location in line with current legislation, guidelines, local policies and protocols		
	5		2.5
4. Quality Assurance			
HSS/ N 9611: Monitor and assure quality	PC1. Conduct appropriate research and analysis	**2.5**	0
	PC2. Evaluate potential solutions thoroughly		0
	PC3. Participate in education programs which include current techniques, technology and trends pertaining to the dental industry		0.5
	PC4. Read Dental hygiene, dental and medical publications related to quality consistently and thoroughly		0.5
	PC5. Report any identified breaches in health, safety, and security procedures to the designated person		0
	PC6. Identify and correct any hazards that he/she can deal with safely, competently and within the limits of his/her authority		0
	PC7. Promptly and accurately report any hazards that he/she is not allowed to deal with to the relevant person and warn other people who may be affected		0.5
	PC8. Follow the organisation's emergency procedures promptly, calmly, and efficiently		0.5
	PC9. Identify and recommend opportunities for improving health, safety, and security to the designated person		0
	PC10. Complete any health and safety records legibly and accurately		0.5
	Total	**5**	2.5
Grand Total-2 (Soft Skills and Communication)		**20**	