

# Meenakshi Academy of Higher Education & Research



## BACHELOR OF ALLIED HEALTH SCIENCES B.Sc AHS (RESPIRATORY TECHNOLOGY) REGULATIONS AND SYLLABUS

(Regulation-2014)

Effective from the Academic Year 2014-2015

Principal

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

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

**REGULATION-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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REGULATION-2014  
VISION AND MISSION OF FACULTY OF ALLIED HEALTH SCIENCES**

**VISION**

To meet challenges of the present and the future by being adaptive, innovative and a trend setting constantly reviewing ever-growing demands of the medical community in Allied Health Science

**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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**FACULTY OF ALLIED HEALTH SCIENCES**  
**B.Sc AHS (RESPIRATORY TECHNOLOGY)**  
**PROGRAMME OUTCOME**

**PO1: Academic Education**

Gain proficiency in fundamentals of Respiratory technology improve our understanding of factors imparting allied health sciences

**PO2 : Knowledge**

Acquire comprehensive basic knowledge of coordinated function ,anatomy of heart and pathophysiology of Respiratory 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 Respiratory 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 Respiratory 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

  
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analytically understand, predict and analyze the outcome of use of allied health sciences and develop therapeutic products that improve clinical practices

**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 Respiratory 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- Function as a professional member of health care teams as shown by passing all their clinical programme satisfactorily

PSO2-Will have the Medical knowledge and interpersonal communication skills to assist in patient care in a professional way equipping themselves with their practice based learning methodology.

PSO3-Will have the basic skills necessary to monitor patients for any type of cardiac problems within a health care setting

  
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**REGULATION-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 wi physics, chemistry, Biology and English.

**6.CRITERIA FOR SELECTION**

Students for B.Sc. Degree Programme (Allied Health Science) shall be admitted basedon 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 or would complete the age of 17 years on or before 31<sup>st</sup> December of the year of admission to the first year B.Sc. Degree programme.

**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 prescribed fee:  
Higher secondary or equivalent examination mark sheet and  
Transfer certificate  
Candidate should obtain eligibility certificate before the last date for admission as 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 (Perfusion technology) programme shall extend over a period of 3 academic years.

### **11. COMMENCEMENT OF THE PROGRAMME**

#### **ACADEMIC TERMS**

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

### **12. CUT OFF DATES FOR ADMISSION TO EXAMINATIONS**

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

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 will not 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 of their 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 submit to 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 theory examinations

In respect of failed candidates the marks awarded for records at previous examination will be carried over to the next examinations. If a candidate desires he/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 15 days prior to the commencement of the theory examination.

The head of the department and head of the institution should satisfy themselves on 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 the following circumstances:

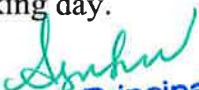
Any illness afflicting the candidate. (The candidate should submit to the head of the institution a medical certificate from registered medical practitioner soon after he/she returns – the institution after treatment.)

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

Any other leave the Head of the Institution deems reasonable for condonation 50% of marks in internal assessment is compulsory for condonation of lack of attendance.

### **17. COMMENCEMENT OF EXAMINATIONS**

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

  
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### **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 shall be 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 be 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 two examinations, in theory and practical separately and the average may be considered improvement. If failed candidate do not appear for an improvement in 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 course 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.

### **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 granted as per the recommendation of the University regulations.

  
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- 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 to the 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 course of study shall not be allowed on any ground.

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 1<sup>st</sup> attempt.

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

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

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

## **25.BRANCH OF STUDY**

BSc Allied health sciences Respiratory Therapy Technology

  
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## 26.PATTERN OF EXAMINATION AND SUBJECTS OF STUDY

### Scheme of examination I<sup>ST</sup> 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 examination II<sup>nd</sup> & III<sup>rd</sup> 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

  
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## PATTERN OF EXAMINATION II<sup>nd</sup> & III<sup>rd</sup>

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 x 2 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 x 2 Marks each	10 Marks		
	Theory Total			100	Marks
	Practicals			-	Marks
	Internal Assessment			30	Marks
	Viva – Voice			-	Marks
			Grand Total	130	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

### 27. Compulsory Rotatory Internship

All the candidates must undergo compulsory rotatory internship training for one year

### 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 RESPIRATORY TECHNOLOGY (PROG.CODE-709)

## PROGRAMME STRUCTURE

COURSE CODE	COURSE NAME	LECTURE HRS/WEEK	TUTORIAL HRS/WEEK	PRACTICAL HRS/WEEK	INTERNAL ASSESSMENT (IA)	INTERNAL EXAMINATION	EXTERNAL ASSESSMENT (EA) UNIVERSITY EXAMINATION				Grand Total
							THEORY	Theory	Viva	Practical	
5001	Anatomy	02	-	01	30		50	20	50	130	150
5002	Physiology	02	-	01	30		50	20	50	130	150
5003	Biochemistry	02	-	01	30		50	20	50	130	150
5004	Pathology	02	-	01	30		50	20	50	130	150
5005	Microbiology	02	-	01	30		50	20	50	130	150
5006	Pharmacology	02	-	01	30		50	20	50	130	150
5009	Principles of Management	02	-	-	30	100	-	-	-	-	130
5010	Basics of Computer	02	-	-	30	100	-	-	-	-	130
5011	English	02	-	-	30	100	-	-	-	-	130

  
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## II YEAR B.Sc AHS RESPIRATORY TECHNOLOGY (PROG.CODE-709)

### PROGRAMME STRUCTURE

COURSE CODE	COURSE NAME	LECTURE HRS/WE EK	TUTORIAL HRS/WE EK	PRACTICAL HRS/WE EK	INTERNAL ASSESSMENT (IA)	INTERNAL EXAMINATION	EXTERNAL ASSESSMENT (EA) UNIVERSITY EXAMINATION				Grand Total
							THEORY	Theory	Viva	Practical	
901	Respiratory Diseases	05	-	03	30		100	20	50	170	200
902	Cardiovascular diseases	05	-	03	30		100	20	50	170	200
903	Diagnostic Techniques in Cardio Respiratory Diseases	05	-	03	30		100	20	50	170	200
904	Equipments In Respiratory Care	05	-	03	30		100	20	50	170	200

  
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### III YEAR B.Sc AHS RESPIRATORY TECHNOLOGY (PROG.CODE-709)

#### PROGRAMME STRUCTURE

COURSE CODE	Coursename	LECTURE HRS/WE EK	TUTORIAL HRS/WE EK	PRACTICAL HRS/WE EK	INTERNAL ASSESSMENT (IA)	INTERNAL EXAMINATION	EXTERNAL ASSESSMENT (EA) UNIVERSITY EXAMINATION				Grand Total
							THEORY	Theory	Viva	Practical	
905	Respiratory Therapy Techniques	05	-	03	30		100	20	50	120	150
906	Respiratory Therapy Techniques II	05	-	03	30		100	20	50	120	150
907	Life Support System	05	-	03	30		100	20	50	120	150
908	Cardio Pulmonary Rehabilitation	05	-	03	30		100	20	50	120	150
	<b>ELECTIVES (select one)</b>	05	-	-	30	-	100	-	-	-	120
909	1.Clinical Psychology 2.Community Medicine	05	-	-	30	-	100	-	-	-	120
910											



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**SYLLABUS**  
**PAPER- I**  
**ANATOMY**  
**Paper I–Anatomy**

COUR SECO DE	Coursename	Lhr s/w k	Thrs/ wk	Ph rs/ 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 that 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



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- 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 System
  - Muscles 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 Brief Epithelium Connective tissue Salivary glands Bone
  - Cartilage Muscle

**B) Practicals :**

Osteology Bones :

Side Identification, Prominent features, Muscle attachment

I. Organs – Heart, Lungs, Liver, Spleen, Stomach, Kidney.

Histology

Epithelium – Simple squamous epithelium Simple cuboidal epithelium

Simple columnar epithelium Transitional epithelium Bone

Cartilage

Hyaline cartilage Elastic cartilage White fibro cartilage Salivary glands

Serous salivary gland Mucous salivary gland Mixed salivary gland Muscles

Skeletal Muscle Smooth Muscle Cardiac 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

Programmes Author : Sampath Madhyastha

**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

**COPO MAPPING FOR ANATOMY**

CO	PO												PSO1	PSO2	PSO3
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12			
CO1	3	3	2	3	3	3	2	1	3	2	3	2	2	3	3
CO2	3	2	3	3	2	3	3	3	2	2	2	2	2	3	2
CO3	3	3	2	-	3	3	2	2	3	1	3	2	3	2	2
CO4	-	2	3	2	3	-	1	-	2	2	0	2	2	3	1
CO5	2	3	3	2	1	3	2	2	2	3	2	3	3	2	3
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	2.2

## PAPERII- PHYSIOLOGY

COUR SECO DE	Coursename	Lhr s/w k	Thrs/ wk	Ph rs/ wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5002	Physiology	02	-	01	03	30	50	20	50	120	150

### COURSEDESCRIPTION

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

### COURSEOBJECTIVES

- 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.

### COURSECONTENT

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.

  
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5. Excretory system - physiological anatomy of excretory system, non excretory functions of excretory system, urine formation, micturition reflex, renal disorders, renal dialysis.
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

### COPO MAPPING FOR PHYSIOLOGY

CO	PO												PSO1	PSO2	PSO3
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12			
CO1	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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### PAPER III-BIOCHEMISTRY

COURSE CODE	Coursename	Lhr s/wk	Thrs/wk	Phr s/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.

#### COURSECONTENT

- 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. Structure of 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.
- V. Nucleic acids: Purines and pyrimidines. Structure of DNA. Watson and 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, Dietary Fiber.
- 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 system

CO5: Acquire knowledge on the geometry and conformations of biomolecules

### COPO MAPPING FOR BIOCHEMISTRY

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	3	2	1	3	2	3	2	2	3	3
CO2	3	2	3	3	2	3	3	3	2	2	2	2	2	3	2
CO3	3	3	2	-	3	3	2	2	3	1	3	2	3	2	2
CO4	-	2	3	2	3	-	1	-	2	2	-	2	2	3	1



CO5	2	3	3	2	1	3	2	2	2	3	2	3	3	2	3
AV E	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

  
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## PAPERIV-PATHOLOGY

COUR SECO DE	Coursename	Lhrs/ wk	Thrs/ wk	Phr s/w k	Totalh ours	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 of inflammation; 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.

**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

**COPO MAPPING FOR PATHOLOGY**

CO	PO														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	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
AVERAGE	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 V – MICROBIOLOGY

COURS ECODE	Coursename	Lhr s/w k	Thrs/ wk	Phr s/w k	Totalh ours	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.

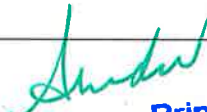
#### COURSE OBJECTIVES:

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.

#### PAPER V MICROBIOLOGY

#### 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

  
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<b>IMMUNOLOGY</b>	Immunity & types, Immune response, Antigen & Antibody / immunoglobulin, Antigen antibody interactions, Hypersensitivity, Autoimmunity & Immune deficiency disorders, tumor & transplantation, Immunology
<b>SYSTEMIC BACTERIOLOGY</b>	Staphylococcus, Streptococcus, Pneumococcus, Neisseria, Corynebacterium, Clostridium, Mycobacterium, Enterobacteriaceae, Spirochetes, Nosocomial infections, Zoonoses, Miscellaneous Bacteria
<b>VIROLOGY</b>	Introduction & Classification, Enteroviruses, Herpes viruses, Orthomyxo & Paramyxo viruses, Adenovirus, Rhabdoviruses, Oncogenic Viruses (HPV), Hepatitis viruses, HIV
<b>MYCOLOGY</b>	Introduction, Superficial Mycoses, Subcutaneous Mycoses, Systemic Mycoses, Opportunistic Mycoses
<b>PARASITOLOGY</b>	Amoebiasis, Malaria, Ascariasis
<b>TEXT BOOK</b>	Prescribed Textbook of microbiology by Anandha Narayan & Panicker

## 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.

  
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## COPO MAPPING FOR MICROBIOLOGY

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



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## PAPER VI - PHARMACOLOGY

COURS ECODE	Coursename	Lhr s/ wk	Thrs/ wk	Phr s/w k	Totalho urs	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



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1. General considerations
2. Cholinergics – Alkaloids, esters, Anticholinesterases, anti cholinergics
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 71<sup>th</sup> Edition
2. Medical Pharmacology – Padamaja Udayakumar 31<sup>st</sup> Edition
3. Pharmacology & Phan – nacotheapeutics – R.S.Satoskar 23<sup>rd</sup> Edition

❖ **REFERENCE TEXT BOOK:**

1. Clinical pharmacology – Bertram, G.Katzung 21<sup>st</sup> Edition
2. The Pharmacological basis in Therapeutics – cidodman8, Gillman 12<sup>th</sup> Edition

**COURSE OUTCOME:**

- CO1: Acquire and articulate knowledge relevant to drug performance and regimeplans.  
 CO2: Establish competency in analysis of drugs' mechanism ofaction.  
 CO3: Recognize and relate the importance of drugs in clinicalpractice.  
 CO4: Identify the various drug reactions andpharmacokinetics.  
 CO5: Gain knowledge on the purpose of drugs and their mechanism of actions forvarious conditions

**COPO MAPPING FOR PHARMACOLOGY**

CO	PO												PSO1	PSO2	PSO3
	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012			
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

## PAPER VII – PRINCIPLES OF MANAGEMENT

COURSE CODE	Coursename	L hr s/ wk	T hr s/ wk	P hr s/ 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 community.

### 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 or strategic

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

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Motivation:- Motivation theories Mc Gregors's theory X and Y 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 grieven termination 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.

## COPO MAPPING FOR PRINCIPLESOFMANAGEMENT

CO	PO												PSO1	PSO2	PSO3
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12			
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 VIII- BASICS OF COMPUTER

COURSE CODE	Coursename	L hr s/ wk	T hr s/ wk	P hr s/ 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.

### COURSECONTENT

I) Introduction to computer I/O 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 sheets Preparing new slides using MS- POWERPOINT Inserting slides – transition and animation 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, introduction to "c" language, different variables, declaration usage writing small programme using function sub-functions

PRACTICAL

  
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Typing a text and aligning the text with different formats using MS- WORD  
 Inserting a table with proper alignment using formulas using MS- WORD  
 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

**COPO MAPPNG FORBASICS OF COMPUTER**

CO	PO												PSO1	PSO2	PSO3
	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012			
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



## PAPER IX -ENGLISH

COURS ECODE	Coursename	L hr s/ w k	T hr s/ w k	P hr s/ w k	Tota lhou rs	IA	Theor y	Viva	Practica l	EA	Tota l
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

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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 and use nuances of presentation effectively

### COPO MAPPING FOR ENGLISH

CO	PO												PSO1	PSO2	PSO3
	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012			
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	0
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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**SecondYear**  
**Paper - I Respiratory Diseases**

COURSE CODE	Course name	L hrs/ wk	T hrs/ wk	P hrs/ wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5901	Respiratory Diseases	05	-	03	08	30	100	20	50	170	200

**A.COURSEDESCRIPTION**

This course will cover Respiratory Diseases and its management

**B.COURSE OBJECTIVES**

To develop knowledge on information of the pathology, structural abnormalities and symptoms of cardiopulmonary diseases.

To correlate it with investigations in cardiopulmonary diseases.

**Course Contents**

Assessment & Classification of Pulmonary diseases Hypoventilation& Hyperventilation  
Diffusion Defects, AcidBase Disorders Ventilation & Perfusion Abnormalities  
COPD(ChronicObstructivePulmonaryDiseases) Asthma and Manageent  
Chronic Bronchitis and Management Emphysema and Management Bronchiectasis and management  
Acutechesttrauma, Pulmonary fibrosis Atelectasis and pulmonary collapse Acute Respiratory distress  
Syndrome Ventilator Associated Pneumonia Community Acquired Pneumonia Interstitial Lung disease  
Neuromuscular disorders(GBS,MyastheniaGravis)and Management Pulmonary embolism and managemen  
Pulmonary Tuberculosis and management.

**ReferenceBooks:**

- 1.Stevansadowsky,HEllan,AHillegas,EssentialofCardiopulmonaryphysicaltherapy,W.BsaunderscompanyUSA.
- 2.JohnFMurray,JayANadel,TextbookofRespiratoryMedicine,2ndeditionW.BsaunderscompanyUSA.

3. Braunwald(edr),Heartdisease,Atextbookorcardiovascularmedicine,4thediti  
on,W.Bsaunderscompany,USA1992.

4. Shoemaker,Ayres,Greenvik,Holbrook,Textbookofcriticalcare,4thedition,  
W.B saunders company 1984

## Course outcome

CO1: Recognise the fundamental concepts of etiopathology of various Respiratory diseases

CO2: Proficiency in understanding the concepts of exhaustive ideology of prevalence, effects and management of respiratory diseases


CO3: Rule out the various pathological conditions related to Respiratory Medicine

CO4: Obtain knowledge on adult and chronic, rheumatic heart diseases, myopathies and conduction abnormalities

CO5: Analyse depth of disease state and criteria for investigations

### COPO MAPPING FOR RESPIRATORY DISEASES

CO	PO												PSO1	PSO2	PSO3
	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012			
CO1	2	2	2	3	2	3	3	2	3	2	3	2	3	3	3
CO2	2	1	0	3	0	2	3	2	2	3	2	2	3	2	2
CO3	0	3	3	0	3	3	2	2	3	0	3	2	0	3	3
CO4	3	3	2	3	3	3	0	3	0	3	2	0	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 II- Cardiovascular diseases

COURSE CODE	Course name	L hrs/ wk	T hrs/ wk	P hrs/ wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5902	Cardiovascular Diseases	05	-	03	08	30	100	20	50	170	200

### A.COURSEDESCRIPTION

This course will cover Cardiovascular Diseases and its management

### B.COURSE OBJECTIVES

To develop knowledge on information of the pathology, structural abnormalities and symptoms of cardio-vascular diseases.

To correlate it with investigations in Cardio-pulmonary diseases

### Course Content

1. Shock-Cardiogenic failure
2. Systolic failure
3. Diastolic Failure
- 4 Right ventricular Failure

  
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5. Acute left ventricular failure
6. Pulmonary edema
7. Pulmonary hypertension
8. Pulmonary embolism
9. Ischemic heart disease
10. Myocardial Infarction
11. Valvular Heart Disease Mitral Stenosis
12. Mitral Regurgitation
13. Endocarditis
14. Myocarditis and Cardiomyopathy
15. Congenital Heart Diseases
16. TOF
17. Atrial Septal Defect
18. Ventricular Septal Defect
19. Patent Ductus Arteriosus
20. Arrhythmias
  20. Tachycardia
  21. Arrhythmias
  22. Bradycardia

**Reference Books:**

George Mathew. K Medicine Prep manual 1st edition. B.I Churchill Livingstone Pvt Ltd. New Delhi 1995  
 Scot Irwin, Jan Stephen tecklin, Cardiopulmonary Physical therapy, a guide to practice, 3rd edition, Mosby, USA.  
 Donna Frownfelter, Elizabeth Dean (eds) Principles and practices of cardiopulmonary physical therapy, 3rd Mosby, USA.  
 Craig L, Scanlan, Egan's Fundamentals of Respiratory care, 6th edition Mosby, 1995.  
 Stevansadowsky, Hellen, AHillegas, Essential of Cardiopulmonary physical therapy, W.B Saunders company


**Course Outcome**

- CO1: Recognise the fundamental concepts of etiopathology of various cardiac diseases  
 CO2: Proficiency in understanding the concepts of exhaustive ideology of prevalence, effects and management of cardiac  
 CO3: Rule out the various pathological conditions related to cardiology  
 CO4: Obtain knowledge on adult and congenital heart diseases, rheumatic heart diseases, myopathies and conduction abnormalities  
 CO5: Analyze depth of disease state and criteria for investigations

**COPO MAPPING FOR CARDIOVASCULAR DISEASES**

CO	PO												PSO1	PSO2	PSO3
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12			
CO1	2	1	2	3	2	3	3	2	3	2	3	2	2	3	3
CO2	0	1	2	3	3	3	3	3	2	3	3	0	2	3	2
CO3	2	3	2	3	0	3	2	2	3	3	2	3	3	2	3

C04	3	3	0	3	2	3	2	3	3	3	0	3	2	3	0
C05	2	3	2	3	3	3	0	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 III: Diagnostic Techniques in Cardio-Respiratory Diseases

COURSE CODE	Course name	L hrs/ wk	T hrs/ wk	P hrs/ wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5903	Diagnostic Techniques in cardio Respiratory Disaeses	05	-	03	08	30	100	20	50	170	200

### COURSE DESCRIPTION

- To study of diagnostic techniques in Cardio Respiratory Techniques
- To study mechanisms of working of equipments used to support or assume the function of the lungs dur medical procedures
- To acquire skills to prepares and operates equipment as directed by healthcare physicians.

### COURSE OBJECTIVE

- This course will cover Respiratory diseases and their causes and its Medical Management.

### Course Contents

- ArterialBlood
- Gasinterpretation
- Pulse oximetr
- Capnography
- Systematicinterpretationofchestx-ray
- PulmonaryfunctionTest
- DLCO
- FRC
- Spirometry
- VentilatorGraphy
- SleepStudy
- BodyPlethysmograph
- ECGinterpretation
- EchoCardioGraphy
- TreadmillTest
- CT/MRI-Chest

### Reference Books



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John F Murray, Jay A Nadel, Text book of Respiratory Medicine, 2<sup>nd</sup> edition W.B Saunders company USA.  
 Braunwald (ed), Heart disease, A textbook of cardiovascular medicine, 4<sup>th</sup> edition, W.B Saunders company, USA 1992.  
 Shoemaker, Ayres, Greenvik, Holbrook, Textbook of critical care, 4<sup>th</sup> edition, W.B Saunders company 1984

**Course Outcome**

- CO1: proficiency in demonstrate, perform and troubleshoot PFT.
- CO2: Analyse and assist in performing basic and interventional bronchoscopy.
- CO3: Perform the mechanism of oxygen therapy and troubleshoot various oxygen delivery devices
- CO4: Rule out the Respiratory diseases and recognize drugs which are to be used during respiratory illness
- CO5: Gain knowledge about the diagnostic techniques for various Respiratory diseases.

**COPO MAPPING FOR DIAGNOSTIC TECHNIQUES IN CARDIO-RESPIRATORY DISEASES**

CO	PO												PSO1	PSO2
	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012		
CO1	2	1	2	3	2	3	3	2	3	2	3	2	2	3
CO2	3	1	2	3	2	3	3	2	2	3	2	2	2	3
CO3	0	3	2	3	2	3	2	2	3	0	2	3	0	2
CO4	3	3	2	0	2	2	0	2	3	3	2	3	2	3
CO5	2	3	2	3	2	3	2	2	3	3	2	3	2	3
AVE	2	2.2	2	2.4	2	2.8	2	2	2.8	2.2	2.2	2.6	1.6	2.8

  
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## Paper IV -Equipment's in Respiratory Care

COURSE CODE	Course name	L hr s/wk	T hrs/wk	P hrs/wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5904	Equipments in Respiratory Care	05	-	03	08	30	100	20	50	170	200

### COURSE DESCRIPTION


- To study of equipments in Respiratory Care
- To study mechanisms of working of equipments used to support or assume the function of the lungs during medical procedures
- To acquire skills to prepares and operates equipment as directed by healthcare physicians.

### COURSE OBJECTIVE

This course will cover Mechanism and function of the instruments used in Respiratory Medicine. Students will be able to learn the troubleshooting of various equipments used in Respiratory Medicine.

### **Course Contents**

Medical Gas Pipelines  
 Oxygen Flowmeters Humidifiers  
 Heat & Moisture Exchanger Heated Humidifier Defibrillators  
 Capnography  
 Pulse Oximeter  
 Cuff Pressure manometer Peak Expiratory flowmeter  
 AMBU

  
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Spirometer  
 Artificial airways–Basic& Advanced Various routes of O2 administration  
 Aerosol therapy  
 Nebulizer – Jet, Ultrasonic ICD System  
 NIV  
 VentilatorO2Analyzer  
 Laryngoscope, Bronchoscope

**Reference Books**

John F Murray, JayANadel, Text book of Respiratory Medicine, 2<sup>nd</sup> edition W.B saunders company USA.  
 Braunwald(edr), Heartdisease, A textbook or cardio vascular medicine, 4<sup>th</sup> edition, W.B saunders compan USA 1992.  
 Shoemaker ,Ayres, Greenvik, Holbrook, Textbook of critical care, 4<sup>th</sup> edition, W.B saunders company 1984

**Course Outcome**

CO1: Gain knowledge on the instrumentation related to Respiratory technology

CO2: Assist the intensive care unit management undersupervision


CO3: Perform Pulmonary function testing (PFT) and diffusing lung carbon monoxide (DLCO) and interpret the lung volumes , capacities and diffusing capacity.

CO4: Assist and support pulmonologist in bronchoscopy, oxygen therapy and image guided procedures

CO5: Identify obstructive and restrictive lung disease

**COPO MAPPING FOR EQUIPMENT'S IN RESPIRATORY CARE**

CO	PO												PS01	PS02	PS03
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12			
CO 1	3	3	2	3	3	0	1	3	3	0	2	2	2	3	3
CO2	2	2	3	3	3	3	3	3	2	3	3	0	2	3	2
CO3	3	0	2	2	3	3	2	2	1	1	3	2	3	2	2
CO4	1	2	3	3	0	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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## Third Year Paper I -Respiratory Therapy Techniques-I

COURSE CODE	Course name	L hrs/s/wk	T hrs/wk	P hrs/wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5905	Respiratory Therapy Techniques-I	05	-	03	08	30	100	20	50	170	200

### COURSE DESCRIPTION

- Expected to have basic knowledge on concepts of airway management, mechanical ventilation and critical care management.

### COURSE OBJECTIVE

- To develop knowledge on management of respiratory emergencies in ICU.
- To develop knowledge on patho physiological basis of airway diseases and parenchyma and applied aspects.

### Course Contents

Mechanical Ventilation

Initiation of Mechanical ventilation Modes of mechanical ventilation Different types of ventilatio

Monitoring during mechanical ventilation Care of patients with mechanical ventilation Trouble

shooting during me chanical ventilation Complications during mechanical ventilation Weaning

during mechanical ventilation

PEEP, Auto PEEP

Weaning criteria Post extubation care

Lung recruitment maneuvers Prone Ventilation

Non Invasive mechanical ventilation Indication

Contraindication Modes

Monitors Complication

### Reference Books


John F Murray, Jay A Nadel, Textbook of Respiratory Medicine, 2<sup>nd</sup> edition W.B saunders company USA.

Braunwald (edr), Heartdisease ,A textbook or cardio vascular medicine ,4<sup>th</sup> edition, W.B saunders compa  
,USA 1992.

Shoemaker, Ayres, Greenvik, Holbrook, Textbook of critical care, 4<sup>th</sup> edition,

W.B saunders company 1984

Course Outcome

  
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CO1: Gain knowledge on Arterial blood gas analysis

CO2: Able to perform Spirometry and Diffusing lung carbon monoxide studies .

CO3: Assist with physician during thoracentesis procedures


CO4: Compare the various interpretation in ABG,PFT and DLCO

CO5: Expertise in pulmonary rehabilitation

### COPO MAPPING FOR RESPIRATORY THERAPY TECHNIQUES I

CO	PO														
	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

## Paper II- Respiratory Therapy Techniques-II

  
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COURSE CODE	Course name	L hrs/wk	T hrs/wk	P hrs/wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5906	Respiratory Therapy Techniques-II	05	-	03	08	30	100	20	50	170	200

### COURSE DESCRIPTION

- Expected to have basic knowledge on concepts of airway management, mechanical ventilation and critical care management.

### COURSE OBJECTIVE

- To develop knowledge on management of respiratory emergencies in ICU.
- To develop knowledge on patho-physiological basis of airway diseases and parenchyma and applied aspects.

### **Course Contents**

Oxygen therapy  
 High flow oxygen therapy  
 Low flow oxygen therapy Aerosol Therapy Indication  
 Procedure  
 Complication Humidification Different types of humidification  
 HME vs. heated humidifier Suctioning method Indication  
 Contraindication Procedure Complication  
 Inter-costal drainage-Insertion, complication Endo-tracheal tube intubation Indication  
 Route of intubation Difficult intubation Complication  
 Transport of Critically ill patients  
 Extra Corporeal Membrane Oxygen(ECMO)Therapy

### **Reference Books**

John F Murray, Jay A Nadel, Textbook of Respiratory Medicine, 2<sup>nd</sup> edition W.B saunders company USA.  
 Braunwald (edr), Heart disease, A textbook or cardio vascular medicine, 4<sup>th</sup> edition, W.B saunders company, USA 1992.  
 Shoemaker, Ayres, Greenvik, Holbrook, Textbook of critica care, 4<sup>th</sup> edition, W.B saunders company 1984

### **Course Outcome**

CO1: Perform Pulmonary function testing (PFT) and diffusing lung carbon monoxide (DLCO) and interpret the lung volumes, capacities and diffusing capacity.  
 CO2: Assist and support pulmonologist in bronchoscopy, oxygen therapy and image guided procedures

CO3:Identify obstructive and restrictive lung disease

CO4: Gain knowledge about the diagnostic techniques for various respiratory diseases.

CO5:Obtain exhaustive ideology of the oxygen therapy and supply system

### COPO MAPPING FOR RESPIRATORY THERAPY TECHNIQUES II

CO	PO												PSO1	PSO2	PSO3
	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012			
C01	2	2	2	3	2	3	3	2	3	2	3	2	3	3	3
C02	2	1	-	3	-	2	3	2	2	3	2	2	3	2	2
C03	-	3	3	-	3	3	2	2	3	-	3	2	-	3	3
C04	3	3	2	3	3	3	-	3	-	3	2	-	3	3	3
C05	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 III Life Support System**

COURSE CODE	Course name	L hrs/s/wk	T hrs/wk	P hrs/wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5907	<b>Life Support System</b>	05	-	03	08	30	100	20	50	170	200

**Course Description**

- Expected to have basic knowledge on concepts of airway management, mechanical ventilation and critical care management

**Course Objectives**

1. To provide an introduction to concepts Trauma and Triagemanagements.
2. To elaborate on life saving support and first aid techniques during trauma and cardiac emergencies

**Course Contents**

Basic Life Support

Recognition of Cardiac arrest Respiratory arrest AED

Lay rescuer Resuscitation Advanced Cardiac Life support

Tachyarrhythmia

Brady arrhythmia

Pulse less arrest

Difference between Synchronized Cardio version / Defibrillation

Advanced Trauma Lifesupport

Primary Survey

A,B,C,D,E

Secondary Survey

Head-to-toe evaluation

Complete history and physical examination Reassessment of all vital signs

**Reference Books**

John F Murray , Jay A Nadel, Textbook of Respiratory Medicine, 2<sup>nd</sup> edition W.B saunders company USA. Braunwald (edr), Heart disease, A textboo or cardio vascular medicine, 4<sup>th</sup> edition, W.B saunders company, USA 1992.

Shoemaker, Ayres, Greenvik, Holbrook, Textbook of critical care, 4<sup>th</sup> edition, W.B saunders company 1984

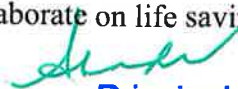
**Course Outcome**

CO1: Acquire knowledge on assist the physician/intensivist in intubation and starting mechanical ventilation

CO2: Expertise in the critical care airway management

CO3: Gain knowledge on basic and advanced cardiac life support

CO4: Elaborate on life saving support and first aid techniques during trauma and cardiac emergencies



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CO5:Analyse and report the disease condition and bring forth treatment/management

COPO MAPPNG FOR LIFE SUPPORT SYSTEM

CO	PO												PSO1	PSO2	PSO3
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12			
C01	2	1	2	3	2	3	3	2	3	2	3	2	2	3	3
C02	3	1	2	3	2	3	3	2	2	3	2	2	2	3	2
C03	0	3	2	3	2	3	2	2	3	0	2	3	0	2	3
C04	3	3	2	0	2	2	0	2	3	3	2	3	2	3	2
C05	2	3	2	3	2	3	2	2	3	3	2	3	2	3	3
AVE	2	2.2	2	2.4	2	2.8	2	2	2.8	2.2	2.2	2.6	1.6	2.8	2.6



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## Paper-IV Cardio Pulmonary Rehabilitation

COURSE CODE	Course name	L hrs/ wk	T hrs/ wk	P hrs/ wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5908	Cardio Pulmonary Rehabilitation	05	-	03	08	30	100	20	50	170	200

### Course Description

Expected to have basic knowledge on pulmonary rehabilitation

### Course Objectives

- To Develop the knowledge about the historical perspective of pulmonary rehabilitation.
- To Develop the knowledge on basic concepts of pulmonary rehabilitation
- To Develop basic knowledge on assessment of chronic respiratory disease patients for pulmonary rehabilitation and family education.

### Course Contents

Pulmonary Rehabilitation Definition and Aims

Benefits of pulmonary rehabilitation selection of patients

Patient assessment for pulmonary rehabilitation Assessment of dyspnea

Quality of life

Pulmonary rehabilitation team Structure of pulmonary rehabilitation Cardiac Rehabilitation

Goals

Cardiac rehabilitation team Rationale for cardiac rehabilitation

### Reference Books

John F Murray, Jay A Nadel, Textbook of Respiratory Medicine, 2<sup>nd</sup> edition W.B saunders company USA.  
Braunwald (edr), Heartdisease, A text book or cardio vascular medicine, 4<sup>th</sup> edition, W.B saunders company, USA 1992.

Shoemaker, Ayres, Greenvik, Holbrook, Textbook of critical care, 4<sup>th</sup> edition, W.B saunders company 1984

### Course Outcome

CO1: Expertise in diagnostic technique in Respiratory medicine department

CO2: Identify and appropriately assist in the management of the critical respiratory diseases.

CO3: Perform Arterial blood gas analysis / pulmonary rehabilitation and chest physiotherapy for various respiratory diseases.

CO4: Gain knowledge about the diagnostic procedure for identifying the respiratory diseases

CO5: proficiency in pulmonary rehabilitation and advice on oxygen therapy which is to be used during respiratory illness.

## COPO MAPPING FOR CARDIO PULMONARY REHABILITATION

CO	PO												PSO1	PSO2	PSO3
	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012			
C01	2	1	2	3	2	3	3	2	3	2	3	2	2	3	3
C02	3	1	2	3	2	3	3	2	2	3	2	2	2	3	2
C03	0	3	2	3	2	3	2	2	3	0	2	3	0	2	3
C04	3	3	2	0	2	2	0	2	3	3	2	3	2	3	2
C05	2	3	2	3	2	3	2	2	3	3	2	3	2	3	3
AVE	2	2.2	2	2.4	2	2.8	2	2	2.8	2.2	2.2	2.6	1.6	2.8	2.6

  
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**ELECTIVES (SELECT ONE)**  
**COMMUNITYMEDICINE**

## COURSE DESCRIPTION

COUR SECO DE	Coursename	L hr s/ w k	T hrs/ wk	P hr s/ wk	Total hours	IA	Theory	Viva	Practical	EA	Total
5607	COMMUNITY MEDICINE	05	-	-	05	30	100	-	-	170	200

The course deals with population or groups rather than individual patients. It is concerned with identification and 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 and environmental factors on the health of the individual and society.
- To demonstrate and understanding of the principles of first aid and demonstrate skill in giving first aid treatment in emergencies that may be met in the community and in their practice as therapists.

## COURSECONTENT

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

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

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

Outline selected national health programmes including current programmes (Eg. SSA Sarva Siksha Abhiyan)

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

Outline the Employees State Insurance scheme and its various benefits.

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

Outline the objectives and strategies of the national Family Welfare Programme

Define community based and institution based rehabilitation. Describe the advantage and disadvantages of institution and community based rehabilitation.

Describe the following communicable diseases with reference to reservoir, mode of transmission, route of entry and levels of prevention. a. 92 Poliomyelitis, b. Meningitis, c. Encephalitis, d. Tuberculosis, e. Filariasis, f. Leprosy, g. Tetanus & h. Measles.

Describe the epidemiology of rheumatic heart disease, cancer, Chronic degenerative 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 role of health education in rehabilitation services.

Define the role of community leaders and health professionals in health education.

Outline the role of international health agencies in rehabilitation of 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 of fractures.

Describe the types of wounds, haemorrhages, shock and respiratory emergencies

### **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

### COPO MAPPING FOR COMMUNITY MEDICINE

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

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## CLINICAL PSYCHOLOGY

COURS ECODE	Coursename	L hr s/ w k	T hrs/ wk	P hrs /w k	Total hours	IA	Theory	Viva	Practical	EA	Total
5608	CLINICAL PSYCHOLOGY	05	-	-	05	30	100	-	-	100	130

### COURSE DESCRIPTION

- The course aims to provide students with basics in Clinical psychology required to perform parts in placement training.

### COURSE OBJECTIVES

- To develop in depth knowledge on specific psychological factors and effects in physical illness and thus help them to have a holistic approaching their dealings with patients during admission, treatment, rehabilitation, and discharge.
- Identify ego defense mechanisms and learn counseling techniques to help those in need. And help them to understand 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, Branches, heredity and environment c. developmental theories and growth behaviour at Infancy, Early childhood, Middle childhood, Puberty (physiological and psychological changes), adulthood, middle age, and old age.

intelligence, motivation Social motives, emotions Definition.

personality: Definition, concepts, creativity, steps in creative thinking; problem solving, decision making, list 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,

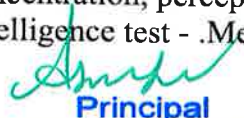
Clinical observation, Situational tests, Questionnaires. Concepts of normality and abnormality: Causes of abnormality, Criteria for abnormality. Broad classification of Current model of abnormal behavior - Medical model, Psychodynamic model,

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

  
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(demonstrations)Mental Retardation and it's psychosocial management. Personality Assessment: Questionnaires, inventories, projective techniques Behavior techniques in Therapy -application of

learning principles to modify behaviour. Counselling: Definition, Aim, Difference between counselling and guidance, principles in counselling, personality qualities of counsellors 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 - specific 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, methods of 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

2Psychology for Physiotherapists by Thangamani Ramalingamand DibyendunarayanBid

### **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.



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## COPO MAPPING FOR CLINICAL PSYCHOLOGY


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



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**COPO MAPPING FOR B.Sc AHS RESPIRATORY TECHNOLOGY(PROG.CODE-709)**

COURSE CODE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
5001	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
5002	2	2.2	2	2.4	2	2.8	2	2	2.8	2.2	2.2	2.6	1.6	2.8	2.6
5003	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
5004	2.4	1.6	2	2.4	2	3	2	2	2.8	2.8	2.2	2	2.2	2.8	2.6
5005	2	2.4	2.2	2.4	2.2	2.2	2.4	2.6	1.8	2.2	2.2	2.4	1.8	2.4	2.2
5006	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
5009	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
5010	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
5011	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
5901	2.2	2	2.2	2	1.8	2.8	2.2	2	2.2	2.2	2.8	2	2	2.2	2
5902	2	2.2	2	2	2.4	2.4	1.8	2.6	2.2	2.6	2	2.2	2.4	2.8	2.2
5903	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
5904	2.2	2	2	2.8	2	2.4	2	2	2.6	2.2	2.4	2.4	1.6	2.6	2.4
5905	2.2	2	2	2.8	2	2.4	2	2	2.6	2.2	2.4	2.4	1.6	2.6	2.4
5906	2.6	2.2	2.4	2.6	2	2.8	2	2.2	2.4	2.2	2.4	2	2	2.6	2.6
5907	2.8	2.6	2	2.4	2.4	2.4	2.4	2.4	2.6	2.2	2.2	2	2.2	1.8	2.8
5908	2.2	2	2	2.8	2	2.4	2	2	2.6	2.2	2.4	2.4	1.6	2.6	2.4
5909	2.6	2.2	2.4	2.6	2	2.8	2	2.2	2.4	2.2	2.4	2	2	2.6	2.6
5910	2.8	2.6	2	2.4	2.4	2.4	2.4	2.4	2.6	2.2	2.2	2	2.2	1.8	2.8

  
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