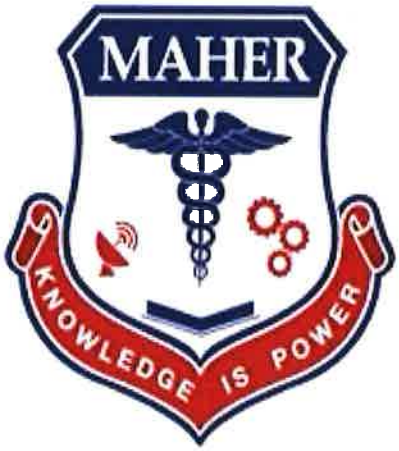
Meenakshi Academy of Higher Education & Research



BACHELOR OF ALLIED HEALTH SCIENCES
B.Sc AHS(RENAL DIALYSIS TECHNOLOGY)
REGULATIONS AND SYLLABUS

(Regulations-2014)

Principal
Faculty of Allied Health Sciences
Meenakshi Academy of Higher
Education & Research
Chennai - 600 078.

Effective from the Academic Year 2014-2015

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MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH
FACULTY OF ALLIED HEALTH SCIENCES
BACHELOR OF ALLIED HEALTH SCIENCES
B.Sc AHS(RENAL DIALYSIS TECHNOLOGY)

REGULATIONS-2014

VISION AND MISSION OF MAHER

Vision

To be a world-class institution, transforming society through value-based diverse programs and healthcare advancements, leading to the all-around development of human resources, knowledge, innovation, entrepreneurship, and research.

Mission

To become an institute of eminence by developing world-class professionals in the field of healthcare, science, liberal arts, technology and research with a focus on the societal good.

To create an enabling state-of-the-art infrastructure, intellectual capital and provide best-in-class learning experience with a freedom to innovate and invent.

To foster values and ethics so as to develop students and learners into responsible citizens of the Nation and the world.

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REGULATIONS-2014
VISION AND MISSION OF FACULTY OF ALLIED HEALTH SCIENCES

VISION

To be a world-class institution, transforming society through value-based diverse programs and healthcare advancements, leading to the all-around development of human resources, knowledge, innovation, entrepreneurship, and research.

MISSION

- ✓ To prepare the young professionals who are committed in health care to excellence and innovation in health care.
- ✓ To develop and transmit knowledge of diverse aspects of health, health-care delivery and health research.
- ✓ To prepare the young emerging professionals who understand health from biological, behavioral, and population perspectives.
- ✓ To prepare the young emerging professionals who are committed in health care to excellence and innovation in health care.

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MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH

FACULTY OF ALLIED HEALTH SCIENCES

PROGRAMME OBJECTIVES

Programme Objectives:

1. To impart necessary knowledge and training techniques in under graduate Allied Health Sciences courses and to maintain high standards of Allied Health Sciences education.
2. To offer theoretical and practical training in all the important Allied Health Sciences branches of health activity.
3. To attain self-sufficiency in under graduate Allied Health Sciences education to meet the States need of Allied Health Sciences personnel.
4. Providing knowledge and skill based training to create qualified and competent technical personnel in the discipline of Allied Health Sciences.
5. To develop the basic skills in the students that are necessary to monitor patients within a healthcare setting.
6. To create manpower who will bridge gap between staff, Nurses and consultants. To train students in all clinical skills using clinical in all clinical demonstration and simulation base training.

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FACULTY OF ALLIED HEALTH SCIENCES
PROGRAMME OUTCOME
RENAL DIALYSIS TECHNOLOGY

PO1: Academic Education
Gain proficiency in fundamentals of renal dialysis technology improve our understanding of factors imparting allied health sciences

PO2 : Knowledge
Acquire comprehensive basic knowledge of coordinated functions,anatomy of heart and pathophysiology of kidney diseases and apply them in Cases

PO3:Design and Development of Solutions
Improve knowledge to design solutions for complex problems in the associated fields and design digital imaging technology products or processes that meet the specified needs with appropriate consideration for specific diseases with specific considerations of patient .

PO4: Investigation
Analyse complex problems and investigate to develop solutions by using renal dialysis technology based knowledge and research methods including digital imaging technology, analysis and interpretation of data, and use of diagnostic tools in effective development of clinical solutions

PO5: Communication
Improve appropriate language and interpersonal skills in communication of clinical outcomes and outputs, develop visual and graphical methods to communicate results effectively

PO6: Role in Society
Obtain knowledge in reasoning techniques to assess societal, health, safety, legal and cultural issues associated with use of renal dialysis technology of allied health sciences and the consequent responsibilities of professionals involved in the use of the same.

PO7: Ethics
Acquire knowledge on ethical principles associated with research methods, use of human models, patient information, research and literature data collection and use and commit to ensuring sustainability of resources

PO8: Technology Usage
Understand appropriate diagnostic technology, techniques, modern scientific diagnostic tools to analytically understand, predict and analyze the outcome of use of allied health sciences and develop therapeutic products that improve clinical practices

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PO9: Environment and Sustainability
Obtain attitude toward products that are safe to the environment, is economically, environmentally and socially sustainable with a commitment to safeguard the future of life in the planet

PO10: Team Work
Implement the function effectively individually and in a team under multi-skilled, multi-cultural and multi-disciplinary settings

PO11: Project Management
Gain knowledge and understanding the principles and management techniques of renal dialysis technology and apply these to ones own and teams work and also manage team based projects in real life environments, and leading to technological skills

PO12: Lifelong Learning
Engage in life long practical learning in the context of technological developments in allied health science and the changes that it brings about in the quality of human life

Programme Specific Outcome

PSO1-Students will be trained to become skilled dialysis technicians, capable of handling haemodialysis and peritoneal dialysis on various dialysis machines.

PSO2-Technician will be capable of setting up and operating the dialysis machines, mixing dialysate according to the formula, and priming dialyzer with saline or heparinised solution to prepare the machine.Students

PSO3-Will have knowledge and necessary skills to prepare a patient both physically and psychologically for the dialysis procedure by recording patient details prior to dialysis, explain the procedure and functioning of the machine, providing reassurance to anxious patients and then beginning with the physical care needed.

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B.Sc AHS(RENAL DIALYSISI TECHNOLOGY)

REGULATIONS -2014

1.REGULATIONS OF THE UNIVERSITY

In exercise of the powers conferred by the Board of management, Meenakshi Academy of Higher Education And Research, Chennai hereby makesthe following Regulations:

2.SHORT TITLE

These Regulations shall be called ''THE REGULATIONS FOR THE BACHELOROF SCIENCE IN ALLIED HEALTH SCIENCE DEGREE PROGRAMME OF MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH".

3.COMMENCEMENT

They shall come into force from the academic year 2014-15 onwards. The regulations and the syllabus are subject to modification by the standing academicboard from time to time.

4.TITLE OF THE PROGRAMME

It shall be called Bachelor of Science in Allied Health Science

5.ELIGIBILITY FOR ADMISSION

Candidates should have passed the higher secondary school certificate examination (12 years of study)Or Senior school certificate of Indian school certificate examination (12 years ofstudy) Or Intermediate examination of an Indian university/Board or other recognisedexamining body with physics, chemistry, Biology and English.

6.CRITERIA FOR SELECTION

Students for B.Sc. Degree Programme (Allied Health Science) shall be admitted based on performance at the competitive Examinations held by this University.

7.AGE LIMIT FOR ADMISSION

Candidate should have completed the age of 17 years at the time of admission orwould complete the age of 17 years on or before 31st December of the year of admission to the first year B.Sc. Degree programme

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8.ELIGIBILITY CERTIFICATE

No candidate shall be admitted to the B.Sc. Degree programme (AHS) unless the candidate has obtained and produced eligibility candidate issued by this university. The candidate has to make an application the university with the original and photo copies of the following documents along with the prescribedfee:

Higher secondary or equivalent examination mark sheet and

Transfer certificate

Candidate should obtain eligibility certificate before the last date for admissionas notified by the university

9.REGISTRATION

A candidate admitted to the B.Sc. Degree programme (AHS) of this university shall register by remitting the prescribed fees along with the application form for registration duly filled in and forwarded to this university through the head of the institution within the stipulated time.

10.DURATION OF THE PROGRAMME

The period of certified study for the Programme of Bachelor of Science (Renal dialysis) programme shall extend over a period of 3 academic years.

11.COMMENCEMENT OF THE PROGRAMME

ACADEMIC TERMS

First year B.Sc	-	1st August to 31st July
Second Year B.Sc	-	1st September to 31st August
Third Year B.Sc	-	1st September to 31st August

12.CUT OFF DATES FOR ADMISSION TO EXAMINATIONS

The candidates admitted from 1st August to 30th September of the academic yearbe registered to take up their first year examination on 1st august of the next year.There will not be any admission after 30th September for the academic year.

13.WORKING DAYS IN AN ACADEMIC YEAR

The first academic year shall consist of not less than 240 working days

14.ATTENDANCE REQUIRED FOR ADMISSION TO EXAMINATION

a) No candidate shall be permitted to any one of the parts of B.Sc exam unless he/she has attended the programme in the subject for the prescribed and produces the necessary certificates of study and attendance from the institution.

b) A candidate is required to put in minimum of 80% of attendance in both and practical / clinical separately in each subject before admission examination.

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c) A candidate, who has not completed the programme in any subject and not submitted the course completion certificate from the head of the department willnot be permitted to appear for the particular subject alone. Candidate has got adequate attendance in other subjects he/she permitted to appear for examination in those subjects.

d) Attendance earned by the student should be displayed on the notice board of the department monthly and a copy of the same sent to the university computerization and parents shall be informed regarding the short attendance oftheir wards through e-mail (if available) or by post by the institution.

15.SUBMISSION OF LABORATORY RECORD NOTE BOOK

At the time of practical/clinical examination each candidate shall submitto the examiners his/her laboratory note book duly certified by the head of the department as a bonafide record of the work done by the candidate.

The practical record shall be evaluated by the concerned Head of the department (Internal Evaluation) and the practical record marks shall be submitted to the university 15 days prior to the commencement of the theoryexaminations

In respect of failed candidates the marks awarded for records at previous examination will be carried over to the next examinations. If a candidate desireshe/she may be permitted to improve his/her performance by submission of fresh records.

16.CONDONATION OF LACK OF ATTENDANCE

Condonation of shortage of attendance up to a maximum of 10% in the prescribed eligible attendance for admission to an examination rests with the discretionary power of the Vice-chancellor. A candidate lacking in attendance shall submit an application in the prescribed form and remit the stipulated fee 15days prior to the commencement of the theory examination.

The head of the department and head of the institution should satisfy themselveson the reasonableness of the candidate request while forwarding the application with their endorsements to the controller of examination who would obtain the Vice-chancellor's approval for admission to the examinations. No application would be reviewed if it is not forwarded through proper channel. Condonation for lack of attendance shall be taken up for consideration under thefollowing circumstances:

Any illness afflicting the candidate. (The candidate should submit to the head of the institution a medical certificate from registered medical practitioner soon after he/she returns – the institution after treatment.)

Any unforeseen tragedy in the family. (The parent/guardian should give inwriting the reason for the ward's absence to the Head of the Institution

Any other leave the Head of the Institution deems reasonable for condonation50% of marks in internal assessment is compulsory for condonation of lack of attendance.

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17.COMMENCEMENT OF EXAMINATIONS

August 1st/February 1st. If the date of commencement falls on Saturdays, Sunday declared public holidays, the examination shall begin on the next working day.

18.REVALUATION OF ANSWER SCRIPTS

There shall be no revaluation of answers papers of failed candidates in any undergraduate examination. However, Re-totaling of failed subjects will be entertained on payment of the prescribed fee.

19.INTERNAL ASSESSMENT

a) A minimum of four written examinations shall be conducted in each subject during an academic year and the average marks of three best performances shallbe taken into consideration for the award of internal assessment of mark

b) A minimum of three practical examinations shall be conducted in each subject during an academic year and an average of two best performances shall taken into consideration for award of international assessment marks.

c) A failed candidate in any subject should be provided an opportunity to improve his / her internal Assessment marks by conducting a minimum of twoexaminations, in theory and practical separately and the average may be considered improvement. If failed candidate do not appear for an improvementin failed subject (s) the internal marks awarded for the previous examination shall be carried over the subsequent appearance (s).

d) The internal assessment marks (both in written and practical's taken together should be submitted to the University endorsed by the head of the Institution 15 days prior to the commencement of the theory examinations.

20.RE-ADMISSION AFTER BREAK OF STUDY

a) The calculation of the break of study of the candidate for readmission shall be calculated from the date of first discontinuance of the curse instead of from the date of admission.

b) Candidates having break of study shall be considered for readmission provided, they are not subjected to any disciplinary action and no charges pending or contemplated against them.

c) All readmission of candidates are subjected to the approval of the Vice-Chancellor.

d) A candidate having a break of study more than 2 years and up to 5 years shall apply for the readmission condonation to the Academic officer of this University. The candidate may be readmitted to the beginning of the academic year of the programme. The candidate has to fulfil the attendance requirements of the University and shall be granted exemption in the subjects he has already passed.

e) Candidates having a break of study of 5 years and above from the date of discontinuance and more than two spells break will not be considered for readmission.

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21.MIGRATION / TRANSFER OF CANDIDATES

a) Migration / Transfer of candidates from one recognized college to another recognized college of this university or from another University shall be grantedas per the recommendation of the University regulations.

I) Migration may be considered in exceptional cases or Extreme compassionate ground.

II) Death of a supporting guardian, illness of the candidate disability, disturbed condition as declared by govt. In the college area.

b) The combination of attendance shall be granted to a transfer for admission tothe examinations of this university or payment of the necessary fee and satisfying the Nursing council of India regulations.

c) The applicant candidate should have passed first year Examination.

d) Migration during clinical programme of study shall not be allowed on anyground.

e) All migrations/transfers are allowed on payment of the prescribed fee.

f) All migrations/ transfers are subject to the approval of the Vice-chancellor.

22.MARKS QUALIFYING FOR A PASS

A candidate shall be declared to have passed the examination if he/she obtain 50% of all the marks in University Theory examination, 50% of the marks in University Practical examination and 50% aggregate in University Theory, Practical, Oral and Internal Assessment taken together.

23.CLASSIFICATION OF SUCCESSFUL CANDIDATES

a) A successful candidate who secures 75% and above of the marks in his/her first appearance in all the subjects within the prescribed period will be declared to have passed in first class with Distinction.

b) A successful candidate who secures 75% and above of the marks in his/her first appearance in a subject within the prescribed period will be declared to have passed in first class with Distinction in that particular subject.

c) A successful candidate who secures 60% and above of the marks in his/her first appearance in all the subjects within the prescribed period will be declared to have passed in First class.

d) All other successful candidates shall be declared to have passed in Second class.

24.CARRY OVER OF FAILED SUBJECTS

a) A candidate who fails in any subject can carry over the failed subject. However only three attempts are allowed in each subject including the 1st attempt.

b) A Candidate has to pass in theory and practical examination separately ineach of the paper

c) If a candidate fails either in theory and practical examination has to reappearfor both (theory and practical).

d) The candidate has to successfully complete the programme in 6 years (i.e.) doubleduration of the programme from the date of joining.

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25.BRANCH OF STUDY

BSc Allied health sciences(Renal Dialysis Technology)

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26.PATTERN OF EXAMINATION AND SUBJECTS OF STUDY

Scheme of examinationIst year

Section A	2 Essays (any 1)	1 x 6 Marks each	6 Marks	25 Marks	
	4 Short Notes (any 3)	3 x 3 Marks each	9 Marks		
	5 Ultra short notes	5 x2 Marks each	10 Marks		
Section B	2 Essays (any 1)	1 x 6 Marks each	6 Marks	25 Marks	
	4 Short Notes (any 3)	3 x 3 Marks each	9 Marks		
	5 Ultra short notes	5 x2 Marks each	10 Marks		
	Theory Total			50	Marks
	Practical			50	Marks
	Internal Assessment			30	Marks
	Viva – Voice			20	Marks
			Grand Total	150	Marks

Scheme of examinationIInd & III rd year

Section A	2 Essays (any 1)	1 x 15 Marks each	15 Marks	50 Marks	
	6 Short Notes (any 5)	5 x 5 Marks each	25 Marks		
	5 Ultra short notes	5 x2 Marks each	10 Marks		
Section B	2 Essays (any 1)	1 x 15 Marks each	15 Marks	50 Marks	
	6 Short Notes (any 5)	5 x 5 Marks each	25 Marks		
	5 Ultra short notes	5 x2 Marks each	10 Marks		
	Theory Total			100	Marks
	Practical			50	Marks
	Internal Assessment			30	Marks
	Viva – Voice			20	Marks
			Grand Total	200	Marks

Minimum for Passing
50% marks in the University written examination
50% marks in the University practical examination
50% marks in the aggregate of written, oral, practical and internal assessment

27Compulsory Rotatory Internship
All the candidates must undergo compulsory rotatory internship training for oneyear

28. Award of Degree
The B.Sc. degree shall be granted after successful completion of the programme and the compulsory Rotatory Internship

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I YEAR B.Sc AHS PERFUSION TECHNOLOGY(PROG.CODE-708)

PROGRAMME STRUCTURE

ourse ode	Course Name	Lecture Hrs/Week	Tutorial Hrs/Year	Practical Hrs\Week	Internal Assessment (Ia)	Internal Examination	External Assessment (Ea) University Examination				Gra Tot
						Theory	Theory	Viva	Practical	Total	
001	Anatomy	02	-	01	30	-	50	20	50	120	150
002	Physiology	02	-	01	30	-	50	20	50	120	150
003	Biochemistry	02	-	01	30	-	50	20	50	120	150
004	Pathology	02	-	01	30	-	50	20	50	120	150
)05	Microbiology	02	-	01	30	-	50	20	50	120	150
)06	Pharmacology	02	-	01	30	-	50	20	50	120	150
)09	Principles of Management	01	-	-	30	100	-	-	-	-	130
)10	Basics of Computer	01	-	-	30	100	-	-	-	-	130
)11	English	01	-	-	30	100	-	-	-	-	130

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RENAL DIALYSIS TECHNOLOGY(Programme code- 708)

IInd year

ıbject ıde	Subject	Lecture Hrs/Week	Tutorial Hrs/ Week	Practical Hrs\Week	Internal assessment	Internal examination	University exam			T M
						Theory	Theory	Practical(50)	Viva(20)	
801	Medical Outlines	05	-	-	30	-	100	-	-	
802	Principles Of Renal dialysis Technology - I	05	-	-	30	-	100	50	20	
803	Introduction To Surgery And CSSD	05	-	03	30	-	100	-	-	

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III[rd] year

ubje t Code	Subject	Lecture Hrs/Week	Tutorial Hrs/ Week	Practical Hrs\Week	Internal Assessment	Internal Examination	University Exam			
						Theory	Theory	Practical(50)	Viva (20)	
804	Principles of intensive care	05	-	-	30	-	100	5 0	20	
805	Principles Of Renal dialysis Technology –II	05	-	-	30	-	100	5 0	20	
806	Recent advances in RRT	05	-	03	30	-	100	5 0	20	
	ELECTIVES(select one)									
807	Clinical Psyhcology	05	-	-	30	-	100	-	-	
808	Community Medicine	05	-	-	30	-	100	-	-	

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PAPER I –
ANATOMY
SYLLABUS
Paper I – Anatomy

SYLLABUS

Course Code	Course Name	L Hrs /Wk	T Hrs/ Wk	P Hrs/ Wk	Total Hours	Ia	Theory	Viva	Practical	EA	Total
5001	ANATOMY	02	-	01	03	30	50	20	50	120	150

COURSE DESCRIPTION

The study of anatomy will include identification of all gross anatomical structures. Particular emphasis will be placed on description of bones, joints, muscles, the brain, Cardio-pulmonary and nervous systems, as these are related to the application of physiotherapy in patients.

COURSE OBJECTIVES

- The objective of this course is the student will be able to demonstrate knowledge in human anatomy for the study and practice of physiotherapy.
- To describe the various components of upper, lower extremity ,head and neck and thorax.

- In addition, the student will be able to fulfill with 75% accuracy (as measured written and oral internal evaluation) the following objectives of the course.

COURSE CONTENT:

1. Introduction to Anatomy
2. Basic Anatomical Terminology
3. Osteology -

a) Upper Limb - Clavicle, Scapula, Humerus, Radius, Ulna
b) Lower Limb – Hip Bone, Femur, Tibia, Fibula
c) Vertebral Column – Cervical, Thoracic, Lumbar & Sacral Vertebrae

4. Thorax – Thoracic Cage, Sternum, Ribs, Intercostal Space.
5. Respiratory System – Parts, Trachea, Bronchial Tree, Lungs, Pleura
6. Cardio Vascular System –

a) Heart – Surface anatomy, Chambers, Valves, Blood supply of the Heart Pericardium. Major Vessels of heart.

7. Vessels of Upper limb

a) Subclavian Artery – Parts, Branches
b) Axillary Artery – Parts, Branches
c) Brachial Artery, Radial artery, Ulnar artery
d) Basilic vein, Cephalic vein, Median Cubital vein

e) Cubital Fossa
8. Vessels of Lower limb
a) Femoral artery,
b) Popliteal artery
c) Dorsalis Pedis Artery,
d) Saphenous veins, femoral vein
9. Muscular
SystemMuscles of
Thorax.
Muscles of upper limb (Arm & Forearm)
Muscles of Lower limb (Thigh & Leg)
10. Excretory System
Kidney, Ureter, Urinary Bladder, Structure of Nephron
11. Digestive System
Parts, Stomach, Liver, Pancreas, Situation, Functions
12. Endocrine System
Pituitary gland, Thyroid gland, Adrenal gland situation, functions
13. Reproductive System
Male Reproductive system – Parts, Situation, Functions Female Reproductive system 0
Parts, Situation, Functions
Central Nervous System Outline of Brain and Spinal cord
Histology
Basic tissues BriefEpithelium Connective tissueSalivary glands Bone
Cartilage Muscle

B) **Practicals** :
OsteologyBones :
Side Identification, Prominent features,Muscle attachment

I. Organs – Heart, Lungs, Liver, Spleen, Stomach, Kidney.
Histology
Epithelium – Simple squamous epitheliumSimple cuboidal epithelium
Simple columnar epitheliumTransitional epithelium Bone
Cartilage
Hyaline cartilage Elastic cartilage White fibro cartilageSalivary glands
Serous salivary gland Mucous salivary glandMixed salivary gland Muscles
Skeletal MuscleSmooth MuscleCardiac Muscle

Practical record compulsory for Osteology & Histology

Total Hours	:	80
Theory	:	60
Practical	:	20

Prescribed Text Book
Manipal Manual of Anatomy for Allied Health Science

programme Author	:	Sampath Madhyastha
Edition	:	Third
EditionPublishers	:	CBS

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COURSE OUTCOME

CO1: Gain knowledge about various organs of the human body and their functions
CO2: Acquire knowledge in structural and functional relationship of Multi organ system
CO3: Proficiency on the investigation in the overall functions of each system
CO4: Understand the competency of various skeletal muscles and identify various bones and their processes in detail based on their presence in the body
CO5: Recall and reason out vital profiles that distinguishes altered functions of organ in human health and disease

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO 1	3	3	2	3	3	3	2	2	3	2	3	2	2	3	3
CO2	3	3	3	2	2	3	3	3	2	3	2	2	2	3	2
CO3	3	2	1	3	3	1	2	2	3	3	3	1	3	3	2
CO4	-	3	-	3	1	3	-	1	3	2	-	2	3	-	3
CO5	1	3	3	2	1	3	2	2	2	3	2	3	1	3	2
AVE	2	2.8	1.8	2.6	2	2.6	1.8	2	2.6	2.6	2	2	2.2	2.4	2.4

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PAPER II – PHYSIOLOGY

Course Code	Course name	L hrs /wk	T hrs/ wk	P hrs/ wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5002	Physiology	02	-	01	03	30	50	20	50	120	150

COURSE DESCRIPTION

This course which runs concurrently with the anatomy course helps the student to understand the basis of normal human physiology with special emphasis on the functioning of the cardiovascular, musculoskeletal and nervous system.

COURSE OBJECTIVES

- To demonstrate an understanding of elementary human physiology.
- To describe the physiological functions of each system of human physiology
- The student will be able to fulfill with 75% accuracy (as measured by written and oral internal evaluation) the following objectives of the course.

COURSE CONTENT

THEORY:-

1. The cell - cell structure and functions of the various organelles, endocytosis, exocytosis and homeostasis, Acid base balance and disturbance of acid base imbalance.
2. Blood - composition of blood, functions of blood, Erythropoiesis, plasma protein, pathological and physiological variations of RBC structure, function and metabolism of hemoglobin, erythrocyte sedimentation rate, WBC, platelets, coagulation, coagulants, bleeding disorders, blood grouping.
3. Cardio vascular system- physiological anatomy of heart, functions of heart, conducting system of heart, cardiac cycle, cardiac output, heart sounds, ECG, Arterial blood pressure and its regulations, Applied physiology like hypertension, cardiac murmur.
4. Respiratory system - physiological anatomy of respiratory tract, non respiratory functions of respiratory system, Mechanism of respiration, lung volumes and capabilities, Artificial ventilation and cpr, regulation of respiration,respiratory movements and transport of respiratory gases or exchange of respiratory gases.
5. Excretory system - physiological anatomy of excretory system, non excretory functions of excretory system, urine formation, micturition reflex, renal disorders, renal dialysis.

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6. Reproductive system - physiological anatomy of male and female reproductive system, process of spermatogenesis and oogenesis, menstruation, hormones of reproductive system.
7. Central nervous system - Functions of CSF, Significance of CSF analysis, blood brain barrier, transport of CSF.
8. Endocrine system - Functions of pituitary, thyroid, parathyroid, adrenal and pancreatic hormones.
9. Digestive system - physiological anatomy of GIT, digestion in the mouth, stomach and intestine, Absorption of food, role of bile in digestion.

Practical's:

1. Compound microscope
2. Determination of blood group
3. Determination of bleeding time
4. Determination of clotting time
5. Estimation of hemoglobin-sahlis method
6. Measurement of human blood pressure
7. Determination of ESR- Westergren's method
8. Determination of PCV
9. Effect of posture on vital capacity
10. ECG and its clinical importance
11. Functions of saliva, gastric juice and pancreatic juice
12. Dialysis (theory only)

COURSE OUTCOME

CO1: Recognize functions of various structures in the body
CO2: Understand the physiological functions of major organs and systems
CO3: Acquire knowledge on normal physiological functions of living organisms and their parts
CO4: Gain knowledge on the investigation in the physiological functions of each system
CO5: Recognise disciplines of various structures in microscopic and macroscopic level

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	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO
CO 1	3	3	2	3	3	3	2	2	3	2	3	2	2	3	3
CO2	3	3	3	2	2	3	3	3	2	3	2	2	2	3	2
CO3	3	2	1	3	3	1	2	2	3	3	3	1	3	3	2
CO4	-	3	-	3	1	3	-	1	3	2	-	2	3	-	3
CO5	1	3	3	2	1	3	2	2	2	3	2	3	1	3	2
AVE	2	2.8	1.8	2.6	2	2.6	1.8	2	2.6	2.6	2	2	2.2	2.4	2.4

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III-BIOCHEMISTRY

Course Code	Course name	L hrs /wk	T hrs/ wk	P hrs/ wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5003	Biochemistry	02	-	01	03	30	50	20	50	120	150

COURSE DESCRIPTION:

The main goal of the under- graduate education in Biochemistry is to enable Paramedical student understand, envisage and explain life processes as molecular events and apply his basic knowledge and skills.

COURSE OBJECTIVES:

1. Principles of various conventional and specialized laboratory investigations and instrumentation, analysis and interpretation of a given data; the ability to suggest experiments to support theoretical concepts and clinical diagnosis.
2. At the end of the course, the student should be able to make use of conventional techniques / instruments to perform biochemical analysis relevant to clinical screening and diagnosis 3. Analyze and interpret investigative data
4. Demonstrate the skills of solving clinical problems and decision making.

COURSE CONTENT

I. Biomolecules and the cell: Major Complex Biomolecules of cells. Cell and Cell organelles. Prokaryotic and eukaryotic cell.

II. Carbohydrates: Chemical structure. Function. Classification. Monosaccharides. Disaccharides, Polysaccharides. Homopolysaccharides, Heteropolysaccharides, Glycoproteins, Diabetes mellitus.

III. Proteins: Amino acids, Classification. Structure. Properties. Structureof proteins, Determination of protein structure, Properties of proteins, Denaturation. Classification of proteins Antigen, Antibody. Types, Plasma proteins, Blood Clotting.

IV. Lipids: Chemical structure, Functions. Classification, Fatty acids, Triglycerides, Phospholipids, Glycoproteins, Lipoproteins, Steroids, Amphipathic lipids, Bile Salts.

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V. Nucleic acids: Purines and pyrimidines. Structure of DNA. Watsonand Crick model of DNA. Structure of RNA. Types of RNA, Gout.

VI. Enzymes: Definition, Nomenclature, Classification. Factors affecting enzyme activity, Active site. Coenzyme. Enzyme inhibition. Mechanism of enzyme action. Units of enzyme. Isoenzyme. Enzyme pattern in diseases.

VII. Vitamins & Minerals: Fat soluble vitamins [A, D, E, K] Water soluble vitamins---B--- complex & vitamin C. Principal Elements [Calcium, Phosphorous, Magnesium, Sodium, Potassium, Chloride and Sulphur]. Trace elements, Calorific value of foods. Basal metabolic rate[BMR]. Respiratory quotient [RQ] Specific dynamic action [SDA]. Balanced Diet, Nitrogen Balance, Marasmus kwashiorkor, DietaryFiber.

VIII. Hormones: Classification, Mechanism of action. Hypothalamic hormones. Pituitary. Anterior, Posterior, Thyroid, Adrenal Cortex, Adrenal medulla, Gonadal hormones, Menstrual cycle, GI hormones.

IX. Acids and bases: Definition, pH, Henderson Hassel Balch equation, Buffers. Indicators. Normality. Molarity. Molality

X. BILE PIGMENTS JAUNDICE

COURSE OUTCOME

CO1: Gain knowledge in determining various biochemical reactions

CO2: Understand the various metabolic activities and biological process

CO3: Recognize enzymatic activities required for metabolism of various biomolecules.

CO4: Proficiency in concepts of chemical reaction and reaction rate in biological systems

CO5: Acquire knowledge on the geometry and conformations of biomolecules

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PS
CO1	3	1	3	3	3	3	2	2	3	3	3	2	2	3	
CO2	3	-	2	3	-	2	3	3	2	-	2	2	2	3	
CO3	-	3	3	3	2	3	-	3	3	3	-	-	3	2	
CO4	3	3	2	-	3	-	2	2	3	3	2	3	2	-	
CO5	2	2	-	3	3	3	3	2	3	2	2	3	3	3	
AVE	2.2	1.8	2	2.4	2.2	2.2	2	2.4	2.8	2.2	1.8	2	2.4	2.2	

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PAPER IV- PATHOLOGY

Course Code	Course name	L hrs/ wk	T hrs/ wk	P hrs/ wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5004	PATHOLOGY	02	-	01	03	30	50	20	50	120	150

COURSE DESCRIPTION:

The Goal of teaching pathology is to provide undergraduate students comprehensive knowledge of the causes and mechanisms of disease, in order to enable them to achieve complete understanding of the natural history and clinical manifestations of the disease.

COURSE OBJECTIVES:

1. At the end of one and half years the student shall be able to describes the rationale and principles of technical procedures of diagnostic laboratory tests.
2. Interpret diagnostic laboratory tests and correlate with clinical and morphological features of Diseases.
3. Perform simple bedside tests on blood, urine and other biological fluid samples

COURSE CONTENT:

CELL INJURY – Causes, Mechanism and types of Cell injury; Necrosis; Apoptosis; gangrene; Pathologic calcification; fatty Amyloidosis.
INFLAMMATION – Acute inflammation- cellular and vascular events; chemical mediators of inflammation; Chronic inflammation; Systemic effects ofinflammation; granulomatous inflammation.
WOUND HEALING– Terms repair and regeneration; primary wound healing; secondary wound healing; factors affecting wound healing; complications.
CIRCULATORY DISTURBANCE– Thrombosis; embolism; shock; edema.
INFECTIONS-TB: Leprosy; syphilis; HIV; typhoid;malaria opportunistic infections. GENETIC DISORDER- Karyotyping; Down syndrome; Klinefelter's syndrome; Turner' syndrome.
CVS DISEASES– Infective endocarditic; rheumatic heart disesase; aneurysm; Atherosclerosis; angina pectoris; myocardial infarction; congenital heart disease- TOF, ASD, VSD, PDA; coarctation of aorta.
RESPIRATORY DISEASES– Asthma; COPD; ARDS; pneumonia; lung abscess; lung cancer; pneumoconiosis.
RENAL DISEASES– Glomerulonephritis; nephrotic syndrome; Urinary tract infection; renal stone; renal failure.
CELLULAR ADAPTATION– Atrophy, hypertrophy, hyperplasia; metaplasia. NEOPLASIA-definition; difference between benign and malignant; causes of cancer; metastasis.
HYPERSENSITIVITY REACTIONS– type I, II, III, IV
REFERENCES: Harsh Mohan for dental student.

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COURSE OUTCOME:

CO1: Gain knowledge in the patho physiological changes in a human system

CO2: Analyse and investigate the changes in the human system that can be tagged for acquiring information about normal and abnormal condition.

CO3: Acquire and articulate knowledge and science relevant to pathological processes.

CO4: Establish competency in analysis of disease conditions and their causes.

CO5: Recognize the pathological conditions of major organs and structure

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	2	3	2	3	3	2	3	2	3	2	3	3	3
CO2	2	1	-	3	-	2	3	2	2	3	2	2	3	2	2
CO3	-	3	3	-	3	3	2	2	3	-	3	2	-	3	3
CO4	3	3	2	3	3	3	-	3	-	3	2	-	3	3	3
CO5	3	3	3	3	2	3	2	2	3	3	2	3	2	3	3
AVE	2	2.4	2	2.4	2	2.8	2	2.2	2.2	2.2	2.4	1.8	2.2	2.8	2.8

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PAPER V – MICROBIOLOGY

Course Code	Course name	L hrs /wk	T hrs/ wk	P hrs/ wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5005	MICROBIOLOGY	02	-	01	03	30	50	20	50	120	150

COURSE DESCRIPTION

The goal of teaching Microbiology is to provide understanding of the natural history of infection diseases in order to deal with the etiology, pathogenesis, pathogen city, Laboratory diagnosis treatment, control and prevention of these infection and infectious diseases.

COURSE OBJECTIVES:

1. Plan and interpret laboratory investigations for diagnosis of infectious diseases and correlate the clinical manifestations with the etiological agent.
2. Perform simple laboratory tests, which help to arrive at rapid diagnosis.
3. Understand methods of disinfections and sterilization and their application to control and prevent hospital and community acquired infections including universal bio safety precautions and waste diseases.
4. Recommended laboratory investigations regarding bacteriological examination of food, water, milk and air.

COURSE CONTENT:

UNIT	CHAPTERS
GENERAL MICROBIOLOGY	History of Microbiology, Microscopy, and Staining Techniques, Bacterial Anatomy, Culture medium &Techniques, Sterilization & Disinfection, Infection control Measures, Antimicrobial susceptibility testing &Drug resistance
IMMUNOLOGY	Immunity & types, Immune response, Antigen &Antibody / immunoglobulin, Antigen antibody interactions, Hypersensitivity Autoimmunity &Immune deficiency disorders, tumor & transplantation, Immunology

SYSTEMIC BACTERIOLOGY	Staphylococcus, Steptococcus, Pneumococcus Neisseria, Corynebacterium, Clostridium, Mycobacterium, Enterobacteraceae, Spirochetes, Nosocomial infections, Zoonoses, Miscellaneous Bacteria
VIROLOGY	Introduction & Classification, Enteroviruses Herpes viruses Orthomyxo & Paramyxo viruses, Adenovirus, Rhabdoviruses Oncogenic Viruses(HPV), Hepatitis viruses, HIV
MYCOLOGY	Introduction, Superficial Mycoses, Subcutaneous Mycoses, Systemic Mycoses, Opportunistic Mycoses
PARASITOLOGY	Amoebiasis, Malaria, Ascanasis
TEXT BOOK	Prescribed Textbook of microbiology by Anandha Narayan & Panicker

COURSE OUTCOME:

CO1: Obtain better understanding of life cycles of major microorganisms.

CO2: Gain knowledge on the diseases and disorders caused due to infections by those microorganism

CO3: Acquire and articulate knowledge and science relevant to microbiology

CO4: Establish competency in analysis of disease conditions caused by microorganisms

CO5: Attribute in research related to microbiology discipline with clarity.

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	3	3	2	3	3	2	3	2	3	2	-	3	3
CO2	-	1	3	3	2	3	3	3	2	-	2	2	3	3	3
CO3	2	3	2	-	-	3	3	2	-	3	2	-	3	2	3
CO4	3	3	-	3	2	2	3	3	3	3	-	3	2	3	2
CO5	2	3	2	3	3	3	2	2	3	3	2	3	2	3	-
AVE	1.8	2.4	2	2.4	1.8	2.8	2.8	2.4	2.2	2.2	1.8	2	2	2.8	2.2

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PAPER VI - PHARMACOLOGY

Course Code	Course name	L hrs/ wk	T hrs/ wk	P hrs /wk	Total hours	IA	Theory	Viva	Practical	EA	Tot
5006	**PHARMACOLOGY**	**02**	**-**	**01**	**03**	**30**	**50**	**20**	**50**	**120**	**150**

COURSE DESCRIPTION

1. Identify Adverse Reactions and Interactions of commonly used drugs
2. Posses basic knowledge about drug guidelines of drug testing louse.

COURSE OBJECTIVES

1. At The end of the course, the student will be able to the general principles of actions and effects of various drugs and their kinetics.
2. At The end of the course , the student will be able to find different types of biomedical waste, their potential risks and the management of health hazards caused by them

COURSE CONTENT:

UNIT – I GENERAL PRINCIPALS OF PHARMACOLOGY

1. Introduction, Definitions
2. Routes of administration, Newer drug delivery system
3. Pharmacokinetics – Absorbtion, Distribution, Metabolism & Excretion of Drugs
4. Pharmacodynamics – Mechanism of drug action
5. Adverse drug reactions

UNIT – II DRUGS ACTING ON NERVOUS SYSTEM

❖ Central Nervous System

1. General considerations
2. General anesthetics
3. Sedatives and Hypnotics
4. Anti-epileptic agents
5. Opioid analgesics
6. Antipsychotics, antianxiety and CNS stimulants.

❖ Autonomic Nervous System

1. General considerations
2. Cholinergics – Alkaloids, esters, Anticholinesterases, antiucholinergics

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3. Adrenergics – Nor – adrenaline, Adrenaline, and Dopamine,anti adrenergics – a-blockers and 13-blockers

- ❖ Peripheral Nervous System

1. Skeletal muscle relaxants
2. Local anesthetics

UNIT III AUTOCOIDS AND RELATED DRUGS

1. Histamine and Antihistaminics
2. Nonsteroidal Antiinflammatory Drugs and Antipyre – Analgesics
3. Antirheumatoid and antigout drugs

UNIT – IV RESPIRATORY SYSTEM

Drugs used in cough and Bronchial asthma

GASTROINTESTINAL SYSTEM

Drugs used in peptic ulcer
Emetics and Antiemetics
Drugs for constipation and Diarrhoea

UNIT – V HORMONES AND RELATED DRUGS

1. Introduction
2. Anterior pituitary hormones
3. Thyroid hormone and thyroid inhibitors
4. Insulin and Oral hypoglycemic agents
5. Corticosteroids, androgens, estrogens, progestins and contraceptives
6. Drugs affecting calcium balance.

UNIT – VI CARDIOVASCULAR SYSTEM AND BLOOD

1.Introduction to cardiac Electrophysiology
2. Drugs affecting Renin – Angiotensin system – ACE – Inhibitors, Angiotensin antagonist
3. Drugs used in Congestive Heart failure-Cardiac glycosides
4. Antiarrhythmic agents
5. Antianginal agents
6. Antihypertensive agents
7. Haematinics- iron, Vit-B12 and Folic acid
8. Coagulants – Vit-k, Local haemostatics
9. Anticoagulants- Heparin, Warfarin sodium
10. Antiplatelet agents, fibrinolytics, Antifibrinolytics
11. Hypolipidaemic agents and plasma expanders.
12.shock-types (Hypovolemic, Cardiogenic, Neurogenic and Septic shock) and its management

UNIT – VII DRUGS ACTING ON KIDNEY

Renal Physiology – Urine formation – Diuretics and Anti diuretics

UNIT – VIII CHEMOTHERAPY

1. Antimicrobials – General considerations
2. Sulfonamides, Cotrimoxazole and Quinolones
3. Beta – lactam antibiotics (Penicillin and Cephalosporins)
4. Tetracyclines and chloramphenicol
5. Aminoglycosides, Macrolides
6. Antitubercular drugs & Antieprotic drugs
7. Antifungal drugs
8. Antiviral drugs
9. Antimalarial and Antiamoebic drugs
10. Anthelmintic drugs
11. Anti-cancer drugs
12. Urinary antiseptics

UNIT – IX MISCELLANEOUS

1. Immunomodulators
2. Chelating agents
3. Gases
4. Vitamins
5. Vaccines and sera
6. Enzymes in therapy
7. Antiseptics and Disinfectant

PART – II

CLINICAL TOXICOLOGY

General Principles in Toxicology - poisons and its treatment

❖ **PRESCRIBED BOOK FOR STUDENTS :**

1. Medical Pharmacology – KD Tripathi 71th Edition
2. Medical Pharmacology – Padamaja Udayakumar 31st Edition
3. Pharmacology & Phan – nacotherapeutics – R.S.Satoskar 23rd Edition

❖ **REFERENCE TEXT BOOK:**

1. Clinical pharmacology – Bertram, G.Katzung 21st Edition
2. The Pharmacologicalk basis in Therapeutics – cidodman8, Gillman 12th Edition

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COURSE OUTCOME:

CO1: Acquire and articulate knowledge relevant to drug performance and regime plans.
CO2: Establish competency in analysis of drugs' mechanism of action.
CO3: Recognize and relate the importance of drugs in clinical practice.
CO4: Identify the various drug reactions and pharmacokinetics.
CO5: Gain knowledge on the purpose of drugs and their mechanism of actions for various conditions

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	3	3	2	3	3	2	3	2	3	2	-	3	3
CO2	-	1	3	3	2	3	3	3	2	-	2	2	3	3	3
CO3	2	3	2	-	-	3	3	2	-	3	2	-	3	2	3
CO4	3	3	-	3	2	2	3	3	3	3	-	3	2	3	2
CO5	2	3	2	3	3	3	2	2	3	3	2	3	2	3	-
AVE	1.8	2.4	2	2.4	1.8	2.8	2.8	2.4	2.2	2.2	1.8	2	2	2.8	2.2

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PAPER VII- PRINCIPLES OF MANAGEMENT

Course Code	Course name	L hrs/ wk	T hrs/ wk	P hrs/ wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5009	PRINCIPLES OF MANAGEMENT	01	-	-	01	30	100	-	-	-	130

COURSE DESCRIPTION

This course is designed to enable students to acquire in-depth understanding of management of hospital services, management of services and educational programmes.

COURSE OBJECTIVES

1. Understand the principles and functions of management
2. Understand the elements and process of management
3. Appreciate the management of nursing services in the hospital and communit

COURSE CONTENT:

A)PRINCIPLES OF MANAGEMENT

Development of management :- Definition of management contribution of F.W Taylor ,Henry Fayol and others

Functions of management : planning = organizing direct controlling Planning :- types of planning short – term and long term plans cooperate orstrategic planning planning premises policies characteristics and source principles of policy making strategies as different from policies procedure and methods limitations of planning

organizing:- Importance of organization hierarchy scalar chain Organization relationship line and staff relationship Functional relationship committee organization management committees department

Motivation:- Motivation theories Mc Gregors's theory X andY Maslows's and Herzberg's theory porter and Lawler model of complex view of motivation Other theories Diagnostic signs of motivational problems Motivational techniques

Communication:- types of communication barrier of effective communication techniques for improved communication

Directing:- Principles relating to direction process principles and theories of leadership leadership styles Delegation of authority

Controlling:- span of control factor limiting effective span of control Super management, General managers, Middles managers and supervisors planningand corrective measures strategic control points budgetary control types of budget

Co- ordination :- Co- ordination and co-operation Principles of co- ordination Techniques of co- ordination Organization charts and records Standard procedure instruction

B) PERSONNEL MANAGEMENT

I) Objective of personnel management role of personnel manager in personnel manager in organization staffing and work distribution techniques job analysis description recruitment and selection process orientationand train coaching and counseling disciplining complaints and grieventermination of employees performance appraisal health and safety employees

II) Consumer protection Act as applicable to health care services

FINANCIAL MANAGEMENT

Definition of financial management profit maximization set maximization shortterm financing – intermedi financing long term financing leasing as a source offinance C and security management –inventory management divided policy valuation of shares financial management in a hospital third pa payment on behalf of patients

Insurance:- health scheme and policy

COURSE OUTCOME:

CO1: Obtain knowledge on the functioning of hospital
CO2: Proficiency in different areas of management
CO3: Gain knowledge in the latest concepts of management.
CO4: Acquire knowledge on the various clinical and non-clinical services .
CO5: Identify and work on ethical and legal aspects of hospital management.

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	3	3	2	3	3	2	3	2	3	2	-	3	3
CO2	-	1	3	3	2	3	3	3	2	-	2	2	3	3	3
CO3	2	3	2	-	-	3	3	2	-	3	2	-	3	2	2
CO4	3	3	-	3	2	2	3	3	3	3	-	3	2	2	2
CO5	2	3	2	3	3	3	2	2	3	3	2	3	2	3	-
AVE	1.8	2.4	2	2.4	1.8	2.8	2.8	2.4	2.2	2.2	1.8	2	2	2.6	2

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PAPER VIII- BASICS OF COMPUTER

Course Code	Course name	L hrs/ wk	T hrs/ wk	P hrs/ wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5010	BASICS OF COMPUTER	01	-	-	01	30	100	-	-	-	130

COURSE DESCRIPTION

This course is designed for students to development basic understanding of uses of computer and its applications.

COURSE OBJECTIVES

1. Identify & define various concepts used in computer.

2. Identify & describe application of computer in nursing. 3

Describe & use the DOS & Windows

4. Describe & demonstrate skill in the use of MS-office.

COURSE CONTENT

I) Introduction to computer I/0 Device memories – RAM & different kinds of ROM- kilobytes, MB, GB, their conversions computer- medium, micro, mini computers Different corn languages number system binary & decimal conversions Different operating systems- MS- DOS Basics command- MD, MS, DIR, T and COPY CON commands networking – LAN ,WAN,MAN(basic ideas)

II) Typing and texting MS-WORD – manipulating text formatting the using different fonts, font sizes , bold, italic bullets and numb picture ,file insertion aligning the text and justify choosing p size, adjusting margins ,header and footer , inserting page no's document printing a file with options using spell check and grammar find and replace mail merge inserting tables in a document.Creating table MX EXCEL- Cell editing using formulas functions manipulating data with excel using sort function to numbers and alphabets. Drawing graphs and charts using data in Auto formatting inserting data from other work sheetsPreparing new slides using MS- POWERPOINT Inserting slides – transition andanimation using templates Different text and font slides with sounds inserting clip arts, pictures, tables gr presentations wizards

Introduction to internet using search engine google search explorer the net using internet explorer and net scape navigator, uploading, downloading of files and images email id creation, sending messages, attaching files in email, introductionto "c" language, different variables, declaration usage writing small programme using function sub-functions

PRACTICAL

Typing a text and aligning the text with different formats using MS- WORD

Inserting a table with proper alignment using formulas using MS- WORD

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Creating a mail merge document using MS- WORD to prepare greeting for 10 friends

Preparing a slide show with transition , animation and sound effect using MS-POWERPOINT

Customizing the slide show and inserting pictures and tables in the slides using MS- PWERPIONT

Creating worksheet using MS- EXCEL with data and use of functions.

Using MS- EXCEL prepare a worksheet with text,date,time and data

Preparing a chart and pie diagram using MS- EXCEL

Using internet for searching, uploading files,downloading files,creatinge-mail Using C language writing programme using function

COURSE OUTCOME:

CO1: Gain knowledge to understand the application of computers in biomedical field

CO2: Communicate, investigate and design solutions and present effectively

CO3: Organize the team research for reliable quick output

CO4: Acquire knowledge on common computer applications in health care sector

CO5: Analyse overall computer based technical skills in hospitals

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	2	3	2	3	3	2	3	2	3	2	2	3	3
CO2	-	1	2	3	3	3	3	3	2	3	3	-	2	3	2
CO3	2	3	2	3	-	3	2	2	3	3	2	3	3	2	3
CO4	3	3	-	3	2	3	2	3	3	3	-	3	2	3	-
CO5	2	3	2	3	3	3	-	2	3	3	2	3	2	3	3
AVE	1.8	2.2	1.6	3	2	3	2	2.4	2.8	2.8	2	2.2	2.2	2.8	2.2

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PAPER IX -ENGLISH

Course Code	Course name	L hrs/ wk	T hrs/ wk	P hrs/ wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5011	ENGLISH	01	-	-	01	30	100	-	-	-	130

COURSE DESCRIPTION

This course is designed to help the students acquire an understanding of the principles and methods of communication and teaching. It helps to develop skill in communicating effectively, maintaining effective interpersonal and human relations, develop basic skills in guidance and counseling, principles of education, teaching individuals and groups in clinical, community and health educational settings.

COURSE OBJECTIVES

1.Understand the effective communication process using various communication techniques with individuals groups and health team members.
2. Establishes effective interpersonal and human relations with patients, families and health team members.
3. Acquires knowledge on concepts, principles on guidance and counseling and develop basic skills for counseling patients, nursing students and nursing personnel.

COURSE CONTENT

Communication :- Role of communication definition communication classification of communication purpose communication major difficulties incommunication barrier communication Characteristics of successful communication "the seven CS" Communication at the workplace and communication "Mind mapping" informal communication
Comprehension passage:-Reading purposeful Understanding what is readDrawing conclusion finding and analysis
Explaining:- How to explain clearly defining and giving reasons Explainingdifferences Explaining procedure giving directions
Writing business letters:- how to construct correct Formal language Addresssalutation Body conclusion
Report Writing:-Reporting an accident reporting when happened at a sessionReporting what happened at a meeting

COURSE OUTCOME:

CO1: Gain knowledge on basics of English Language
CO2: Proficiency skill in speaking and writing English
CO3: Expertise in the phonetics of English Language
CO4: Acquire core skills in grammar and vocabularies
CO5: Emphasize essential skills required for effective written and oral communication anduse nuances of presentation effectively

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	2	3	2	3	3	2	3	2	3	2	2	3	3
CO2	3	2	2	3	-	3	3	2	2	3	2	2	2	3	2
CO3	-	2	2	3	3	3	2	3	3	3	-	3	3	2	3
CO4	3	3	2	3	2	3	-	2	3	-	2	3	-	3	2
CO5	2	3	-	3	3	3	2	2	3	3	2	3	2	3	3
AVE	2	2.2	1.6	3	2	3	2	2.2	2.8	2.2	1.8	2.6	1.8	2.8	2.6

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RENAL DIALYSIS TECHNOLOGY
SECOND YEAR
Paper – I MEDICINE OUTLINE

Course Code	Course name	Lhrs/wk	Thrs/wk	Phrs/wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5801	MEDICINE OUTLINE	05	-	-	05	30	100	-	-	100	130

COURSE DESCRIPTION

The Goal of teaching Medicine outline is to focuses on diagnosing as well as treating common health problems or disorders

COURSE OBJECTIVES

1. Demonstrate the ability to perform an admission history and physical examination
2. Demonstrate facility in the application of medical informatics technology and critical appraisal of the medica literature in making diagnostic and management decisions in internal medicine
3. Write admission orders for common inpatient internal medicine problems
4. Demonstrate the ability to construct a hospital progress note

COURSE CONTENT:

Unit I

Introduction to medical terminology- roots, prefixes, and suffixes, vocabulary Problems — genetics, aging, infection, injury
Skeletal system — Bones and ligaments — disorders, diagnosis and treatment Muscular system — skeletal, smooth and cardiac muscles disorders, diagnosis and treatment

Unit 2

Nervous system — brain, spinal cord, peripheral nerves, sense organs — disorders , diagnosis and treatment Endocrine system — disorders, diagnosis and treatment Diagnostic includes — blood work, X-ray and imaging Treatment includes — medical and surgical

Unit 3

Cardiovascular system —heart, blood and blood vessels — disorders, diagnosis and treatment Respiratory system — air passages, lungs, diaphragm - disorders, diagnosis and treatment Integumentary system — skin, hair and nails — disorders, diagnosis and treatment Immune and lymphatic system —

disorders, diagnosis and treatment Diagnosis — blood and imaging Treatment — Medical and surgical

Unit 4

Digestive sytem — mouth, throat, stomach, intestine, liver, gallbladder, pancreas — disorders, diagnosis and treatment Urinary system — kidneys, ureters, bladder, urethra- disorders, diagnosis and treatment Reproductive system — male and female disorders, diagnosis and treatment Emergency medicine / Medical ethics

COURSE OUTCOME

CO1: Students should be able to elicit the patient's chief complaint, history of present illness, past medi history, social, family, occupational histories and complete a review of systems.

CO2: Demonstrate the ability to construct an assessment and plan for an individual patient organized by proble discussing the likely diagnosis and plan of treatment.

CO3: Counsel patient about how to take their medications and what to expect when they take their medicatio including beneficial outcomes and potential adverse effects.

CO4: Describe the results of the above tests in terms of the related patho physiology

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	2	3	2	3	3	2	3	2	3	2	2	3	3
CO2	3	1	2	-	2	1	3	1	2	3	2	2	2	3	2
CO3	2	3	2	3	2	3	-	2	3	-	2	2	2	2	3
CO4	3	3	2	3	2	3	2	3	3	3	-	3	2	2	1
CO5	2	-	2	3	2	2	2	2	2	3	2	3	-	3	3
AVE	2.4	1.6	2	2.4	2	2.4	2	2	2.6	2.2	1.8	2.4	1.6	2.6	2.4

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PAPER – II
PRINCIPLES OF RENAL DIALYSIS TECHNOLOGY — I

Course Code	Course name	Lhrs/wk	Thrs/wk	Phrs/wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5802	PRINCIPLES OF RENAL DIALYSIS TECHNOLOGY — I	05	-	03	08	30	100	20	50	170	200

COURSE DESCRIPTION

To make technician capable of setting up and operating the dialysis machines, mixing dialysate according to th formula, and priming dialyzer with saline or heparinised solution to prepare the machine.

COURSE OBJECTIVES

1.To introduce students with basics of kidney transplantation
2.To introduce students with indications, contraindications and techniques of kidney transplantation
3.This course will cover common diseases and their causes, pertinent microbiology, pathology of the system involved, outline of major signs and symptoms and management of the disease including medical and surgical intervention
4.This course will provide cover all aspects of instrumentation, patient preparation, complications associated w dialysis technology

COURSE CONTENT:

COURSE CONTENT — DISEASE OF THE KIDENY

I. Acute renal failure: - Common causes Pathophysiology Signs and symptoms Investigations Complicati Management including medical management, dialysis
II. Chronic renal failure: - Common causes, Signs and symptoms, Patho physiology, Investigatic Complications Management, Acute nephritis, Nephrotic syndrome, Urinary infections, Renal stor Renal hypertension, Congenital renal diseases, Kidney disorders in pregnancy, Uremic toxins.

COURSE CONTENT - PRINCIPLES

I. History / types of dialysis — peritoneal, hemo, CAPD, CCPD
II. Principles of dialysis
III. Solute removal
IV. Ultra filtration
V. Quantification
VI. Transport
VII. Dialysis — Role of nurses, technician — renal dieticians, their — rights —responsibilities — pati

doctor relationship.

VIII. Dialysis membranes

IX. Dialysser reuse

X. Other kinds of artificial kidney

XI. Types of dialysers in market

XII. Accessories, equipments and functions

XIII. Computer applications

XIV Delivery system

XV. Composition of dialysate

XVI. High flux dialysis

XVII. CAVH / CAVHD

XVIII. Hemofiltration / Hemoperfusion

XIX. Water treatment — deionizer — reverse osmosis

XX. Vascular access — type — care complication

XXI. Temporary / Permanent case

COURSE OUTCOME

CO1: Student will have knowledge of basics of kidney disease, Students will know types of kidney diseases, its etiopathilogy, presentation and skilled to do
clinical evaluation .

CO2: Students will know diagnostic modalities and approach to diagnosis of kidney diseases

CO3: Students will know therapeutic options and approach for the management of kidney diseases, Differentiat between acute renal failure and chronic renal failure.□

CO4: Students will know to derentiate among the causes of pre renal, intra renal, and post renal acute renal fail & describe the clinical course of acute renal failure. □

CO5 Students will know to describe the etiology, pathogenesis and management of urinary tract infections, Comprehend the etiology and pathogenesis of chronic renal failure/ CKD

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	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO 1	3	3	2	3	3	3	2	2	3	2	3	2	2	3	3
CO2	3	3	3	2	2	3	3	3	2	3	2	2	2	3	2
CO3	3	2	1	3	3	1	2	2	3	3	3	1	3	3	2
CO4	-	3	-	3	1	3	-	1	3	2	-	2	3	-	3
CO5	1	3	3	2	1	3	2	2	2	3	2	3	1	3	2
AV E	2	2.8	1.8	2.6	2	2.6	1.8	2	2.6	2.6	2	2	2.2	2.4	2.4

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PAPER – III
INTRODUCTION TO SURGERY & CSSD

Course Code	Course name	Lhrs/wk	Thrs/wk	Phrs/wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5803	INTRODUCTION TO SURGERY & CSSD	05	-	-	05	30	100	-	-	100	130

COURSE DESCRIPTION

Becoming familiar with specific techniques of anesthesia in specialty and subspecialty surgeries and with other diagnostic-therapeutic measures, and attaining the necessary ability to take good care of patients.

COURSE OBJECTIVES

1.Students become familiar with patient preparation and patient care methods for general or local anesthesia, w the use of different methods to make patients unconscious and bring them back to consciousness in specialty an subspecialty surgeries, and with other diagnostic-therapeutic measures.

2. They also gain the ability needed for taking good care of patients.

COURSE CONTENT

Introduction to Surgery

I. History of surgery
II. Role of the surgeon
III. Importance of team work and anticipating the needs of surgeons
IV. Stresses that may arise during operative procedure
V. Surgical terminology
VI. Types of incision and indications for the use of particular incision
VII. Haemorrhage signs and symptoms of internal and external
VIII. Classification and management
IX. Identification of types of tourniquets — reasons for use and duration of application, dangers of use
X. Wounds — types, process of healing, treatment and complications
XI. Inflammation
XII. Wound infections — causes and treatment
XIII. Incision and drainage of abscesses
XIV. Importance of personal cleanliness and aseptic techniques
XV. Pre-operative and post-operative care of the surgical patient
XVI. Emergency procedures
XVII. Endotracheal Intubalion
XVIII. Tracheostomy –
XIX. Major symptoms of presentation in adults
XX. Equipments used in wards
XXI. Common terms used in cardiology
XXII. Commonly used drugs and their action

XXIII. Checking vitals — pulse, BP, respiratory rate

XXIV. Establishing an IV line and venepuncture

Sterile techniques and surgical aspects: - Preparation of neckline sets, cut down sets, etc. Knowledge surgical asepsis, skin preparation for invasive procedures

Sterile techniques and surgical aspects: Preparation of neckline sets, cut down sets, etc.,

XXV. knowledge of surgical asepsis skin preparation for invasive procedures.

CSSD PROCEDURES

A) COURSE CONTENT

I. The development of CSSD

II. The growth of CSSD

III. Aim and objectives of CSSD

IV. CSSD work practice, return of equipment and initial processing: - Waste disposal collection of used ite from user area, reception protective clothing and disinfections safe guards, use of disinfectants sorting a classification of equipment for cleaning purposes, sharps, blunt lighted, etc. contaminated high risk baby c Delicate instruments or hot care instruments, cleaning process Use of detergents Mechanical clean apparatus, cleaning instruments, cleaning jars, receivers bowls, etc, trays, basins and similar hand ware uten Cleaning of catheters and tubings, cleaning glass ware, cleaning syringes and needles Drying inspection instruments and needles instruments lubrication.

V. Assembly and packaging: - Materials used for wrapping and packing assembling pack contents Types packs prepared Inclusion of trays and galliparts in packs Method of wrapping and making use of indications show that a pack of container has been through a sterilization process date stamping

VI. Sterilization process: - General observations principles of sterilization Moist heat sterilization Dry h sterilization EO gas sterilization H202 gas plasma vapo sterilization

- Moist heal sterlization mechanism of biocardial action.

Loading of sterilizer. Sterilization process unloading of sterilizer. Tests for efficiency of sterilization. Tests pre vacuum porous load sterilizers.

- Dry heat sterilization. Open system and closed system

of dry heat sterilization. Packing and loading of sterilizer, sterilization process.

- Sterilization by gaseous chemicals. Physical and chemical properties of EO and H202 plasma vap absorption by natural and synthetic materials, toxicity, mechanism of biocidal action. Sterlization 100% Ethylene oxide gas testing efficiency of sterilization.

- Sterlization by Ironizing radiation units or terms. Mechanism of Biocidal acti Sterilization does installation of cobalt 60. Controls of safety precaution. Product sterility test. Prod release. Application of radiation sterilization of medical equipment, pharmaceuticals and biologi products, Industrial materials.
- Aseptic filtration of liquids and air liquids: Types of filters depth of filters, membrane of filters, test efficiency of filtration. Integrating test application of membrane filtration. Pressure and vacuum filtrati Integrity test application of membrane filters. Pharmaceutical biological materials microbiological cult media. Sterility test. Aseptic filtration of air, fibrous depth filters. Mechanism of filtration. Granular carb filtration fibrous (Paper) sheet filtration. Efficiency of HEPA filtration, Disinfection of used filters.
- Che mical disinfection. Alcohols aldehydes, cholorapexidine, chlorine compounds, idoph phenols, strong oxidizing agents. Chlorine dioxide. Peracetic acid. Peroxigen biocide hydrogen peroxide.

VII. Principles of chemical disinfection: - Mechanism of microbiocidal action Factors affecting in

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effectiveness Number of organisms present Conditions of growth Concentration of disinfectant temperat Temperature contract time presence of organic matter, surface of contact Cellolous and synthetic materi Contaminated disinfectants in the test Evaluation of disinfectants, expression of disinfectant concentrat Bactericidate test Test organisms Policy for disinfection in hospitals Disinfection of hospital equipm Disinfection of hospital environment Disinfection of skin and mucous membrane Administration of disinfect policy selection of disinfectants Types of products

VII. Issue and collection techniques: - Responsibilities of user department Responsibility % of CSSD equipm used for collection and issue Techniques of collection and issue
Infection control: - Infection, cross infection control Hospital policy manual regarding decontamination articles, rooms, etc Fumigation procedures

COURSE OUTCOME

CO1: To understand basic technical skills in managing the process for surgical instrumentation sterilization, inventory control and supply chain management, and information technology as it relates to the sterile processi environment.

CO2: To understand the work independently in a team of central sterile processing technicians who are collaborating to maintain sterilization and storage.

CO3: To acquire critical thinking skills as a basis for clinical judgment and anticipatory decision making when managing all tasks related to sterile processing.

CO4: To understand, classify and learn the procedures, practices and measures in general surgeries in OT.

CO5: To understand and evaluate the best practices in CSSD, Stores and inventory management.

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO 1	3	3	2	3	3	3	2	2	3	2	3	2	2	3	3
CO2	3	3	3	2	2	3	3	3	2	3	2	2	2	3	2
CO3	3	2	1	3	3	1	2	2	3	3	3	1	3	3	2
CO4	-	3	-	3	1	3	-	1	3	2	-	2	3	-	3
CO5	1	3	3	2	1	3	2	2	2	3	2	3	1	3	2
AVE	2	2.8	1.8	2.6	2	2.6	1.8	2	2.6	2.6	2	2	2.2	2.4	2.4

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III Year Paper I
Principles of Intensive Care

Course Code	Course name	L hrs/ wk	T hrs/ wk	P hrs/ wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5804	Principles of Intensive Care	05	-	03	08	30	100	20	50	170	200

COURSE DESCRIPTION

To teach and train students to prepare a patient both physically and psychologically for the dialysis procedure l recording patient details prior to dialysis, explain the procedure and functioning of the machine, providing reassurance to anxious patients and then beginning with the physical care needed.

COURSE OBJECTIVES

1.Student will have knowledge of basics of kidney transplantation
2.Students will know indications, contraindications and techniques of kidney transplantation ? Students will know post transplant follow protocols
3.Students will know concept of preventive nephrology
4. Students will know role of diet in kidney diseas

COURSE CONTENT

I. Monitoring and diagnostic procedure in ICU: - Central venous access, ECG monitoring Invas hemodynamic monitoring, Cardiac arrhythmia recognition

II. General care of patient in ICU: - Eye, GIT and bladder system Care of mechanically ventilated patient,Tracheostomy, humidification, Vascular line, arterial line, venous l Radiography, Chest physiotherapy

III. Fluid management and parenteral nutrition

IV. Infectious diseases in ICU — Antibiotics in ICU

V. Respiratory failure: - Oxygen therapy Mechanical ventilation

VI. Acid base disorders, electrolyte imbalance

VII. Cardio vascular failure: - Plan of management, Inotropic support, Vasodilator drugs

VIII. Renal failure and liver failure

IX. Head injury

X. Principles of transfusion therapy

COURSE OUTCOME

CO1: Handling complications during dialysis procedures.

CO2: Understand Infectious diseases, mode of transmission, prevention & care of the patient in a Dialysis Unit

CO3: Practice personal safety & standard precautions.

CO4: Students will know post transplant follow protocols

CO5: Demonstrated Procedures as Venepuncture, Cannulisation and maintenance of Sterilization of Equipment and Dialysis Unit

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO
CO 1	3	3	2	3	3	-	1	3	3	-	2	2	2	3	3
CO2	2	2	3	3	3	3	3	3	2	3	3	-	2	3	2
CO3	3	-	2	2	3	3	2	2	1	1	3	2	3	2	2
CO4	1	2	3	3	-	3	3	1	3	3	1	3	3	3	3
CO5	2	3	1	2	3	2	2	3	3	3	2	3	3	2	2
AVE	2.2	2	2.2	2.6	2.4	2.2	2.2	2.4	2.4	2	2.2	2	2.6	2.6	2.4

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PAPER II
PRINCIPLES OF RENAL DIALYSIS – II

Course Code	Course name	Lhrs/wk	Thrs/wk	Phrs/wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5805	PRINCIPLES OF RENAL DIALYSIS – II	05	-	03	08	30	100	20	50	170	200

COURSE DESCRIPTION

To trains students to become skilled dialysis technicians, capable of handling haemodialysis and peritoneal dialysis on various dialysis machines.

COURSE OBJECTIVES

1. introduce student with post transplant follow protocols
2. To introduce students with concept of preventive nephrology
3. To introduce student with role of diet in kidney diseases

COURSE CONTENT

I. Monitoring and assessment
II. Dialysis prescription
III. General assessment parameter
IV. Lab data — assessment and interpretation
V. Pre-dialysis assessment
VI. Intra-dialytic assessment and monitoring
VII. Post-dialytic therapy and assessment
VIII. Medical problems in dialysis
IX. Nutrition management in dialysis
X. Anticoagulation in dialysis
XI. Blood transfusion for dialysis patients
XII. Infection control and universal precaution
XIII. Psychosocial aspects of dialysis, patient education
XIV. Quality assurance in dialysis
XV. Complication of dialysis — short term and long term
XVI. Transplant — types of donor — types of transplant — brain death — donor — recipient preparation immunosuppression — post transplant complicat

COURSE OUTCOME

CO1: Student will have knowledge of basics of kidney transplantation, Students will know indications, contraindications and techniques of kidney transplantation

CO2: Students will have knowledge and experience about clinical signs and symptoms in Kidney Diseases

CO3: Students will know concept of preventive nephrology

CO4: Students will know role of diet in kidney diseases.To describe basic nutrient and their role in growth, development, health maintained and restoration.

CO5: Students will have knowledge about various kidney registration and documentation related to kidı diseases.

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO 1	2	1	2	3	3	3	2	2	3	2	3	2	2	3	3
CO2	3	3	3	1	2	3	3	3	2	3	2	2	2	3	2
CO3	3	3	2	-	3	3	1	2	3	-	3	1	3	3	2
CO4	-	3	2	3	2	2	3	-	2	2	3	3	3	-	3
CO5	3	3	-	2	1	3	2	2	2	3	2	3	3	2	3
AV E	2.2	2.6	1.8	1.8	2.2	2.8	2.2	1.8	2.4	2	2.6	2.2	2.6	2.2	2.6

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Paper III
RECENT ADVANCES IN RRT

COURSE CODE	Course name	Lhrs/wk	Thrs/wk	Phrs/wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5806	RECENT ADVANCES IN RRT	05	-	03	08	30	100	20	50	170	200

COURSE DESCRIPTION

The course in dialysis technology is to provide an understanding of the various forms of renal replacement therapy and successful performance of the same in patients with renal Failure.

COURSE OBJECTIVES

1. Comprehend the principles of hemodialysis and peritoneal dialysis;
2. Learn how to offer dialytic therapy for renal failure patients;
3. Learn the various forms of hemodialysis and when each is to be applied;
4. Learn to manage complications of dialysis therapy;
5. Learn dialysis therapy in various special groups of patients e.g., unstable patients in The intensive care unit, children, cardiac patients etc;
6. Learn plasmapheresis, Continuous therapies
7. Manage anticoagulation on patients on dialysis;

COURSE CONTENT

Haemodialysis

- Peritoneal dialysis
- CRRT
- Hemodiafiltration
- SLED
- MARS
- Plasmapheresis
- Advanced dialysis
- Maintenance of dialysis machines and water treatment plant
- A.V fistula &A.V graft cannulation and assisting nephrologists.
- Assisting in emergency care and to develop teaching as well as update of skills and Research

COURSE OUTCOME

CO1: Students will have the knowledge and experience of CRRT .

CO2: Students will have the knowledge about recent development in the field of Kidney dialysis and transplantation like artificial kidney, tissues typing cross matching.

CO3: Differentiate between peritoneal dialysis, SLED, CRRT, High efficiency dialysis & Hemodialysis in term of purpose, indications, advantages, disadvantages and the responsibilities of a technologist.

CO4: Comprehend the various modalities of renal replacement therapy with the knowledge of merits and deme of each

CO5: Students Leans about Types of Dialysis and its Implications and Isolated ultrafiltration

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	I
CO 1	3	3	2	3	3	3	2	1	3	2	3	2	2	3	
CO2	3	2	3	3	2	3	3	3	2	2	2	2	2	3	
CO3	3	3	2	-	3	3	2	2	3	1	3	2	3	2	
CO4	-	2	3	2	3	-	1	-	2	2	-	2	2	3	
CO5	2	3	3	2	1	3	2	2	2	3	2	3	3	2	
AVE	2.2	2.6	2.6	2	2.4	2.4	2	1.8	2.4	2	2	2.2	2.4	2.6	

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ELECTIVES (SELECT ONE)
COMMUNITY MEDICINE

COURSE DESCRIPTION

COURSE CODE	Course name	L hrs/wk	T hrs/wk	P hrs/wk	Total hours	IA	Theory	Viva	Practical	EA	T
5807	COMMUNITY MEDICINE	05	-	-	05	30	100	-	-	100	1:

The course deals with population or groups rather than individual patients. It is concerned with identification a assessment of health needs of the people, health problems affecting them and to devise appropriate measures

COURSE OBJECTIVES:

To demonstrate an understanding of the influence of social andenvironmental factors on the health of the individual and society.

To demonstrate an understanding of the principles of first aid and demonstrateskill in giving first aid treatment in emergencies that may be met in the community and in their practice as therapists.

COURSE CONTENT:

Outline the natural history of diseases and the influence of social,economic and cultural aspects of health a diseases.

Outline the various measures of prevention and methods of interventionespecially for diseases with disability.

Outline the national care delivery system and the public health administrationsystem and the central and st level, local trends and resource.

Outline selected national health programmes including currentprogrammes (Eg.SSASarvaSikshaAbhiyan)

Define occupational health and list methods of prevention of occupationaldiseases and hazards.

Outline the Employees State Insurance scheme and its various benefits.

Describe the social security measures for protection from occupationalhazards, accidents, diseases, and the workman's compensation act.

Outline the objectives and strategies of the national Family WelfareProgramme

Define community based and institution based rehabilitation. Describethe advantage and disadvantages of institution and community basedrehabilitation.

Describe the following communicable diseases with reference to reservoir, mode of transmission, route of entry and levels of prevention. a.

92Poliomyelitis, b. Meningitis, c. Encephalitis, d. Tuberculosis, e. Filariasis, f.Leprosy, g. Tetanus & h. Measles.

Describe the epidemiology of rheumatic heart disease, cancer, Chronicdegenerative disease and cerebrovascular accidents.

Outline the influence of nutritional factors such as protein Energy Malnutrition, Anaemia, Vitamin deficiency and minerals on disability.

List the principles of health education, methods of communication and roleof health education in rehabilitation of disabled.

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Define the role of community leaders and health professionals in health education.
Outline the role of international health agencies in rehabilitationof the disabled.
Identify and give first aid in burns, fire accidents, road accidents, poisoning,drowning, insect bites and trauma due to a foreign body.
Identify various fractures and practice bandaging and splinting in care offractures.
Describe the types of wounds, haemorrhages, shock and respiratoryemergencies.

Reference Books:

First Aid Manual: St John Ambulance

COURSE OUTCOME:

CO1 provide comprehensive health care to the people

CO2 deliver primary health care and essential services package

CO3 conduct epidemiological studies on common health problems

CO4 provide health care with appropriate attitudes

CO5 work as a member of health team,co-ordinate with national and international health organizations and national health programmes

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO
CO 1	3	3	2	3	3	3	3	2	3	2	1	2	1	3	3
CO2	-	3	3	2	2	2	3	3	2	3	2	2	3	2	2
CO3	3	3	3	2	3	2	2	1	2	2	3	3	3	3	3
CO4	2	-	-	3	3	3	-	2	-	2	2	3	-	3	3
CO5	1	3	3	2	1	3	2	2	3	3	2	3	3	2	3
AVE	1.8	2.4	2.2	2.4	2.4	2.6	2	2	2	2.4	2	2.6	2	2.6	2.8

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CLINICAL PSYCHOLOGY

Course Code	Course name	L hrs/ wk	T hrs/ wk	P hrs /wk	Total hours	IA	Theory	Viva	Practical	EA	T
5808	CLINICAL PHYSIOLOGY	05	-	-	05	30	100	-	-	100	1:

COURSE DESCRIPTION

The course aims to provide students with the bases in clinical physiology and associated methodology required perform parts in placement training and at clinical physiological laboratories.

COURSE OBJECTIVEs

To develop in depth knowledge on specific psychological factors and effects in physical illness and thus h them to have a holistic approaching theirdealings with patients during admission, treatment, rehabilitation, and discharge

To develop exhaustive ideology of various Identify ego defense mechanismsand learn counseling techniqu to help those in need. And help them tounderstand the reasons of non-compliance in patients and improve compliance behavior.

COURSE CONTENT

DEFINITION OF PSYCHOLOGY

Basic information in relation to following schools methods and branches.

Schools: Structuralism, functionalism, behaviorism, psychoanalysis, gestalt psychology, Methods, Branch heredity and environment c. developmental theories and growth behaviour at Infancy, Early childhood, Middle childhood, Puberty (physiological and psychological changes), adulthood, middle age, andold age intelligence, motivation Social motives, emotions Definition.

personality: Definition, concepts, creativity, steps in creative thinking; problem solving, decision making, l the traits of creative people, delusions ,frustration -Definition sources, solution, conflict; Approach - approach, avoidance-avoidance,and approach - avoidance, solution

DEFINITION OF CLINICAL PSYCHOLOGY:

General and historical introduction to Abnormal Psychology, Psychology in relation to medicine, different schools. Methods of Clinical Psychology: Case History method, Interview Techniques, Clinical observatic Situationaltests, Questionnaires. Concepts of normality and abnormality: Causes ofabnormality, Criteria fc abnormality. Broad classification of Current model of abnormal behavior - Medical model, Psychodynam model, Behavioristic model & Humanistic model , and Cognitive model Functional units of mind: Id, ego and super ego - their functions and interactions. Role of Defense mechanisms in normal and abnormal behavior. Evaluation of attention and concentration, perception, memory, thinking etc. Intelligence and Mental Retardation: Intelligence test - Measurement of intelligence - children & adults (demonstrations)Mental Retardation and it's psychosocial management. Personality Assessment: Questionnaires, inventories, projective techniques Behavior techniques in Therapy -application of

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learning principles to modify
behavior Counselling: Definition, Aim, Difference between counselling and guidance, principles in counselling,personality qualities of counselor's Psychotherapy: Basic Principles

HEALTH PSYCHOLOGY

Psychological reactions of a patient: reaction to loss, communications ,compliance ,emotional need geriatric psychology specific psychological reactions and needs of geriatric patients c. pediatric psychology - speci psychological reactions and needs of pediatric patients, . substance abuse -psychological aspects of substance abuse: smoking, alcoholism, and drug addiction. compliance -nature, factors contributing to non-compliance, methodsof improving compliance. f. emotional needs g. geriatric psychology -specific psychological reactions and needs of geriatric patients. h. paediatric psychology - specific psychological reactions and needs of paediatric patients. k. substance abuse -psychological aspects of substance abuse: smoking, alcoholism, and drug addiction. l. personality styles -different personality styles of patients

Recommended Book(s) for Reference include:
1. Introduction to Psychology by Morgan and King
2 Psychology for Physiotherapists by Thangamani Ramalingam and Dibyendunarayan Bid

COURSE OUTCOME:

CO1. The student is expected on completion of the course independently be able to carry out a diagnostic ECG and a simple spirometry.
CO2. show active participation in work tests
CO3. with reasonable safety interpret the most common ECG and spirometry findings.
CO4. be able to apply safety and hygiene procedures at clinical physiological and nuclear medical work.
CO5. be able to orally and in writing present compiled results of completed studies.

COPO MAPPING FOR B.Sc AHS RENAL DIALYSIS TECHNOLOGY (PROG.CODE-708)

	PO														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO 1	1	1	3	2	3	3	2	2	2	2	3	2	2	3	3
CO2	3	3	3	1	2	3	3	3	2	3	2	2	2	3	2
CO3	3	-	2	2	3	3	1	-	3	3	3	-	3	-	2
CO4	3	3	2	3	-	2	3	3	2	-	3	3	-	3	-
CO5	1	3	1	2	1	3	2	2	2	3	3	3	3	2	3
AVE	2.2	2	2.2	2	1.8	2.8	2.2	2	2.2	2.2	2.8	2	2	2.2	2

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COURSE CODE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
5001	2	2.8	1.8	2.6	2	2.6	1.8	2	2.6	2.6	2	2	2.2	2.4	2.4
5002	2	2.8	1.8	2.6	2	2.6	1.8	2	2.6	2.6	2	2	2.2	2.4	2.4
5003	2.2	1.8	2	2.4	2.2	2.2	2	2.4	2.8	2.2	1.8	2	2.4	2.2	2
5004	2	2.4	2	2.4	2	2.8	2	2.2	2.2	2.2	2.4	1.8	2.2	2.8	2.8
5005	1.8	2.4	2	2.4	1.8	2.8	2.8	2.4	2.2	2.2	1.8	2	2	2.8	2.2
5006	1.8	2.4	2	2.4	1.8	2.8	2.8	2.4	2.2	2.2	1.8	2	2	2.8	2.2
5009	1.8	2.4	2	2.4	1.8	2.8	2.8	2.4	2.2	2.2	1.8	2	2	2.6	2
5010	1.8	2.2	1.6	3	2	3	2	2.4	2.8	2.8	2	2.2	2.2	2.8	2.2
5011	2	2.2	1.6	3	2	3	2	2.2	2.8	2.2	1.8	2.6	1.8	2.8	2.6
5801	2.4	1.6	2	2.4	2	2.4	2	2	2.6	2.2	1.8	2.4	1.6	2.6	2.4
5802	2	2.8	1.8	2.6	2	2.6	1.8	2	2.6	2.6	2	2	2.2	2.4	2.4
5803	2	2.8	1.8	2.6	2	2.6	1.8	2	2.6	2.6	2	2	2.2	2.4	2.4
5804	2.2	2	2.2	2.6	2.4	2.2	2.2	2.4	2.4	2	2.2	2	2.6	2.6	2.4
5805	2.2	2.6	1.8	1.8	2.2	2.8	2.2	1.8	2.4	2	2.6	2.2	2.6	2.2	2.6
5806	2.2	2.6	2.6	2	2.4	2.4	2	1.8	2.4	2	2	2.2	2.4	2.6	2.2
5807	1.8	2.4	2.2	2.4	2.4	2.6	2	2	2	2.4	2	2.6	2	2.6	2.8
5808	2.2	2	2.2	2	1.8	2.8	2.2	2	2.2	2.2	2.8	2	2	2.2	2

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