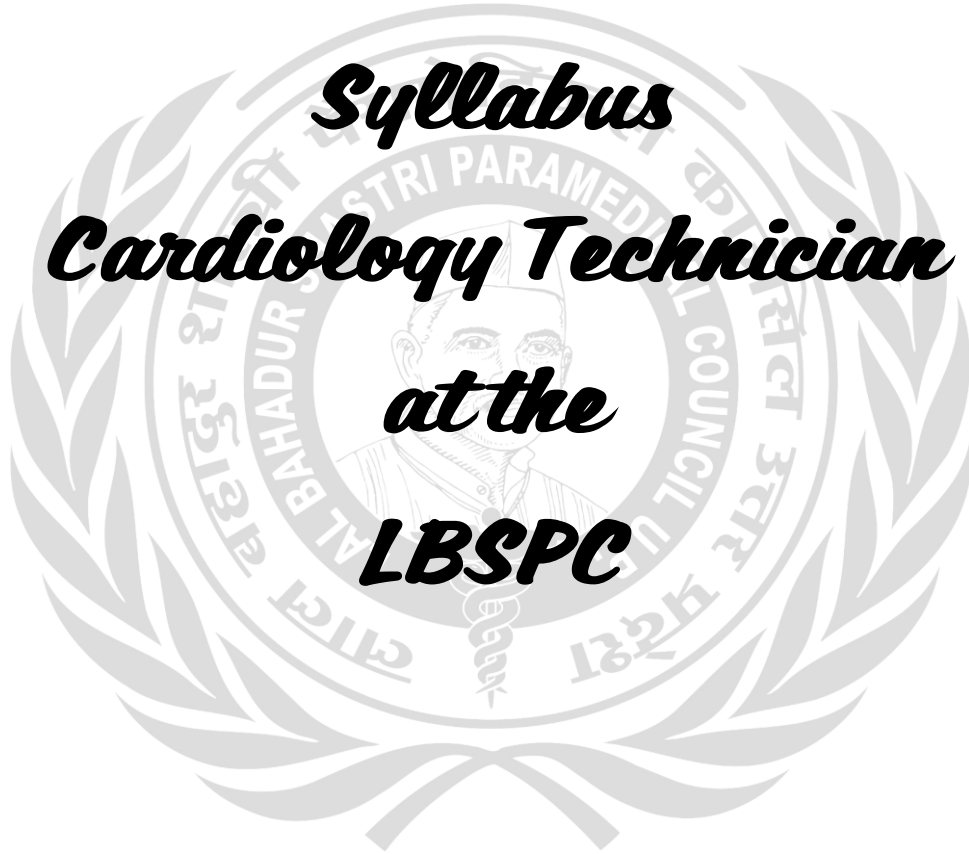




लाल बहादुर शास्त्री पैरामेडिकल काउंसिल उत्तर प्रदेश

Head Office: 2nd Floor Sunil Complex Near RG PG College Meerut



Syllabus
Cardiology Technician
at the
LBSPC

Exam: June & December

(To be implemented from 2023-24 session)

LAL BHADUR SHASTRI PARAMEDICAL COUNCIL

DIPLOMA IN CARDIOLOGY TECHNICIAN

DURATION: 02 YEARS

SYLLABUS

FIRST YEAR

COURSE DURATION: -

It is 2-year DIPLOMA

COURSE.ELIGIBILITY: -

Interested candidate must have passed 12th with Physics, Chemistry, Biology or Physics, Chemistry, Maths with 40% marks by state board or any recognized board/university.

Candidate must have completed age of 17 years as on 31st December of that year.

SCHEDULE OF COURSE :-

Whole schedule of course is divided into followings point:-

Six hours of theoretical & practical training per day must be given; that means 36 hours per week.

Total teaching classes (Theory +Practical) in one academic year are about 1500 hours (250 Days x 6 Hours)

List of holidays should be as below :-

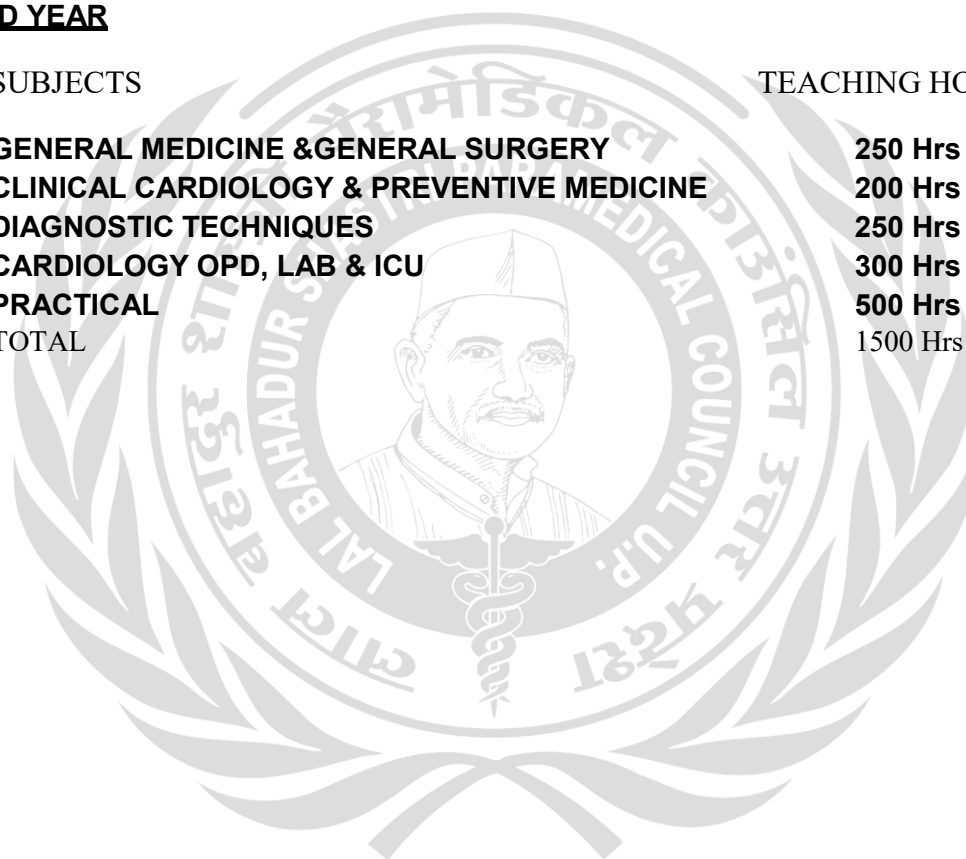
Sunday	52 Days
Annual Holidays	20 Days
Gazetted Holidays	20 Days
Other holidays	13 Days
Preparatory holidays	10 Days
TOTAL	115 DAYS HOLIDAYS

DETAIL OF SUBJECT & ITS TEACHING HOURS
FIRST YEAR :-

SUBJECTS	TEACHING HOURS
HUMAN ANATOMY	350 Hrs
HUMAN PHYSIOLOGY	350 Hrs
GENERAL MICROBIOLOGY	80 Hrs
GENERAL PATHOLOGY	80 Hrs
GENERAL PHARMACOLOGY	80 Hrs
PHYSICS	80 Hrs
PRACTICAL CLASSES	480 Hrs
TOTAL	1500 Hrs

SECOND YEAR

SUBJECTS	TEACHING HOURS
GENERAL MEDICINE & GENERAL SURGERY	250 Hrs
CLINICAL CARDIOLOGY & PREVENTIVE MEDICINE	200 Hrs
DIAGNOSTIC TECHNIQUES	250 Hrs
CARDIOLOGY OPD, LAB & ICU	300 Hrs
PRACTICAL	500 Hrs
TOTAL	1500 Hrs



SYLLABUS**FIRST YEAR**

**HUMAN ANATOMY
HUMAN PHYSIOLOGY
GENERAL MICROBIOLOGY
GENERAL PATHOLOGY
GENERAL PHARMACOLOGY
PHYSICS
PRACTICAL CLASSES**

SECOND YEAR**SUBJECTS**

**GENERAL MEDICINE & GENERAL SURGERY
CLINICAL CARDIOLOGY & PREVENTIVE MEDICINE
DIAGNOSTIC TECHNIQUES, CARDIOLOGY OPD, LAB & ICU
PRACTICAL**

SCHEME OF EXAMINATION :**- FIRST YEAR -**

PAPER	SUBJECTS	MARK	INTERNAL ASSESSMENT	TOTAL MARKS	PASS MARKS	DURATION OF EXAMINATION
FIRST	HUMAN ANATOMY & PHYSIOLOGY, MICROBIOLOGY	75	25	100	50	3 HOURS
SECOND	PHYSICS, PATHOLOGY & PHARMACOLOGY	75	25	100	50	3 HOURS

- SECOND YEAR -

PAPER	SUBJECTS	MARK	INTERNAL ASSESSMENT	TOTAL MARKS	PASS MARKS	DURATION OF EXAMINATION
FIRST	GENERAL MEDICINE & SURGERY	75	25	100	50	3 HOURS
SECOND	CLINICAL CARDIOLOGY & PREVENTIVE MEDICINE DIAGNOSTIC TECHNIQUES, CARDIOLOGY OPD, LAB & ICU	75	25	100	50	3 HOURS

FIRST YEAR

PAPER - 1

SL. NO.	COURSE CONTENT OF FIRST YEAR	NO. OF PERIODS	NO. OF HOURS
		45 MIN. EACH	
HUMAN ANATOMY , PHYSIOLOGY & MICROBIOLOGY			
1	Introduction to cardiology technician	1	
	Orientation to work , duty	1	2
	Details of the Diploma Programme	1	
2	ANATOMY		
	UNIT :- 1		
	Definition & branches of Anatomy	2	
	Introduction of anatomical terms	2	5
	Concept of cell, tissue, organ & system.	2	
	UNIT :- 2		
	Skeletal system :-		
	Bones :- Definition, structure	3	
	function & types	3	46
	Detail study of structure of regional bone	32	
	Joint :- Definition ,classification,	4	
	Structure ,movements	4	
	UNIT :-3		
	Muscular System :- Definition, structure	5	
	function & types	7	20
	Different muscular position & action.	8	
	UNIT :-4		
	Cardiovascular System :- Introduction	2	
	Heart & blood vessels ,its position	6	
	Structure ,Conduction system	3	
	Nerve supply & Blood supply.	6	33
	Blood Vessels :- Structure, differences	4	
	Position of chief vessels ,function	4	
	Circulation of blood :- Systemic	4	
	Pulmonary & portal circulation	4	
	UNIT :- 5		
	Respiratory System:- Structure , Position	7	14
	Function of respiratory organs	7	
	UNIT :-6		
	Digestive System :- Structure , Position	7	11
	Function of digestive organs	4	
	UNIT: - 7		
	Urinary System :- Position , structure	4	8
	Function of organs of Urinary system	4	

	UNIT :-8		
	Nervous System:- Introduction & Part	8	
	Structure of nervous system	10	28
	Function of nervous system.	10	
	UNIT :- 9		10
	Sense Organs :-		
	Structure & function of :-		
	Ear	2	
	Eye	2	
	Nose	2	10
	Skin	2	
	Tongue	2	
	UNIT :- 10		
	FEMALE REPRODUCTIVE SYSTEM		
	External & Internal organs	8	
	MALE REPRODUCTIVE SYSTEM		
	External & Internal organs	6	
3	PHYSIOLOGY		5
	UNIT :-1		
	Definition & introduction of Physiology	2	
	Concept of cell, tissue, organ & system.	2	
	UNIT :- 2		
	Connective Tissues ,:- its type ,function	8	8
	UNIT :-3		
	Muscular System :-		
	Definition, structure	6	
	Function & types	6	12
	UNIT :-4		
	CARDIOVASCULAR SYSTEM:- ,		
	Heart ,its position structure	5	
	Conduction system ,	3	
	nerve supply & blood supply.	4	
	Blood Vessels :- Structure, differences ,	6	
	position of chief vessels ,function.	6	
	Lymphatic system	6	
	Circulation of blood :- systemic circulation	6	64
	Pulmonary & portal circulation	4	
	Cardiac output ,Stroke Volume	4	
	Blood Pressure, Pulse Rate ,Cardiac cycle .	5	
	Detail description of blood ,Blood group	8	
	B.P. measurement, temperature	4	
	Pulse & respiratory rate measurement .	4	
	UNIT :- 5		
	Respiratory System:-		
	Respiration ,Physiology	6	12
	Lung volume & lung capacity	6	

	UNIT :-6		
	Digestive System: -		
	Process of Mastication, Deglutition,.	8	
	Digestion & absorption	10	26
	Metabolism of food constituents	8	
	UNIT: - 7		
	Urinary System: - ,		
	Physiology of blood filtration&micturition.	7	
	Regulation of body temperature.	3	18
	Fluid & electrolyte balance .	5	
	UNIT :-8		
	Nervous System:- Introduction .	4	
	Classification, structure & function	20	24
	UNIT :- 9		
	Sense Organs :-		
	Structure & function of :-		
	Eye	2	
	Ear	2	
	Nose	2	
	Skin	2	10
	Tongue	2	
	UNIT :- 10		
	FEMALE REPRODUCTIVE SYSTEM:-		
	Menstrual cycle ,function of each organ	10	
	MALE REPRODUCTIVE SYSTEM :-		20
	External & Internal organs	10	
	UNIT :- 11		
	Endocrine System :- ,		
	Structure & function of :-		
	Pituitary Gland	8	
	Thyroid ,Parathyroid Gland	8	24
	Pancreas , ,Thymus & Suprarenal Gland.	8	
4	GENERAL MICROBIOLOGY		
	Definition & Role	3	
	Scope & branches	2	
	Bacteriology :-		
	Shape ,Size & structure of bacteria	3	
	Infection:-		
	Definition ,Types of infection	3	50 HRS
	Source of infection	2	
	Mode of transmission of infection	3	
	Immunity: -		
	Definition &Types in detail,	8	
	Immunization schedule.	2	
	Sterilization & Disinfectant	10	

PAPER-2			
PHYSICS,PATHOLOGY & PHARMACOLOGY			
SL. NO.	COURSE CONTENT OF FIRST YEAR	NO. OF PERIODS	NO. OF HOURS
		45 MIN. EACH	
1	PHYSICS		
	Principles Of AC / DC.	3	
	Types Of Batteries.	3	
	Power supply.	2	20
	Ohm's law .	2	
	Electro medical instruments ,	5	
2	GENERAL PATHOLOGY		
	Definition, Role, Scope of Pathology.	6	
	Inflammation-its stage & sign.	8	
	Shock.	4	40
	Introduction of Hemorrhage,	2	
	Thrombosis, Embolism.	4	
3	GENERAL PHARMACOLOGY		
	Definition, Role, Scope of Pharmacology.	6	
	General Pharmacokinetics	4	
	General Pharmacodynamics	4	
	Drugs acting on Cardio-vascular system.	6	50
	Drugs acting on Respiratory system	4	
	Drugs acting on Nervous system	10	
	Antibiotics .	10	

SECOND YEAR**PAPER - 1**

GENERAL MEDICINE & GENERAL SURGERY			
SL. NO.	COURSE CONTENT	NO. OF PERIODS	NO. OF HOURS
1	UNIT-1		
	INFECTIOUS & COMMUNICABLE DISEASES :-		
	Typhoid fever, Malaria, Tetanus, Diphtheria, Leprosy	12	
	Mumps, Measles, Cholera, Rubella	8	35
	Gonorrhoea, Syphilis, AIDS , .	10	
	Rheumatic fever	5	
2	UNIT-2		
	METABOLIC DISORDER :-		
	Diabetes, Obesity, Gout.	7	7
3	UNIT :-3		
	DISEASES OF ENDOCRINE SYSTEM :-		
	Hyper & Hypo -secretion of Thyroid ,Parathyroid Gland	3	7
	Hypo & hypersecretion of Pituitary & Adrenal Gland.	4	
4	UNIT :-4		
	DISEASES OF NERVOUS SYSTEM :-		
	Headache, Meningitis, Encephalitis, Poliomyelitis, Parkinsonism, Epilepsy	11	11
	CVA ,Tumor.	5	5
5	UNIT :-5		
	DISEASES OF GIT :-		
	Gastric ulcer ,Peptic Ulcer , Gastritis .Hiatus Hernia ,	5	
	Hepatitis , Cirrhosis of liver , Hepatic coma	6	22
	Pancreatitis , Enteritis , Colitis , Splenomegaly	7	
	Cholecystitis ,Cholelithiasis .	4	
6	UNIT :-6		
	DISEASES OF BLOOD :-		
	Anemia , Leukaemia , Haemophilia .	5	8
	Agranulocytosis, Hodgkin's disease	3	
7	UNIT :-7		
	DISEASES OF CARDIOVASCULAR SYSTEM :-		
	Pericarditis,Myocarditis ,endocarditis	4	
	IHD , Valvular disorders ,	8	
	Cardiac arrhythmia ,Heart block ,	5	22
	Cardiac arrest , Cardiac failure	5	
8	UNIT :-8		
	DISEASES OF EAR NOSE & THROAT :-		

	Otitis , Otosclerosis , Furunculosis , Fungal infections ,	8	
	Injury , Wax, Mastoiditis , Otosclerosis.	10	
	Menier's disease , Deafness.	4	35
	Laryngitis , Pharyngitis , Tonsillitis Allergic rhinitis.	6	
	Rhinitis , Deformed nasal septum , Sinusitis , Adenoids ,	7	
9	UNIT :-9		
	· DISEASES OF RESPIRATORY SYSTEM :-		
	Tuberculosis ,Pneumonia ,	6	
	Pleural effusion , Pleurisy , Empyema,	6	22
	COPD.	10	
10	UNIT :-10		
	· DISEASES OF EYE:-		
	Conjunctivitis , Dacryocystitis , Glaucoma ,	6	
	Cataract , Retinal detachment.	4	10
2	GENERAL SURGERY		
1	· WOUND	4	4
2	· ULCER	4	4
3	· BURN	9	9
4	· SKIN GRAFT	4	4
5	· ORTHOPAEDIC CONDITIONS :- ,		
	Sprain, Dislocation,	2	
	Fracture ,Amputation	18	
	Arthritis, Osteomyelitis , Ankylosing spondylitis	7	51
	Congenital deformities , Bone graft	20	
	Cervical spondylosis , Lumbar spondylosis ,	4	
6	· Gynaecological & obstetric conditions .	30	30
7	· Other surgical conditions : -		
	Pneumectomy ,Lobectomy	4	
	Hysterectomy ,Mastectomy	4	10
	Cholelithectomy etc	2	

PAPER - 2

CLINICAL CARDIOLOGY & DIAGNOSTIC PROCEDURE

SL. NO.	COURSE CONTENT	NO. OF PERIODS	NO. OF HOURS
	CLINICAL CARDIOLOGY		
	Cardiac Arrhythmia	6	
	Congenital heart disease	30	
	Infective Endocarditis	4	
	Valvular diseases.	20	
	Ischemic heart disease.	8	
	Cardiac arrest.	4	
	Heart Failure.	4	
	Hypertension	4	
	Pericarditis.	3	
	Myocarditis.	3	
	Peripheral vascular diseases.	32	127
	Shock.	4	
	Health & heart diseases ,Epidemiology of heart disease.	3	
	Early detection ,Prevention & treatment of heart disease	3	
	Common warning signs of heart diseases	3	
	Obesity	3	
	DIAGNOSTIC PROCEDURE OPD LAB		
	Investigations done in heart diseases .	7	
	Instruments used in cardiology- stethoscope Halter	8	
	Sphygmomanometer ,Thermometer,ECG Machine	8	
	Cardiac monitors , control monitor system,	8	
	External Pacemaker ,Paediatric ECG Recording ,	8	
	,Reading of normal & abnormal ECG .	10	
	stress ECG recording..	6	
	Introduction to cardiac catheterization	4	
	control oxygen & section unit ,TMT,	4	
	Echo ,Ultrasound dropper ,	4	
	Demonstration of working of all instruments & using it.	8	
	PHYSICAL SET UP OF CARDIOLOGY OPD :-		
	Introduction, Emergency tray ,,Drugs used in emergency ,	6	
	Cardiopulmonary resuscitation	4	
	Respiratory distress ,	5	
	IV Infusion & precaution ,OPD Record keeping	10	
	ICU :- Introduction ,structure ,Furniture .	8	

	Utensils used ,	2	
	,assessment of patient condition,treatment protocol	4	
	medicines used in ICU & ITS role	5	
	Repair ,stand by power arrangement of beds	4	
	Trays & trollys & attendants space	4	
	Infections & disinfectant procedures ,	7	
	Sterilization of ICU articles & Room	4	
	Importance of Disinfectant & sterilization ,	4	
	Detail of Types mode & Source of infections in ICU. ,	4	
	Use of antiseptic technique .	2	
	Diet & nutrition of patient .	2	
	Duty record ,division of work ,disposal of materials ,	2	187
	collection & transportation of body sample	2	
	minor routine & emergency procedures like RT ,,	1	
	Catheterisation ,enema ,	4	
	oxygen application	2	
	laryngoscope & tracheotomy	4	
	Routine cleaning of ICU ,	2	
	Precaution during patient transfer.	2	
	Admission protocol.	1	
	Record keeping	1	
	Operative preparation.	2	
	Electric & fire hazards .	1	
	Recovery room .	2	
	Stock maintenance of the department .	2	
	Emergency disaster & death .	4	
	Mobile ICU	1	
	Medico legal aspect .	2	

3	PRACTICAL		450 HRS
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