



B.Sc.
in Health Information Administration
(B.Sc.-HIA)
Academic Programme

Duration:
3years & 6 months internship

Program Structure

*Not included for university examination

SEMESTER 1

Course Code	Course Name	Assessment Scheme						
		L	T	P	C	IA	CAT	ETE
BHIA1001	Fundamentals of Anatomy & Physiology	3	0	0	3	10	20	70
BHIA1002	Fundamentals of Anatomy & Physiology -lab	0	0	6	6	10	20	70
BHIA1003	Fundamentals of Clinical Biochemistry	3	0	0	3	10	20	70
BHIA1004	Fundamentals of Clinical Biochemistry-lab	0	0	6	6	10	20	70
BHIA1005	Hospital Ethics (NABH)	2	0	0	2	50	0	0
BCEUCT1001	Environmental Science	0	1	0	0.5	20		

SEMESTER -2

Course Code	Course Name	Assessment Scheme						
		L	T	P	C	IA	CAT	ETE
BHIA1006	General Pathology & General Microbiology	3	0	0	3	10	20	70
BHIA1007	General Pathology & General Microbiology-lab	0	0	6	6	10	20	70
BHIA1008	Medical Terminology & Medical Jurisprudence	4	0	0	4	10	20	70
BHIA1009	Fundamentals of Computer Applications*	1	0	0	1	50	0	0
BHIA1010	Fundamentals of Computer Applications -lab*	0	0	2	2	50	0	0

SEMESTER -3

Course Code	Course Name					Assessment Scheme		
		L	T	P	C	IA	CAT	ETE
BHIA2001	Biostatistics	2	0	0	2	10	20	70
BHIA2002	Hospital Organization, Health Planning & Management	3	0	0	3	10	20	70
BHIA2003	Hospital Waste Management	1	0	0	1	10	20	70
BHIA2004	Applied Psychology	2	0	0	2	10	20	70
BHIA2005	CPR/Cardiac Emergency Management	2	0	0	2	10	20	70
BHIA2006	National Health care delivery System	1	0	0	1	50		
BLUCT1002	Liberal Arts/Creative arts	0	0	1	0.5	20		

SEMESTER 4

Course Code	Course Name					Assessment Scheme		
		L	T	P	C	IA	CAT	ETE
BHIA2006	Accounting	2	0	0	2	10	20	70
BHIA2007	Medical Record Science	4	0	0	4	10	20	70
BHIA2008	Infection control measures	2	0	0	2	10	20	70
BHIA2009	Communicative English-I	2	0	0	2	10	20	70

BHIA2010	Communicative English-I lab	0	0	2	2	10	20	70
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SEMESTER 5

Course Code	Course Name					Assessment Scheme		
		L	T	P	C	IA	CAT	ETE
BHIA3001	Hospital Administration & Heath Care of the Community	4	0	0	4	10	20	70
BHIA3002	Hospital Administration & Heath Care of the Community-lab	0	0	6	6	10	20	70
BHIA3003	Communicative English-II	2	0	0	2	10	20	70
BHIA3004	Communicative English II lab	0	0	2	2	10	20	70
BHIA3005	Summer Training**							

SEMESTER 6

Course Code	Course Name					Assessment Scheme		
		L	T	P	C	IA	CAT	ETE
BHIA3006	Managing Medical Record &Epidemiology	3	0	0	3	10	20	70
BHIA3007	Medical Transaction & Analysis of health Information	3	0	0	3	10	20	70

BHIA3008	Patient Care Ethics	3	0	0	3	10	20	70
BHIA3009	Project work**							

**** Management observation postings in various departments and service sections of reputed health care institutions.**

FIELD VISITS

The student of II & III year shall undertake periodic field visits to Medical College/ hospitals, reputed nursing home and other related facilities to familiarize themselves with various hospital departments, laboratories & other ancillary services.

INTERNSHIP

There shall be six months of Internship after the final year examination for candidates declared to have passed the examination in all the subjects.

During the internship candidate shall have to work full time average 7 hours per day (each working day) for 6 Calendar months.

Each candidate is allowed maximum of 6 holidays during entire Internship Program and in case of any exigencies during which the candidate remains absent for a period more than 6 days, he/she will have to work for the extra days during which the candidate has remained absent.

The Internship should be rotatory in various departments of hospitals /medical institute. Based on the attendance and work done during posting the Director/Principal/ head of institution/department shall issue 'Certificate of Satisfactory completion' of training following which the University shall award the Bachelor of Health Information Administration Degree or declare the candidate eligible for the same.

No candidate shall be awarded degree without successfully completing six months internship.

Institute's Director / Principal can at his discretion grant NOC to the students to do the Internship at the place of his choice provided the concerned Hospital/Medical Institute fully satisfies the criteria decided by the University.

Name of The Course	FUNDAMENTALS OF ANATOMY & PHYSIOLOGY			
Course Code				
Prerequisite				
Co-requisite				
Anti-requisite				
	L	T	P	C
	4			4

Course Objectives: The students will be able to explain the structure and Functions of various systems of human body.

Course Outcomes

CO1	To learn about the basics of anatomy and physiology of human body
CO2	To interpret the structure and function of various systems of the Human Body- especially digestive system, Cardio-vascular and respiratory system
CO3	To interpret the structure and function of Nervous system
CO4	To interpret the structure and function of urinary system
CO5	To study and interpret the endocrine system of the body

Continuous Assessment Pattern

Internal Assessment (IA)	CAT	End Term Exam (ETE)	Total Marks
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10	20	70	100
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Course Content:

Unit 1: Introduction to Anatomy

General Anatomy

- Cell - structure & function
- Tissue
 - Epithelium
 - Connective
 - Sclerous
 - Muscular
 - Nervous
- Lymphatic System

Systemic:

Basic Features of :

- Cardiovascular system
- Respiratory system
- Digestive system
- Excretory system
- Genital (Male & Female) system
- Nervous system

Unit II: PHYSIOLOGY- blood and cardiovascular system

Cell

Blood

- Blood cells
- Haemoglobin
- Blood groups
- Coagulation Factors
- Anaemia & Immunoglobulins

Cardiovascular system

- Heart rate, cardiac cycle, cardiac output, blood pressure, hypertension, radial pulse

Unit III: Physiology- Respiratory system, GI, and Endocrine system**Respiratory system**

- Ventilation
- Functions
- Lungs Volumes and capacities

Gastrointestinal system

Process of digestion in various parts

Endocrinology

- List of Endocrine Glands
- Hormones : Their secretion and functions (in brief)

Unit IV: Physiology: Excretory system and central nervous system**Excretion system**

- Structure of nephron
- Urine formation

Central nervous system

- Parts
- Sliding Filament Theory
- Neuro Muscular Junction
- Wallerian Degeneration
- Motor Nervous system
 - Upper motor neuron system
 - Lower motor neuron system
- Sensory nervous system
- Sympathetic Nervous system
- Parasympathetic nervous system

Unit V: PHYSIOLOGY: SKIN, MUSCULAR SYSTEM AND SPECIAL SENCES**Skin –**

- Function & Structure

Muscular system

- Classification of muscle and their functions

Special senses

- Eye & ear (in brief)

Suggested Reading

- B.D. Chaurasia's Handbook of General Anatomy 4th edition, CBS Publishers & distributors, 2013, ISBN: 978-8123916545
- B.D. Chaurasia's Human Anatomy: Regional & Applied dissection and Clinical Upper limb & Thorax (volume-1) 4th edition, CBS Publishers & distributors, 2004, ISBN: 81-239-1155-6
- B.D. Chaurasia's Human Anatomy: Regional & Applied dissection and Clinical Lower limb Abdomen and Pelvis (volume-2) 4th edition, CBS Publishers & distributors, 2004, ISBN: 81-239-1156-4
- Anatomy and Physiology for Nurses - Evelyn & Bearce
- Hand book of Human Physiology – Vidyaradan
- Anatomy and Physiology - Ross and Wilson
- Anatomy and Physiology and Health Education- N.Murugesan

Name of The Course	Fundamentals of Anatomy & Physiology -lab			
Course Code				
Prerequisite				
Co-requisite				
Anti-requisite				
	L	T	P	C
	4			4

Course Objectives: The students will be able to explain the structure and Functions of various systems of human body.

Course Outcomes

CO1	To learn about the basics of physiological
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	terminology
CO2	To learn about blood sampling and calculating different blood count
CO3	To interpret the structure and function of different human system
CO4	To collect blood samples for investigation and measure BP
CO5	To learn about urine sampling and vision testing

Continuous Assessment Pattern

Internal Assessment (IA)	CAT	End Term Exam (ETE)	Total Marks
10	20	70	100

Anatomy

- Identification and description of all anatomical structures.
- The learning of Anatomy by demonstration only through dissected parts, slides, models, charts etc.
- Demonstration of dissected parts (upper extremity, lower extremity, thoracic & abdominal viscera, face and brain).
- Demonstration of skeleton-articulated and disarticulated.

physiology

- Measurement of pulse, blood pressure.
- Elicitation of Reflexes & jerks.
- Identification of blood cells by study of peripheral blood smear.

Suggested Reading

1. B.D. Chaurasia's Human Anatomy: Regional & Applied dissection and Clinical Lower limb Abdomen and Pelvis (volume-2) 4th edition, CBS Publishers & distributors, 2004, ISBN: 81-239-1156-4
2. Anatomy and Physiology for Nurses - Evelyn & Bearce
3. Hand book of Human Physiology – Vidyaradan
4. Anatomy and Physiology - Ross and Wilson
5. Anatomy and Physiology and Health Education- N. Murugesan

Name of The Course	FUNDAMENTALS OF CLINICAL BIOCHEMISTRY			
Course Code				
Prerequisite				
Co-requisite				
Anti-requisite				
	L	T	P	C
	2			2

Course Objectives:

- 1) Learn how to prevent medical emergencies from occurring.
- 2) Learn all of the steps that need to be taken prior to delivering care during a medical emergency.
- 3) Learn to perform CPR on adult, child, and infant victims.
- 4) Learn how to manage breathing emergencies in adult, child, and infant victims.
- 5) Learn how to manage soft tissue injuries and bleeding.

Course Outcomes

CO1	To Learn how to assess a victim during a medical emergency to determine what care is needed.
CO2	To learn what first aid is given to different conditions
CO3	
CO4	To Learn how to care for a variety of forms of sudden injuries.
CO5	To Learn how to care for a variety of forms of sudden illness..

Continuous Assessment Pattern

Internal Assessment (IA)	CAT	End Term Exam (ETE)	Total Marks
10	20	70	100

Course Content:

Unit I- Acting in an Emergency
Basics of energy metabolism, nutrition & dietetics - <ul style="list-style-type: none"> Unit of measuring energy, calorific value of food, BMR & factors affecting it, SDA of food, calculation of energy requirement, balanced diet, nutrition in health & diseases (Protein energy malnutrition). Chemistry of carbohydrates & their related metabolism <ul style="list-style-type: none"> Introduction, definition, classification, biomedical importance Brief outline of metabolism : Glycogenesis & glycogenolysis (in brief), Glycolysis, citric acid cycle & its significance, HMP shunt & Gluconeogenesis (in brief), regulation of blood glucose level.
UNIT II: Amino acids, Chemistry of Proteins & their related metabolism, Chemistry of Lipids & their related metabolism

Amino acids

- Definition, classification, essential & non essential amino acids.

Chemistry of Proteins & their related metabolism

- Introduction, definition, classification, biomedical importance Metabolism :
- Transformation, Decarboxylation, Ammonia formation & transport, Urea cycle.

Chemistry of Lipids & their related metabolism -

- Introduction, definition, classification, biomedical importance, essential fatty acids. Brief out line of metabolism :
- Beta oxidation of fatty acids, Ketosis, Cholesterol & it's clinical significance, Lipoproteins in the blood composition & their functions in brief, Atherosclerosis.

UNIT III: Enzymes, acid-base balance concept, and**Hormones****Enzymes -**

- Introduction, definition, classification, coenzymes, isoenzymes, properties, factors affecting enzyme action, enzyme inhibition, diagnostic value of serum enzymes - Creatinine kinase, Alkaline phosphatase, Acid phosphatase, LDH, SGOT, SGPT, Amylase, Lipase, Carbonic anhydrase etc.

Acid base balance concepts & disorders

- pH, Buffers, Acidosis, Alkalosis

Hormones -

Classification, general mode of action, hormones of Pituitary, Thyroid, Parathyroid, Adrenals, Reproductive Glands, Pancreas, hormonal disorders, counter regulatory hormones.

UNIT IV: Vitamins, Water metabolism, and Hyperglycemia & hypoglycemia**Vitamins -**

- Water & fat soluble vitamins, sources, requirement, deficiency disorders & biochemical functions.

Water metabolism-

- Distribution of fluids in the body, ECF, ICF, Water metabolism, dehydration.

Hyperglycemia & hypoglycemia -

- Diabetes mellitus - definition, types, features, gestation diabetes mellitus, glucose tolerance test, glycosurias,
- Hypoglycemia & its causes

UNIT V Liver functions and their assessment, Renal functions tests, and Tumor markers & their clinical applications**Liver functions and their assessment -**

- Based on -
- a) Carbohydrate metabolism
- b) Protein metabolism
- c) Lipid Metabolism
- d) Measurements of serum enzyme levels
- e) Bile pigment metabolism : Jaundice - its types and their biochemical findings.

Renal functions tests -

- Various tests, GFR & clearance.

Tumor markers & their clinical applications -

- Including oncofetal antigens, CEA etc.

General concepts & functions of immunoglobulins**Suggested Reading**

1. First Aid Manual for Nurses 2nd Edition 2019 (PB) By SanjuSira
2. First aid Manual Emergency procedure for every one at home, office or leisure. An authorized manual of Saint Johns Ambulance.

Name of The Course	Fundamentals of Clinical Biochemistry-lab
Course Code	
Prerequisite	
Co-requisite	
Anti-requisite	

	L	T	P	C
				2

Course Objectives: The students will be able to explain the structure and Functions of various systems of human body.

Course Outcomes

CO1	To learn about the basics of anatomy terminology
CO2	To learn about blood sampling and calculating different blood count
CO3	To interpret the structure and function of different human system
CO4	To collect blood samples for investigation and measure BP
CO5	To learn about urine sampling and vision testing

Continuous Assessment Pattern

Internal Assessment (IA)	CAT	End Term Exam (ETE)	Total Marks
10	20	70	100

Course Content:**Fundamentals of Clinical Biochemistry-lab**

1. Identification of Carbohydrates (Qualitative Tests)
2. Identification of Proteins (Qualitative Tests)
3. To study general properties of the enzyme Urease & Achromatic time of Salivary Amylase.
4. Estimation of glucose in urine by Benedict's methods.
5. Urine analysis - normal & abnormal

constituents of urine.
6. Blood glucose estimation.

Suggested Reading

6. B.D. Chaurasia's Handbook of General Anatomy 4th edition, CBS Publishers & distributors, 2013, ISBN: 978-8123916545
7. B.D. Chaurasia's Human Anatomy: Regional & Applied dissection and Clinical Upper limb & Thorax (volume-1) 4th edition, CBS Publishers & distributors, 2004, ISBN: 81-239-1155-6
8. B.D. Chaurasia's Human Anatomy: Regional & Applied dissection and Clinical Lower limb Abdomen and Pelvis (volume-2) 4th edition, CBS Publishers & distributors, 2004, ISBN: 81-239-1156-4
9. Anatomy and Physiology for Nurses - Evelyn & Bearce
10. Hand book of Human Physiology - Vidyardan
11. Anatomy and Physiology - Ross and Wilson
12. Anatomy and Physiology and Health Education- N.Murugesan

SEMESTER 2

Name of The Course	General Pathology & General Microbiology			
Course Code				
Prerequisite				
Co-requisite				
Anti-requisite				
	L	T	P	C
	3			3

Course Objectives:

1. To explain the role of vectors in transmitting the diseases and their control measures
2. To explain the role of parasites in relation to human health and their control measures
3. To recognize microbes and their role in disease and control measures

Course Outcomes

CO1	To learn about general terms of pathology
CO2	To learn about medical haematology and related disease
CO3	To learn about Clinical Pathology.
CO4	To learn about general Transfusion medicine
CO5	To learn about Histopathology.

Continuous Assessment Pattern

Internal Assessment (IA)	CAT	End Term Exam (ETE)	Total Marks
10	20	70	100

Course Content:

Unit-I: General Pathology: Cell injury and inflammation

Cell Injury and Cellular Adaptations.

- a) Normal Cell
- b) Cell Injury- types of cell injury, etiology of cell injury, morphology of cell injury, cellular swelling (in brief)
- c) Cell death : types- autolysis, necrosis, apoptosis & gangrene (in brief)
- d) Cellular adaptations-atrophy, hypertrophy, hyperplasia & dysplasia (in brief)

INFLAMMATION

- e) Acute inflammation - vascular event, cellular event, inflammatory cells(in brief)
- f) Chronic Inflammation - general

features,

UNIT-2: (General pathology) Haemodynamic Disorders, neoplasia, and healing

Haemodynamic Disorders :

Oedema, hyperemia, congestion, haemorrhage, circulatory disturbances, thrombosis, ischaemia & infarction (in brief)

Neoplasia :

Definition, how does it differ from hyperplasia, difference between benign tumor and malignant tumor (in brief)

Healing:

Definition, different phases of healing, factors influencing wound healing. (in brief)

UNIT-3: GENERAL MICROBIOLOGY: Sterilization and Disinfection, Physical agents and Chemical Agents

General characters and classification of Bacteria.

Sterilization and Disinfection.

Physical agents- Sunlight, Temperature less than 100°C, Temperature at 100°C, steam at atmospheric pressure and steam under pressure, irradiation, filtration.

Chemical Agents- Alcohol, Aldehyde, Dyes, Halogens, Phenols, Ethylene oxide.

UNIT-4: Staining Methods, Collection and Transportation of Specimens, and Disposal of Laboratory/Hospital Waste

Staining Methods

Simple, Grams staining, Ziehl-Neelsen staining or AFB staining, Negative, Impregnation

Collection and Transportation of Specimens

General Principles, Containers, Rejection

Samples - Urine, Faeces, Sputum, Pus, Body fluids,

Swab, Blood

Disposal of Laboratory/Hospital Waste: Non-infections waste, infected sharp waste disposal, infected non-sharp waste disposal.

UNIT-5: Parasitology, Mycology, virology and nosocomial infection

Parasitology

Parasitism, host & vectors etc., classification of parasites, diseases caused by various parasites (in very brief)

Mycology

Morphology & structure of fungi (in brief), classification of fungi, lab diagnosis of fungal infections, opportunistic fungal infection

Virology

General characters of viruses, classification of viruses, lab diagnosis of viral infections (in brief).

Nosocomial Infections (in brief)

Suggested Reading

1. Text Book of Medical Parasitology, Dr.S.Subhash Chandra Par, All India Publishers & Distributors, N.Delhi, 2008
2. Text book of Microbiology (7th edition), R.Ananthanarayanan & C.J Panicker, University Press, Hyderabad, 2008
3. Immunology, Ashim K. Chakaravathy, Tata McGraw hills Pub.co. New Delhi, 1996
4. Text book of Entomology, Md. Sulaiman, Himalaya Publishing House, 1992
5. General and applied Entomology, K.K. Nair, T.N. Ananda Krishnan and B.V. David, Tata McGraw hills Pub.co. New Delhi, 2000.
6. Text Book of Medical Parasitology, E.K. Jayaram Panicker, Jaypee Bros., medical publication, 1993.

7. Textbook of Entomology and Elementary Parasitology, by G.K.Rathnaswamy. A Text book for Preventive and social Medicine, J.E. Park

SYLLABUS OF General pathology and microbiology practical

Name of The Course	General pathology and microbiology practical			
Course Code				
Prerequisite				
Co-requisite				
Anti-requisite				
	L	T	P	C
	0		3	3

Course Objectives:

1. To explain the role of vectors in transmitting the diseases and their control measures
2. To explain the role of parasites in relation to human health and their control measures
3. To recognize microbes and their role in disease and control measures

Course Outcomes

CO1	To learn about general entomology and mosquito born diseases
CO2	To learn about medical entomology and insect born diseases
CO3	To learn about medical parasitology.
CO4	To learn about general microbiology
CO5	To learn about special medical microbiology.

Continuous Assessment Pattern

Internal Assessment (IA)	CAT	End Term Exam (ETE)	Total Marks
10	20	70	100

Course Content:

GENERAL PATHOLOGY

1. Components & Setting of the Compound Microscope.
2. Focusing of object.
3. Use of low & high power objectives of microscope.
4. Use of oil immersion lens.
5. Care and maintenance of the Microscope.

GENERAL MICROBIOLOGY

1. Preparation of swabs/sterile tubes & bottles.
2. Preparation of smear.
3. Staining.: Gram & Ziehl -Neelsen staining.
4. Identification of Culture Media.
5. Identification of Instruments.
6. Identification of common microbes.
7. Culture media used for fungus.

1. Text Book of Medical Parasitology, Dr.S.Subhash Chandra Par, All India Publishers & Distributors, N.Delhi, 2008
2. Text book of Microbiology (7th edition), R.Ananthanarayanan & C.J Panicker, University Press, Hyderabad, 2008
3. Immunology, Ashim K. Chakravarty, Tata McGraw hills Pub.co. New Delhi, 1996
4. Text book of Entomology, Md. Sulaiman, Himalaya Publishing House, 1992

5. General and applied Entomology, KK.Nair, TN.Ananda Krishnan and BV David, Tata McGraw hills Pub.co. New Delhi, 2000.
6. Text Book of Medical Parasitology, E.K.JayaramPanicker, Jaypee Bros., medical publication,1993.
7. Textbook of Entomology and Elementary Parasitology, by G.K.Rathnaswamy. A Text book for Preventive and social Medicine, J.E. Park

SYLLABUS MEDICAL TERMINOLOGY & MEDICAL JURISPRUDENCE

Name of The Course	MEDICAL TERMINOLOGY & MEDICAL JURISPRUDENCE			
Course Code				
Prerequisite				
Co-requisite				
Anti-requisite				
	L	T	P	C
	4			4

Course Objectives:

1. To explain the role of vectors in transmitting the diseases and their control measures
2. To explain the role of parasites in relation to human health and their control measures
3. To recognize microbes and their role in disease and control measures

Course Outcomes

CO1	To learn to preparation smear of blood and night blood smear for filarial cases and to identification of different vectors and their immature forms
CO2	To learn, demonstration and identification of different worms
CO3	To learn Laboratory demonstration and slide showing of pathogens in different media

CO4	To learn collection of blood smears of different blood sample
CO5	To learn how to perform Collection of specimen

Continuous Assessment Pattern

Internal Assessment (IA)	CAT	End Term Exam (ETE)	Total Marks
10	20	70	100

Course Content:

UNIT-1: MEDICAL TERMINOLOGY

MEDICAL TERMINOLOGY

- Objective
- Basic
- Elements of Medical Terms - Root, Prefixes, Suffixes, Colours, Numeral, Symbols, Abbreviation .
- Terms pertaining to Body as a whole.

UNIT-2: MEDICAL TERMINOLOGY - TERMS RELATE TO INVESTIGATIONS AND OPERATION

Terms relate to investigations and operation, treatment of conditions, disorders of -

- a) Skin and Breast (integumentary system)
- b) Musculoskeletal .
- c) Neurological and psychiatric disorder.
- d) Cardio-vascular
- e) Blood and blood forming organs
- f) Respiratory
- g) Digestive
- h) Uro-genital
- i) Gynecological
- j) Maternal, Antenatal and Neonatal conditions.
- k) Endocrine and Metabolic.
- l) Sense organs - Vision & Hearing
- m) Systemic:

- Infections, diseases, Immunological diseases, diseases of the connective tissue.
- n) Geriatrics and Psycho geriatrics.

UNIT-3: MEDICAL TERMINOLOGY- Supplementary terms : Selected terms relating

Supplementary terms : Selected terms relating:

- Oncology
- Anesthesiology
- Physical Medicine and Rehabilitation
- Nuclear medicine.
- Plastic surgery of burns and maxillofacial surgery
- Radio- Diagnosis
- Radiotherapy

UNIT-4: MEDICAL JURISPRUDENCE

MEDICAL JURISPRUDENCE

- Introduction.
- Legal procedure, Medical law and ethics.

UNIT-5 : MEDICAL JURISPRUDENCE

MEDICAL JURISPRUDENCE

- Medicolegal autopsy (in brief).
- Postmortem changes.
- External causes of injuries and medico legal aspects (case study).

- Text Book of Medical Parasitology, Dr.S.Subhash Chandra Par, All India Publishers & Distributors, N.Delhi, 2008
- Text book of Microbiology (7th edition), R.Ananthanarayanan & C.J Panicker, University Press, Hyderabad, 2008
- Immunology, Ashim K. Chakaravarthy, Tata McGraw hills Pub.co. New Delhi, 1996
- Text book of Entomology, Md. Sulaiman, Himalaya Publishing House, 1992
- General and applied Entomology, K.K. Nair, T.N. Ananda Krishnan and B.V. David, Tata McGraw hills Pub.co. New Delhi, 2000.
- Text Book of Medical Parasitology, E.K. Jayaram Panicker, Jaypee Bros., medical publication, 1993.
- Textbook of Entomology and Elementary Parasitology, by G.K. Rathnaswamy. A Text book for Preventive and social Medicine, J.E. Park

3rd SEM

SYLLABUS OF BIOSTATISTICS

Name of The Course	BIOSTATISTICS				
Course Code					
Prerequisite					
Co-requisite					
Anti-requisite					
	L	T	P	C	
	4				4

Course Objectives:

- To explain the role of vectors in transmitting the diseases and their control measures

Suggested Reading

2. To explain the role of parasites in relation to human health and their control measures
3. To recognize microbes and their role in disease and control measures

Course Outcomes

CO1	To learn about general entomology and mosquito born diseases
CO2	To learn about medical entomology and insect born diseases
CO3	To learn about medical parasitology.
CO4	To learn about general microbiology
CO5	To learn about special medical microbiology.

Continuous Assessment Pattern

Internal Assessment (IA)	CAT	End Term Exam (ETE)	Total Marks
10	20	70	100

Course Content:

UNIT-1: INTRODUCTION AND TABULATION OF DATA
Introduction: <ul style="list-style-type: none"> Meaning, definition, characteristics of statistics. Importance of the study of statistics, Branches of statistics, Statistics and health science, Parameters and Estimates, Variables and their types, Measurement scales. Tabulation of Data: <ul style="list-style-type: none"> Basic principles of graphical representation, Types of diagrams – histograms, frequency polygons, smooth frequency polygon, cumulative frequency curve, Normal

probability curve.

UNIT-2: Measures of central tendency and Measures of Dispersion

Measures of Central Tendency:

- Need for measures of central Tendency, Definition and calculation of **Mean** – ungrouped and grouped, interpretation and calculation of Median- ungrouped and grouped, Meaning and calculation of Mode, Geometric mean & Harmonic mean, Guidelines for the use of various measures of central tendency.

Measures of Dispersion :

- Range, mean deviation, standard deviation & variance.

UNIT-3: Probability and Standard Distributions and Correlation & regression

Probability and Standard Distributions:

- Meaning of probability of standard distribution, the binominal distribution, the normal distribution, Divergence from normality – skewness, kurtosis.

Correlation & regression : Significance, correlation coefficient, linear regression & regression equation.

UNIT-4: Testing of Hypotheses, Chi-square test, and analysis

- Testing of Hypotheses**, Level of significance, Degrees of freedom.
- Chi-square test**, test of Goodness of fit & student t-test.
- Analysis of variance & covariance:** Analysis of variance (ANOVA), what is ANOVA? Basic principle of ANOVA,

ANOVA technique, Analysis of Co variance (ANACOVA)

UNIT-5: Sampling and others

- **Sampling:** Definition, Types- simple, random, stratified, cluster and double sampling. Need for sampling - Criteria for good samples, Application of sampling in community, Procedures of sampling and sampling designs errors.
- **Time series analysis,** Method of determining trend, Utility of time series.

REFERENCES:

RECOMMENDED BOOKS FOR STUDY

1. Anatomy and Physiology for nurses Author Ross & Wilson
2. Principles and practice of nursing Author Sister Nancy
3. Introduction to Medical Laboratory Technology Author Dr E.J. Baker
4. Operation Theatre Technique Author Brigden
5. Safety in Operating Theatre Author Mainland and Dudley
6. Operation Room Technique Author Berry
7. Central sterile Supply Author Oxford University Press
8. Introduction to anaesthesia Author Dripps /Vandam/Eckenhoff
9. Anaesthesia Equipments Author Ward
10. Clinical application of ventilator support Author Robert R Kirby
11. Monitoring in Anaesthesia and critical care Medicine Author Caesey D.Blitt
12. Electronic Techniques in Anaesthesia and Surgery Author D.W.Hill

SYLLABUS OF HOSPITAL ORGANIZATION, HEALTH PLANNING & MANAGEMENT

Name of The Course	Hospital Organization, Health Planning & Management			
Course Code	BHIA2002			
Prerequisite				
Co-requisite				
Anti-requisite				
	L	T	P	C
	3			3

Course Objectives:

1. To explain the role of vectors in transmitting the diseases and their control measures
2. To explain the role anaesthesia machine, breathing system and injection techniques.
3. To recognize to learn about special pre op and post op care and anesthesia equipment maintenance / sterilization.

Course Outcomes

CO1	To learn about basic anaesthesia technology.
CO2	To learn about gas administration devices and oxygen therapy.
CO3	To learn about anaesthesia machine, breathing system and injection techniques.
CO4	To learn about general microbiology
CO5	To learn about special pre op and post op care and anesthesia equipment maintenance / sterilization.

Continuous Assessment Pattern

Internal Assessment (IA)	CAT	End Term Exam (ETE)	Total Marks
10	20	70	100

UNIT-1: General Introduction to Hospitals

General Introduction to Hospitals

- History and Evolution of Hospitals

- New Trends in Hospitals

Definition of Hospital

- Objectives of Hospital
- Parameters of Good Medical Care/Patterns of Patient Care.
- Functions of Hospital

UNIT-2: Role of a Hospital in Health Delivery Systems

- Role of a Hospital in Health Delivery Systems
 - Classification of Hospitals
- ### Hospitals Organization and its analysis
- Chart of organization
 - Board and committees
 - Duties and responsibilities there of

UNIT-3: Departmental Administration and Patient Care Appraisal (PCA)

Departmental Administration

- Delegation
- Decentralization

Patient Care Appraisal (PCA)

- History of medical audit
- Tools and techniques
- Various Phases of medical audit

UNIT-4

Introduction to various departments of Hospital

- Clinical departments
- Diagnostic and therapeutic services (including clinical laboratories, radiology, physical medicine and rehabilitation and pharmacy services).
- Nursing department
- Dietary department

- Outpatient department
- Accident and emergency services department
- Medical social service department
- General and medical stores
- Blood bank
- Medical library services

Service Unit: Laundry, housekeeping

Miscellaneous Service: Engineering, mortuary and transport services.

UNIT-5: HEALTH PLANNING & MANAGEMENT

HEALTH PLANNING & MANAGEMENT

- Planning - Introduction, objectives, targets & goals, planning cycle (in brief)
- Management - Introduction, methods & techniques (in brief)
- National Health Policy .
- Health planning in India - Five year plans & eleventh five year plan.

REFERENCES:

RECOMMENDED BOOKS FOR STUDY

13. Anatomy and Physiology for nurses Author Ross & Wilson
14. Principles and practice of nursing Author Sister Nancy
15. Introduction to Medical Laboratory Technology Author Dr E.J. Baker
16. Operation Theatre Technique Author Brigden
17. Safety in Operating Theatre Author Mainland and Dudley
18. Operation Room Technique Author Berry
19. Central sterile Supply Author Oxford University Press

20. Introduction to anaesthesia Author Dripps /Vandam/Eckenhoff
 21. Anaesthesia Equipments Author Ward
 22. Clinical application of ventilator support Author Robert R Kirby
 23. Monitoring in Anaesthesia and critical care Medicine Author Caesey D.Blitt
 24. Electronic Techniques in Anaesthesia and Surgery Author D.W.Hill

4TH SEM

SYLLABUS OF ACCOUNTANCY

Name of The Course	ACCOUNTANCY				
Course Code					
Prerequisite					
Co-requisite					
Anti-requisite					
	L	T	P	C	
	2			2	

Course Objectives:

1. To explain the role of vectors in transmitting the diseases and their control measures
2. To explain the role of parasites in relation to human health and their control measures
3. To recognize microbes and their role in disease and control measures

Course Outcomes

CO1	To learn about general medicine relevant to operation theatre.
CO2	To learn about medical entomology and insect born diseases.
CO3	To learn about medical in elderly patient pregnancy and COPD.
CO4	To learn about general microbiology
CO5	To learn about special medicine related to OT.

Continuous Assessment Pattern

Internal Assessment (IA)	CAT	End Term Exam (ETE)	Total Marks
10	20	70	100

UNIT-1: FUNDAMENTALS AND ACCOUNTING RECORDS AND SYSTEM

Fundamentals-Financial accounting overview, Accounting postulates, Concept and principles.

Accounting records and system- Accounting equation and Transactional analysis, Journal entries, Cash books and subsidiary books, Ledger posting, Trial Balance.

UNIT-2: BANK RECONCILIATION STATEMENT AND FINANCIAL STATEMENT ANALYSIS

Bank reconciliation Statement, Rectification of errors, Preparations of financial statement, Trading & P/L accounts, Balance sheet.

Financial statement analysis- Statement of change in the financial position, cash flow statement, financial statement analysis, ratio analysis.

UNIT-3: Nature of financial Management

Nature of financial Management - Role of Finance Manager, Tools and techniques of Financial Management

REFERENCES:

RECOMMENDED BOOKS FOR STUDY

25. Anatomy and Physiology for nurses Author Ross & Wilson
26. Principles and practice of nursing Author Sister Nancy
27. Introduction to Medical Laboratory Technology Author Dr E.J. Baker

28. Operation Theatre Technique Author Brigden
 29. Safety in Operating Theatre Author Mainland and Dudley
 30. Operation Room Technique Author Berry
 31. Central sterile Supply Author Oxford University Press
 32. Introduction to anaesthesia Author Dripps /Vandam/Eckenhoff
 33. Anaesthesia Equipments Author Ward
 34. Clinical application of ventilator support Author Robert R Kirby
 35. Monitoring in Anaesthesia and critical care Medicine Author Caesey D.Blitt
 36. Electronic Techniques in Anaesthesia and Surgery Author D.W.Hill

SYLLABUS OF MEDICAL RECORD SCIENCE

Name of The Course	MEDICAL RECORD SCIENCE			
Course Code				
Prerequisite				
Co-requisite				
Anti-requisite				
	L	T	P	C
	4			4

Course Objectives:

1. To explain the role of vectors in transmitting the diseases and their control measures
2. To explain the role of general equipments & machinery.
3. To recognize special operation theatre technology.

Course Outcomes

CO1	To learn about general entomology and mosquito born diseases
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CO2	To learn about medical entomology and insect born diseases
CO3	To learn about medical parasitology.
CO4	To learn about general equipments & machinery.
CO5	To learn about special operation theatre technology.

Continuous Assessment Pattern

Internal Assessment (IA)	CAT	End Term Exam (ETE)	Total Marks
10	20	70	100

UNIT-1: 1. Introduction to Medical Record Science.

1. Introduction to Medical Record Science.
2. Medical Records - Definitions, Hospital Terms, Specialty classifications.
3. Development, Analysis and Uses of Medical Records
 - (i) Development of Medical Record Forms, basic and special
 - (ii) Order of Arrangements
 - (a) Ward
 - (b) Medical Record Department
 - (c) Source oriented medical record
 - (d) Problem oriented medical record
 - (e) Integrated Medical Record
 - (iii) Analysis of Medical record - Quantitative & Qualitative
 - (iv) Uses of Medical Records -
 - (a) As a personal document

(b) As impersonal document
4. Values of the Medical Record
UNIT-2: Responsibility for the Medical Record
Responsibility for the Medical Record
<ul style="list-style-type: none"> a. Governing Body b. Administrator c. Medical Staff d. Nursing Staff e. Medical record Officer f. Medical Record Committee g. Medical care review committee
Functions of medical record department : Importance & Function
a) Organization of admitting services b) In patient services
c) Out patient services d) Accident and emergency services
Numbering, filling, retention of medical records
<ul style="list-style-type: none"> a) Numbering System b) Filling System - Physical facilities, Storage methods & Record Control c) Retention and destruction of medical records - Retention procedures & Disposal procedures
UNIT-3: Indexes and legal aspect of medical records

<ul style="list-style-type: none"> • Indexes (indexing of patient care data) : Patient, Diseases, Operative procedure & Physician • Design, maintain, updating of information system : Manual, Mechanical & Electronic • Legal aspects of medical records - <ul style="list-style-type: none"> • Misprinting • Medical as a legal document • Release of information from medical records • Legal action requiring evidence from medical records • Privileged communication • Consent and authorization • Ownership
UNIT-4: The right to information act, 2005
The right to information act, 2005
<ul style="list-style-type: none"> • Definition • Right to information. • Designation of Public Information Officers. • Request for obtaining information. • Disposal of request. • Exemption from disclosure of information. • Constitution of Central Information Commission. • Constitution of State Information Commission.
UNIT-5: The Consumer Protection Act, 1986
The Consumer Protection Act, 1986
<ul style="list-style-type: none"> • Definition. • The Central Consumer Protection Council. • Objects of the Central Council.

- The State Consumer Protection Councils.
- Objects of the State Council.
- Composition of the District forum.
- Jurisdiction of the District Forum.

REFERENCES:**RECOMMENDED BOOKS FOR STUDY**

37. Anatomy and Physiology for nurses Author Ross & Wilson
38. Principles and practice of nursing Author Sister Nancy
39. Introduction to Medical Laboratory Technology Author Dr E.J. Baker
40. Operation Theatre Technique Author Brigden
41. Safety in Operating Theatre Author Mainland and Dudley
42. Operation Room Technique Author Berry
43. Central sterile Supply Author Oxford University Press
44. Introduction to anaesthesia Author Dripps /Vandam/Eckenhoff
45. Anaesthesia Equipments Author Ward
46. Clinical application of ventilator support Author Robert R Kirby
47. Monitoring in Anaesthesia and critical care Medicine Author Caesey D.Blitt
48. Electronic Techniques in Anaesthesia and Surgery Author D.W.Hill

SEM-5**SYLLABUS OF Hospital Administration & Health Care of the Community**

Name of The Course	Hospital Administration & Health Care of the Community
Course Code	BHIA3001

Prerequisite				
Co-requisite				
Anti-requisite				
	L	T	P	C
	4	0	0	4

Course Objectives:

1. To explain the role of vectors in transmitting the diseases and their control measures
2. To explain the role of general equipments & machinery.
3. To recognize special operation theatre technology.

Course Outcomes

CO1	To learn about general entomology and mosquito born diseases
CO2	To learn about medical entomology and insect born diseases
CO3	To learn about medical parasitology.
CO4	To learn about general equipments & machinery.
CO5	To learn about special operation theatre technology.

Continuous Assessment Pattern

Internal Assessment (IA)	CAT	End Term Exam (ETE)	Total Marks
10	20	70	100

UNIT-1: HOSPITAL ADMINISTRATION**HOSPITAL ADMINISTRATION**

1. Public Relations.
2. Personnel administration.
3. Financial Administration.

UNIT-2: HOSPITAL ADMINISTRATION

HOSPITAL ADMINISTRATION

1. Engineering and Maintenance.
2. House Keeping.
3. General Stores.
4. Hospital waste disposal.

UNIT-3 : HEALTH CARE OF THE COMMUNITY**HEALTH CARE OF THE COMMUNITY**

- Introduction
- Levels of health care
- Elements and principles of primary health care
- Health care delivery

UNIT-4: HEALTH CARE OF THE COMMUNITY**HEALTH CARE OF THE COMMUNITY**

- Health problems
- Health care services
- Health care systems
- Primary health care in India (in brief)

UNIT-5: HEALTH CARE OF THE COMMUNITY**HEALTH CARE OF THE COMMUNITY**

1. Health insurance
2. Voluntary health agencies in India
3. Health programmes in India (in brief)

	Community			
Course Code	BHIA3002			
Prerequisite				
Co-requisite				
Anti-requisite				
	L	T	P	C
	0	0	6	6

Course Objectives:

1. To explain the role of vectors in transmitting the diseases and their control measures
2. To explain the role of general equipments & machinery.
3. To recognize special operation theatre technology.

Course Outcomes

CO1	To learn about general entomology and mosquito born diseases
CO2	To learn about medical entomology and insect born diseases
CO3	To learn about medical parasitology.

Continuous Assessment Pattern

Internal Assessment (IA)	CAT	End Term Exam (ETE)	Total Marks
10	20	70	100

- Visits to hospitals, diagnostic centres, laboratories & health care institutions & maintenance of the records of the visits.
- Making management inferences from such visits.

SYLLABUS OF Hospital Administration & Health Care of the Community LAB

Name of The Course	Hospital Administration & Health Care of the
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SEM-6

**SYLLABUS OF MANAGING MEDICAL RECORD
& EPIDEMIOLOGY**

Name of The Course	Managing Medical Record & Epidemiology				
Course Code	BHIA3006				
Prerequisite					
Co-requisite					
Anti-requisite					
	L	T	P	C	
	3	0	0	3	

Course Objectives:

1. To explain the role of vectors in transmitting the diseases and their control measures
2. To explain the role of general equipments & machinery.
3. To recognize special operation theatre technology.

Course Outcomes

CO1	To learn about general entomology and mosquito born diseases
CO2	To learn about medical entomology and insect born diseases
CO3	To learn about medical parasitology.
CO4	To learn about general equipments & machinery.
CO5	To learn about special operation theatre technology.

Continuous Assessment Pattern

Internal Assessment (IA)	CAT	End Term Exam (ETE)	Total Marks
10	20	70	100

UNIT-1: MANAGING MEDICAL RECORD**MANAGING MEDICAL RECORD**

1. Organization and management of medical record, Health records in various types of health care institutions.
2. Uses of medical records in medical care evaluation -
 - a. Principles of inter viewing of a patient.
 - b. Central admitting services.
 - c. Importance of central admitting services.
 - d. Organisational aspect of central admitting office.
 - e. Admitting policies of patient.
 - f. Type of service of central admitting office.
 - g. Functions of central admitting office.
 - h. Location of central admitting office.

UNIT-2: MANAGING MEDICAL RECORD**MANAGING MEDICAL RECORD**

1. Section of Medical Record
 - a. Identification or sociological section.
 - b. Medical section.
 - c. Nurses section
2. Important Section of Medical Record Department

- a. Assembling of medical record.
- b. Typing of discharge list.
- c. Registration of new & old cases.
- d. Incomplete records control.
- e. Coding diseases and operation.
- f. Indexing diseases and operation.
- g. Filling

UNIT-3: MANAGING MEDICAL RECORD

MANAGING MEDICAL RECORD

1. Retrieval of new & old records (outpatient & in patient)
2. Outpatient statistics, discharge analysis.

UNIT-4: EPIDEMIOLOGY

EPIDEMIOLOGY

1. Definition
2. Basic measurements in epidemiology (in brief).
3. Incidence & prevalence
4. Epidemiological studies (in brief)

UNIT-5: EPIDEMIOLOGY

EPIDEMIOLOGY

1. Definition of epidemic, endemic, sporadic, pandemic, exotic, zoonosis, epizootic & epornithic.
2. Surveillance
3. Classification of diseases as per I.C.D. (published by W.H.O.), Classification of diseases as per I.C.D. - C.M. (S.N.D.P.) (published by U.S. public health

department),

SYLLABUS OF MEDICAL TRANSACTION, ANALYSIS OF HEALTH INFORMATION

Name of The Course	MEDICAL TRANSACTION, ANALYSIS OF HEALTH INFORMATION			
Course Code	BHIA3007			
Prerequisite				
Co-requisite				
Anti-requisite				
	L	T	P	C
	3	0	0	3

Course Objectives:

1. To explain the role of vectors in transmitting the diseases and their control measures
2. To explain the role of general equipments & machinery.
3. To recognize special operation theatre technology.

Course Outcomes

CO1	To learn about general entomology and mosquito born diseases
CO2	To learn about medical entomology and insect born diseases
CO3	To learn about medical parasitology.
CO4	To learn about general equipments & machinery.
CO5	To learn about special operation theatre technology.

Continuous Assessment Pattern

Internal Assessment	CAT	End Term Exam	Total Marks
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(IA)		(ETE)	
10	20	70	100

UNIT-4: ANALYSIS OF HEALTH INFORMATION

ANALYSIS OF HEALTH INFORMATION

1. Health information system -
 - a) Introduction
 - b) Distinction between data and information.
 - c) Components of health information system.
 - d) Uses of health information
 - e) Sources of health information - census, registration of vital events, sample registration system, notification of diseases, hospital records, disease registers, record linkage, epidemiological surveillance, other health records, environmental health data, health man power statistics, population surveys, other routine statistics related to health, non-quantifiable information.

UNIT-5: ANALYSIS OF HEALTH INFORMATION

ANALYSIS OF HEALTH INFORMATION

- collection of statistical data
- Computation of ratios
- Rates most frequently computed
 - Mortality Rate
 - Gross Death Rate
 - Net Death Rate or Institutional Death Rate.
 - Anesthesiology death rate.
 - Post operative death rate.
 - Maternal Death Rate.

UNIT-1: MEDICAL TRANSACTION

MEDICAL TRANSACTION

- a) Inter departmental relations.
- b) Introduction
- c) Knowledge of personnel administration.
- d) Understanding relationships.

UNIT-2: MEDICAL TRANSACTION

MEDICAL TRANSACTION

- a) Governing board and administrator.
- b) Medical staff and medical record committee.
- c) Fellows residents interns emergency department.
- d) Admitting department.
- e) Nursing department

UNIT-3: MEDICAL TRANSACTION

MEDICAL TRANSACTION

- a) Clinical and pathological laboratory
- b) Anesthesiology & surgery
- c) Radiology Department
- d) Physical therapy Department
- e) Dietary Department
- f) Medical Library
- g) Accounting, personnel, purchasing, stores & maintenance.