

Name of the	BRIT			Year/ Semester:	2 nd		
Course	Conorol	Course	DDD 201	Tunai Samastan	D	Prostical	
Name	Anatomy-II	Code	DKI 201	Type. Semester	1	Tactical	
1 vanie		couc.					
Credits	01			Total Sessions Hours:	20		
Evaluation	Internal	30		End Term Exam:	70	1	
Spread	Continuous						
	Assessment:						
Type of	O Compulsoru	Core		O Creative	0	Lifa Skill	
Course							
Course							
Objectives							
Course Outco	mes (CO)· After the	successful c	ourse com	letion learners will develo	n followi	na	
attributes:		successjui e	ourse comp		pjonown	ig	
Course							
Outcome							
(CO)							
CO1	Enumeratethe funct	ion of brai	n, Nervous	system, motor system, b	lood sup	ply of brain,	
	anatomy of brain, cr	anial nerve	s, CSP form	nation and about spinal cor	d.		
CO2	Enumerate auditory	system.De	emonstrate	anatomy of urinary syste	em, locat	tion of	
	kidney.						
CO3	Enumerate blood ve	essels of re	productive	system. Enumerate hormo	one secre	tion of glands	
	and blood supply.						
Pedagogy	Explanations by the	Instructor,	Group/Pair	Work, Discussion, Assign	ment,		
	Practical, Presentation	ons.					
Internal	Terminal Exam, Att	endance, Pi	oject/Assig	gnment, Class participation	, Class pr	esentation,	
Evaluation	Bedside benavior or	Interaction	i in class.				
Mode							
Session		,	Tonic		Hours	Manned	
Details			ropic		Hours	CO	
Unit 1					05	CO	
	1. Identification and	description	of all anato	omical structures.		1,2	
		-					
	2. Demonstration of	dissected p	oarts.				

Unit 2		05	СО
	1. Demonstration of skeleton-articulated and disarticulated.		3

Unit 3		1. Surf and li arteries	Face ana gament s of the	atomy: ous. S limbs.	Surface Surface	e land anator	mark-b my of	ony, m major	nuscular nerves	,		10	C	0
CO-PO) and]	PSO M	apping											
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	ļ
<u>CO2</u>	2	2	2	3	2	2	2	2	3	2	3	2	2	-
CO2	2	2	3	3	3	2	3	2	3	2	2	2	3	
Strong co	ntributio	n-3,	Avera	ige contri	bution-2,		Low contril	bution-1,						
Text-	Yext- Books1. PR Ashalatha& G Deepa 's Textbook of ANATOMY & PHYSIOLOGY by 2. B.D.Chaurasia's HUMAN ANATOMYReference Books1. SampathMadhyastha'sManipal manual of anatomy for allied health sciences 2. Krishna Garg &Madhu Joshi's Practical anatomy workbook 3. Dixit's Atlas of Histology for Medical Students 4. Basic Histology: A Color Atlas & Text								ГОМУ	& PHY	SIOLC)GY by	7	_
Refer Boo	Books rence oks	 PR B.D San Kris Dix Bas 	Ashalat D.Chaura npathM shna Ga it's Atla ic Histo	ha& G asia's I adhyas arg &M as of Hi blogy: 4	Deepa HUMA tha'sMa adhu Jo stology A Color	's Text N ANA mipal r oshi's F y for M	tbook of ATOMY nanual Practical edical S & Text	f ANAT of anato anaton Students	TOMY omy for ny work	& PHY allied I cbook	SIOLC	OGY by	\$	
Refer Boo	rence oks ulatior	 PR B.D San Kris Dix Bas Jans Kris 	Ashalat D.Chaur npathM shna Ga it's Atla ic Histo a's Exar shan's A	ha& G asia's I adhyas arg &M as of Hi ology: An Orier Anaton on Pat	Deepa HUMA tha'sMa adhu Ja adhu Ja stology A Color nted Pra ny Mne tern	's Text N ANA anipal 1 oshi's F 7 for M 7 Atlas actical 2 monics	tbook of ATOMY nanual of Practical edical S & Text Anatom	f ANAT of anato anaton Students y	FOMY omy for ny work	& PHY allied i kbook	SIOLC	OGY by	5	
Refer Boo Recapit	rence oks ulatior	 PR B.D San Kris Dix Bas Jans Kris Kris 	Ashalat D.Chaura npathM shna Ga it's Atla sic Histo a's Exar shan's aminati Assessn	ha& G asia's I adhyas arg &M as of Hi blogy: A n Orier Anaton on Pat nent:	Deepa HUMA tha'sMa adhu Jo stology A Color nted Pra ny Mne tern	's Text N ANA anipal r oshi's F for M Atlas actical 2 monics	tbook of ATOMY manual of Practical edical S & Text Anatom	f ANAT of anato anaton Students	FOMY omy for ny work	& PHY	SIOLC	OGY by	5	
Refer Boo Recapit	rence oks ulation l Conti nent	 PR B.D San Kris Dix Dix Bas Jans Kris Kris 	Ashalat D.Chaura npathM shna Ga it's Atla ic Histo a's Exar shan's A aminati Assessn	ha& G asia's I adhyas arg &M as of Hi ology: A n Orier Anaton on Pat nent: Mar	Deepa HUMA tha'sMa adhu Ja stology A Color nted Pra ny Mne tern tern	's Text N ANA mipal r oshi's F for M Atlas actical monics	tbook of ATOMY nanual o Practical edical S & Text Anatom	f ANAT of anato anaton Students y	TOMY omy for ny work	& PHY allied i kbook	SIOLC	OGY by	5	

Attendance	04	
Project/Assignments	04	
Class participation or any	04	
other		
Class Presentation	04	
Bed Side Behavior or	02	
Interaction in Class		
Total Marks	30	



Era University, Lucknow Course Outline

Effective From: 2023-24

Name of the	BRIT			Year/ Semester:	2	nd
Program Course	General	Course	BRT201	Type: Semester	T	heory
Name	Anatomy-II	Code:	_			J
Credits	03			Total Sessions Hours:	40	I
Evaluation	Internal	30		End Term Exam:	70	
Spread	Continuous					
Type of	Assessment:					
Course	C Compulsory	Core		C Creative	0	Life Skill
Course						
Objectives						
Course Outco	omes (CO): After the s	successful c	ourse comp	oletion, learners will develo	p followii	ıg
attributes:	[
Outcome						
(CO)						
CO1	Enumeratethe funct	ion of brai	n, Nervous	s system, motor system, b	lood supp	ply of brain,
	anatomy of brain, cr	anial nerve	s, CSP forr	nation and about spinal cor	d.	
CO2	kidney.	system.De	emonstrate	anatomy of urinary syste	em, locat	ion of
CO3	Enumerate blood ve	essels of re	productive	system. Enumerate hormo	one secre	tion of glands
	and blood supply.		-			U
Pedagogy						
Internal						
Mode						
a •			T •		TT	
Session Details			горіс		Hours	Mapped CO
Unit 1	Structure, classific	cation, mi	croscopy	with	15	CO
	examples. Neurons	s, classific	cation wit	h examples.		1, 2
	Simple reflex arc Par	ts of a typic	cal spinal	•		
	nerve/Dermatome:Ce	entral nervo	us system -	disposition,		
	parts and functions C	erebrum, C	erebellum,	Midbrain &		

	brain stem Blood supply & anatomy of brain.		
	Spinal cord-anatomy, blood supply, nerve pathways		
	Pyramidal, extra pyramidal system,Thalamus,		
	hypothalamus, Structure and features ofmeninges		
	Ventricles of brain, CSF circulation Development of		
	nervous system & defects.		
Unit 2	Cranial nerves - (course, distribution, functions and palsy)	15	CO
	Sympathetic nervous system, its parts and components		1,2
	Parasympathetic nervous system Applied anatomy		

		C	Structure and function of Visual system Auditory system Gust									10		
Unit 3		system system innerv of ma	system, Olfactory system, Somatic sensory system, Pelvic floor, nnervations Kidney, Ureter, bladder, urethra.Reproductive syst of male, Reproductive system of female								, , tem	10		.01,3
CO-P() and I	PSO M	anning											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
C01	2	2	2	2	2	2	2	2	2	2	2	3	2	3
CO2	3	3	2	3	3	2	2	3	3	2	3	2	2	3
CO3	2	1	2	2	3	3	2	3	2	2	2	2	2	3
Strong co		1-3, a din aa	Avera	ge contru	oution-	-2,	Low contru	button-1,						
Sugges	stea Ke													
Refer Boo	ence oks ulation	boks 1. PR Ashalatha& G Deepa 's Textbook of ANATOMY & PHYSIOLOGY by 2. B.D.Chaurasia's HUMAN ANATOMY nce 1. SampathMadhyastha'sManipal manual of anatomy for allied health sciences cs 2. Krishna Garg & Madhu Joshi's Practical anatomy workbook 3. Dixit's Atlas of Histology for Medical Students 4. Basic Histology: A Color Atlas & Text 5. Jana's Exam Oriented Practical Anatomy 6. Krishan's Anatomy Mnemonics												
Interna	Conti	nuous A	Assessn	nent:										
Compo	nent			Mar	ks	Patter	n							
ComponentMarksPatternTerminal Exam124. Contains a descriptive question of 4 m5. Contains 4 MCQs6. Contains 2 short answer questions. I marks							f 4 mar ons. Ea	ks ich que	stion c	arries 2				
Attendar	nce			04										
Project/	Assignr	nents	ents 04											
Class pa other	rticipat	ion or a	ny	04										
Class Pr	esentati	ion		04										
Bed Side	e Behav	vior or		02										
Interacti	on in C	lass		02										
Total M	arks	- 400		30										



Name of the Program	BRIT			Year/ Semester:	2	nd				
Course Name	GENERAL PHYSIOLOGY-II	Course BRP202 Code:		Type: Semester	Р	ractical				
Credits	01			Total Sessions Hours:	20					
Evaluation Spread	Internal Continuous Assessment:	30		End Term Exam:	70					
Type of Course		Core		O Creative	0	Life Skill				
Course Objectives										
Course Outco attributes:	omes (CO): After the succe	essful cours	e completio	on, learners will develo	p followir	ıg				
Course Outcome (CO)										
CO1	Enumerate Physiology of	of kidney								
CO2	Explain Physiology of lo	ower Urina	ry tract							
CO3	Label Physiology of the	endocrine g	glands							
CO4	Enumerate Physiology of system	reproductiv	/e							
Pedagogy	Explanations by the Instr Practical, Presentations.	ructor, Grou	up/Pair Wo	rk, Discussion, Assign	ment,					
Internal Evaluation Mode	Terminal Exam, Attenda Bedside behavior or Inte	nce, Projec raction in c	t/Assignme lass.	nt, Class participation,	, Class pro	esentation,				
Session Details		Торі	ic		Hours	Mapped CO				

Unit 1	Physiology of kidney and urine formation Glomerular filtration rate, clearance, Tubular function, Ureter, bladder, urethra	05	CO 1,2
Unit 2	Physiology of the endocrine glands - , Hormones secreted by these	05	CO
	glands, their classifications and functions.		2,4

Unit 3		Male -Functions of testes, pubertal changes in males, testosterone -action & regulations of secretion. Female -Functions of ovaries and uterus, pubertal changes, menstrual cycle, estrogens and progestron - action and regulation.									10 CO		<u>'O 3</u>	
CO-P() and I	PSO M	anning											
CO-1 (PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
C01	2	2	2	3	2	3	3	2	2	2	3	3	3	3
CO2	2	2	2	3	2	3	2	3	3	2	3	3	2	2
CO3	2	2	2	2	2	3	3	2	3	2	2	3	2	2
Strong co	ontribution	<i>1-3</i> .	² Avera	∠ ge contril	∠ bution-	2. <i>L</i>	 Low contri	² bution-1.	2	3	5	2	2	2
Sugge	sted Re	adings	:	0		,								
Defe		2.	. N Ge	etha 's	Textb	book of p	hysiolo	gy		ivii a	11115	IOLOG	1	
Refer Boo	rence oks	1. C C 2. C C 3. CN 4. RK	Chatter Chatter Chandr Maurya	rjee's H rjee's Pr ashekh a's Med	Iumar ractic ar'sM lical l	n Physiol cal Physic Ianipal M Physiolog	ogy blogy fo lanual o	or Parar of Medi	nedical cal Phy	Course siology	es /			
Recap	itulatio	on & Ex	xamina	tion Pa	tterr	1	<i></i>							
Intern	al Con	tinuou	s Assess	sment:										
Comp	onent			Mar	ks	Pattern								
Termin	ComponentMarksPatternTerminal Exam127. Contains a descriptive question of 4 marks8. Contains 4 MCQs9. Contains 2 short answer questions. Each question car marks								arries 2					
Attend	lance			04										
Project	t/Assig	nments		04										
Class p other	particip	ation or	r any	04										
Class I	Presenta	ation		04										
Bed Si	ide Beh	avior o	r	02										
Interac	ction in	Class												
Total	Marks			30										



Name of the Program	BRIT			Year/ Semester:	2	nd				
Course Name	GENERAL PHYSIOLOGY-II	Course BRT202 Code:		Type: Semester	Т	`heory				
Credits	03			Total Sessions Hours:	40					
Evaluation Spread	Internal Continuous Assessment:	30		End Term Exam:	70					
Type of Course		Core		O Creative	0	Life Skill				
Course Objectives										
Course Outco attributes:	omes (CO): After the succe	essful cours	e completio	on, learners will develo	p followii	ng				
Course Outcome (CO)										
CO1	Enumerate Physiology of	of kidney								
CO2	Explain Physiology of lo	ower Urina	ry tract							
CO3	Label Physiology of the	endocrine g	glands							
CO4	Enumerate Physiology of system	reproductiv	/e							
Pedagogy	Explanations by the Instr Practical, Presentations.	ructor, Grou	up/Pair Wo	rk, Discussion, Assign	ment,					
Internal Evaluation Mode	Terminal Exam, Attenda Bedside behavior or Inte	nce, Projec raction in c	t/Assignme lass.	nt, Class participation,	, Class pr	esentation,				
Session Details		Topi	ic		Hours	Mapped CO				

Unit 1	Physiology of kidney and urine formation Glomerular filtration rate, clearance, Tubular function, Ureter, bladder, urethra	10	CO 1,2
Unit 2	Physiology of the endocrine glands - , Hormones secreted by these	15	CO
	glands, their classifications and functions.		3, 4

Unit 3		Male	ale -Functions of testes, pubertal changes in males,									15	C	20.3
Jint J		testoste	erone -	action	& regi	lations	of secre	etion.				10		
		Femal	e -Fun	ctions	of ova	ries and	1 uterus	, puber	rtal					
		change	es, men	strual (cycle,	estroge	ns and p	progesti	ron -					
		action	and reg	guiation	•									
CO-PO) and]	PSO M	apping	5										
<u>CO</u>	PO1 2	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO2	2	2	2	2	2	2	2	2	2	3	3	2	2	2
CO3	2	2	3	3	3	3	2	3	2	2	3	3	2	2
Strong co	2 Intributio	$\frac{2}{n-3}$,	Aver	3 age contri	³ bution-2	, 1	2 Low contrib	² bution-1,	2	2	2	2	2	2
Sugges	sted Re	eadings	:	-										
Text-1	Ext-Books 3. PR Ashalatha& G Deepa'sTextbook of ANATOMY & F									PHYS	IOLOG	Y		
4. N Geetha 'sTextbook of physiology														
4. It been stextbook of physiology														
.														
Refer	ence	1.00	Chatte	rico's I	Jumon	Dhysio	logy							
B00)KS	1.00	' Chatte	riee's F	Practica	l Physio	ology	or Parar	nedical	Course	AC .			
		2. C C 3. CN	Chand	rashekł	nar'sMa	ninal M	fanual c	of Medi	ical Phy	vsiology	7			
		4. RK	Maury	a's Me	dical Pl	hysiolog	gy)1 101001	icui i iij	5101055				
Para	Text	Unit	1:											
		Unit	2:											
		Unit	3:											
		Unit4	l:											
Recapit	ulatior	n & Exa	aminati	ion Pat	tern									
Internal	l Conti	nuous .	Assessi	ment:										
Compor	nent			Mai	rks I	Pattern								
Termina	ıl Exarr	1		12	1	0. Con	tains a c	lescript	tive que	estion of	f 4 mar	ks		
					1	1. Con	tains 4 I	MCQs						
					1	2. Con	tains 2	short a	answer	questio	ons. Ea	ich que	stion c	carries 2
						mar	KS							
Attendar	nce			04										
Duciest	Agging	manta		04										
Toject/A	ASSIGNT	ments		04										
other	mioine	tion		04										
70101	rticipat	tion or a	any	04										
Class Pr	rticipat esentat	tion or a	any	04										
Class Pr Bed Side	rticipat esentat	tion or a	any	04 04 02										

Interaction in Class		
Total Marks	30	



Era University, Lucknow

Course Outline

Effective From: 2023-24

Name of the Program	BRIT			Year/ Semester:	2	nd	
Course Name	Basic physics including radiological physics	Course BRT203 Code:		Type: Semester	Т	heory	
Credits	03			Total Sessions Hours:	40		
Evaluation Spread	Internal Continuous Assessment:	30		End Term Exam:	70		
Type of Course	C Compulsory	Core		C Creative	0	Life Skill	
Course Objectives	The purpose of this underlying various t about circuit analysi develop scientific te tackle complex eng	course is to echnologica s, working mperament ineering pro	provide an al applicati principles of and analyt oblems in th	understanding of physical ons. This course also provid of machines. In addition, the ical skill in students, to ena neir chosen area of applicat	concepts des funda e course i ble them ion	and mental idea s expected to logically	
Course Outco	omes (CO): After the s	successful c	ourse comp	pletion, learners will develo	p followii	ng	
Course Outcome							
C01	Use X-ray equipme procedures of X-ray	nt and ma machine a	intenance of the order of the o	of equipment. Should know methods.	v the Wa	ırm-up	
CO2	To be able to know	how to use	X-Ray exp	osure switches.			
CO3	Demonstrate work f Handling, care and r	low Digital	/IITV fluor e of equipn	oscopy equipment handling nent & accessories	g. Demor	istrate	
Pedagogy	Explanations by the Practical, Presentation	Instructor, ons.	Group/Pair	Work, Discussion, Assign	ment,		
Internal Evaluation Mode	Terminal Exam, Att Bedside behavior or	endance, Pr Interaction	roject/Assig in class.	gnment, Class participation,	, Class pr	esentation,	
Session Details		,	Горіс		Hours	Mapped CO	

Unit 1	Basic Physics: Sound -The nature and propagation of sound wave (the characteristics of sound, wave theory), speed of sound in a material medium, intensity of sound, the decibel, Interference of sound waves, beats, diffraction, Doppler's effect.	05	CO 1
Unit 2	Heat- Definition of heat, temperature, Heat capacity, specific heat capacity, Heat transferconduction, convection, radiation, thermal conductivity, equation for thermal conductivity (k), the value of k of various material of interest in radiology, thermal expansion, Newton's law of cooling, Heat radiation	05	CO 1,2

Unit 3	Applied mathematics: Proportion: Direct proportion and inverse proportion, inverse square law with relevant examples, graphical representation of parameters that obey linear and exponential law: example of linear and semilog plottin A.C. and D.C. power supply with examples, single phase and poly phase power supply, switches, fuses, circuit breakers, earthing etc. main voltage drop: causes and remedy, cables; low tension, high tension. DC circuit, Ohm's law, resistivity, series and parallel combination, EMF, Krichoffs law, heating effect of current, Ammeter, voltmeter, Galvanometer. Magnets and magnetic field, force on an electric current in a magnetic field, force on electric charge moving in a magnetic field, magnetic field due to straight wire; force between two parallel wires, Ampere's law, electromagnet and solenoids.	10	CO 3
Unit 4	Rectification and Transformers: Thermionic emission; - variation of anode current with anode voltage and filament temperature; principle of rectification, wave form of half wave and full wave current/voltage wave form; Rectifiers: Introduction, energy bands in solids, the semiconductor, p-type and n-type semiconductors, density of charge carriers and conductivity, p- n junction, p-njunction diode, p-njunction diode as rectifier (half- wave and full-wave rectifier), rectifiers relative merits and demerits; silicon, germanium diodes. Principles of transformer, Electromagnetic induction, transformer design, efficiency of transformer, source of power loss	05	CO2
Unit 5	Electromagnetic radiation: Electromagnetic radiation spectrum, common properties of electromagnetic radiation; relationship between energy, frequency, wavelength and velocity e.g. X-rays and gamma rays. Properties of X-rays and gamma rays; General properties of X-rays, velocity, frequency etc., photographic effect, photochemical effect - discolouration of salts, heating effect, biological effect; ionization of gases e.g. air Interaction of radiation with matter: Transmission through matter, law of exponential attenuation, half value layer, attenuation coefficients; interaction of radiation with matter, classical scattering, Compton scatter, photo electric absorption, pair	05	CO 1,2

		product	tion; pr	actical	aspect	s of rac	liation a	lbsorpt	ion and	l				
		transmi	ssion tl	nrough	body t	tissues.	Measu	iremen	t of X-					
		ravs: U	Jnit of	quantit	v of ra	diation	exposu	re - de	efinition	L				
		and apr	olication	1 of 'ro	entgen	unit o	f quanti	tv of r	adiation					
		dose - (lefinitio	on and a	annlica	tion of	'rad' 'or	av' and	l 'rem'·					
		u050 (/ii uiia (appiied		100, 51	ay and	, 10111					
Unit 6												10	C	0 1,3
		Princip	le and	applica	ation of	of ioniz	ations	chamb	er and					
		ionizati	on rea	der un	nit, filı	n and	densitor	neter,	thermo					
		lumine	scent do	osimete	r (TLD	D). X. Q	uality a	nd qua	ntity of					
		X-rays:	Speci	fication	and	explana	tion of	electro	on volt					
		(eV), k	ilovolt	(kV) a	nd hal	f value	layer (H.V.L) as an					
		index o	of pener	ration	of the	radiatio	on. 9. B	asic ra	diation					
		protect	ion: His	torical	develo	pment,	dose eq	uivaler	nt limit,					
		interna	tional	recomm	nendat	ions a	nd curi	ent co	ode of					
	practice for the protection of radiation workers and the													
	public against ionizing radiation arising from medical and													
		dental	use; p	rotectiv	ve ma	terials.	lead -	impre	egnated					
		substan	ices: b	uilding	mate	erials.	lead e	uivale	ents of					
		protect	ive. pe	rsonal	monit	oring:	film b	adge.	pocket					
	dosimeter TI D hadges and their uses and relative merits													
				04480	is und t									
CO-PO) and I	PSO Ma	apping											
СО	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	2	2	2	2	3	2	3	2	2	3	2	2	2
CO3	2	2	2	3	2	2	2	2	2	2	3	2	2	2
Strong co	ontribution	<i>1-3</i> ,	Avera	ge contrib	oution-2,	L	.ow contrib	ution-1,						
Sugges	stea Ke		<u> </u>											
Text-	DOOKS	1 Toy	t book	ofradi	ology f	for rosi	donte o	nd took	nicion	S				
		1. 10.	t DOOK	orraur	ology I	IOI I CSI	ucints a	iu icci	mean	3-				
Refer	ence	1. S K	Bharga	ava. Te	xt boo	k of Ra	diation	physi	cs.					
Boo	oks													
-														
Recap	itulatio	n & Ex	aminat	tion Pa	ttern									
Interr	nal Con	tinuou	s Asses	sment:										
Comp	onent			Mar	ks P	attern		•			2.4			
Termir	hal Exai	m		12		3. Cont	ains a d	escript	ive ques	stion of	4 mar	ks		
					3	Contai	$\frac{1115}{115} + \frac{1}{10}$	ort answ	ver ques	stions	Each a	uestion of	arries	2 marks
Attend	ance			04		Conta	<u> </u>	// t uno (ver que	5010115.	Luch q		Juiiles	2 11101115
Project	t/Assigr	nments		04										
Class p	participa	ation or	any	04										
other														
Class I	lass Presentation 04													
Bed Si	de Beha	avior or Class		02										
Total	Marks	Class		30										



Name of the Program	BRIT			Year/ Semester:	2 nd					
Course Name	Basic physics including radiological physics	Course Code:	BRP203	Type: Semester	Practical					
Credits	03	•	•	Total Sessions Hours:	60					
Evaluation Spread	Internal Continuous Assessment:	30		End Term Exam:	70					
Type of Course	C Compulsory	Core		C Creative	0	Life Skill				
Course Objectives	The purpose of this underlying various t about circuit analysi develop scientific te tackle complex eng	course is to echnologica is, working emperament ineering pro	provide an al applicat principles and analy oblems in t	n understanding of physical ions. This course also provi of machines. In addition, th tical skill in students, to ena heir chosen area of applicat	concepts des funda e course i able them tion	and amental idea is expected to logically				
Course Outco attributes:	omes (CO): After the	successful c	ourse com	pletion, learners will develo	op followi	ng				
Course Outcome (CO)										
CO1	Use X-ray equipme procedures of X-ray	ent and main main main machine and machine	intenance nd cooling	of equipment. Should know methods.	w the Wa	arm-up				
CO2	To be able to know	how to use	X-Ray exp	posure switches.						
CO3	Demonstrate work f Handling, care and	low Digital	/IITV fluo e of equipi	roscopy equipment handling nent & accessories	g. Demor	nstrate				
Pedagogy	Explanations by the Practical, Presentati	Instructor, ons.	Group/Pai	r Work, Discussion, Assign	iment,					
Internal Evaluation Mode	Terminal Exam, Att Bedside behavior or	endance, Pr Interaction	roject/Assi i in class.	gnment, Class participation	, Class pr	resentation,				
Session Details		PRACTI	CAL		Hours	Mapped CO				
Unit 1	1. X-Ray tubes and a 2. Portable X-Ray Eq	ccessories, g	general fea	tures.	20	CO 2				

Unit 2	1. Image intensifier, its features, spot film.	20	CO
	2. Radiation protection devices		1
	3. Effects of kV and mAs.		

Unit 3		1. Mai	intenand	ce of X	-ray eq	uipmen	t and ac	cessori	es.			20	C	O 2, 3
		2 Mai	nmoars	nhy X.	Pav tu	he								
		2. wia	linnogra	ipity 71										
		3. Den	tal X-R											
CO-PO) and I	PSO M	apping											
СО	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
C01	3	3	3	2	3	2	3	3	2	2	2	2	2	2
CO2	3	3	3	2	3	2	2	2	2	2	3	3	2	2
Strong co	ntribution	n-3.	Avera	s ge contri	Jution-2		 ow contrib	ution-1.	5	2	2	2	5	2
Sugges	sted Re	adings	Average contribution-2, Low contribution-1,											
Text- I	Books													
		1. Tex	t book	of radi	iology (for resi	dents a	nd tecł	nician	s-				
					00									
Refer	ence	1. S K	Bharg	ava. Te	ext boo	k of Ra	diatior	physi	cs.					
Boo	oks		0					1 2						
Recapi	itulatio	on & Ex	xamina	tion Pa	attern									
Intern	al Con	tinuou	s Assess	sment:										
Comp	onent			Mar	ks P	attern								
Termin	nal Exa	m		12	1	5. Cont	ains a d	lescript	ive que	stion o	f 4 mai	:ks		
					1	6. Cont	ains 4 N	ЛCQs						
					1	7. Cont	ains 2	short a	answer	question	ons. Ea	ach que	stion c	arries 2
						mark	CS .							
Attend	ance			04										
Project	/Assig	nments	ents 04											
Class p other	particip	ation of	r any	04										
Class F	Presenta	ation		04										
Bed Si	de Beh	avior o	r	02										
Interac	tion in	Class												
Total I	Marks			30										



Era University, Lucknow Course Outline

Effective From 2023-24

Name of the Program	BRIT			Year/ Semester:	2	nd				
Course	Conventional	Course	BRP204	Type: Semester	Р	'ractical				
Name	Radiography and equipment	Code:								
Credits	03			Total Sessions Hours:	60					
Evaluation	Internal	30		End Term Exam:	70					
Spread	Continuous									
_	Assessment:									
Type of Course	C Compulsory	Core		O Creative	O Life Skill					
Course	The purpose of this c	ourse is to	provide ar	understanding of physica	1 concept	S				
Objectives	and underlying vario	us technol	ogical ann	lications. This course also	n provide	5				
	fundamental ideas abo	us circuit a	nalveis and	the working principles of	machine	3				
	In addition the cou	rea is own	acted to d	lovelon scientific tempers	mont on	у. А				
	analytical skills in	students t	control o	them to logically tackle	compla	u v				
	analytical skills ill	in their ob.		f application	comple	λ				
	engmeeting problems	III then cho	osen area o	i application.						
Course Outco	omes (CO): After the s	uccessful c	ourse comp	oletion, learners will develo	p the follo	wing				
attributes:		U				U				
Course										
Outcome										
(CO)										
COI	Able to know the pr	oduction o	f X-rays.							
CO2	Explain high-tension	circuits, m	neters, and	exposure timers.						
CO3	Able to know interlo	cking syste	ems, contro	l of scattered radiation						
CO4	Able to know the ha	ndling and	mechanism	n of Fluoroscopy.						
Dedeeser	Englanding has the	Turneturneter		We la Diamaine Assiste						
Pedagogy	Explanations by the Practical Presentation	Instructor,	Group/Pair	work, Discussion, Assign	ment,					
Internal	Terminal Exam. Atte	Tactical, Presentations.								
Evaluation	Bedside behavior or	Interaction	in class.	sinnent, cluss purificipation	, clubb pr	esentation,				
Mode										
Session		PRACTI	CAL		Hours	Manned				
Details		101011			liouis	CO				

		1.0	~ ~
Unit 1	Production of X-rays: X-ray tube, gas-filled X-ray tube, construction work, and limitations; stationary anode x-ray tube; construction, working, methods of cooling the anode,	10	CO 1, 4
	rating chart, and cooling chart; rotating anode x-ray tube: construction, working rating chart, speed of anode rotation, angle of anode inclination, dual focus and practical consideration in the choice of focus, anode heel effect, grid controlled x-ray tube; effect of variation of anode voltage and filament temperature; continuous and characteristics spectrum of \mathbf{x} - rays, inherent filter, and added filter, their effect on the quality of the spectrum.		
Unit 2	High tension circuits: H.T. generator for x-ray machines, three-phase rectifier circuits, three-phase six rectifier circuit, three-phase 12 rectifier circuit, high and medium frequency circuits; capacitance filter control and stabilizing equipment; mains voltage compensator, mains resistance compensator, compensation for frequency variation, control of	10	CO 1, 2

		tube v	oltage,	kV c	ompens	ator; ł	nigh ten	sion s	selector						
		switch,	filame	nt circu	it, cont	rol of t	ube curre	ent, an	d space						
		charge	harge compensation.												
		_	-												
Unit 3		Meter constr voltm readin timers timers cham Relay machi and bl supply	Meters and exposure timers: Moving coil galvanometer:10C0construction and working/conversion to millimeter, ammeter, and voltmeter, meters commonly used in diagnostic x-ray machines, pre- reading kV meter and millimeter, digital panel meters. Clockwork timers, synchronous motor timers, electronic timers, photometric timers (fluorescent and photoelectric effect as applied in timers), ion chamber-based timers, and integrated timers. 4. Interlocking circuits: Relays: description and working, use of relays in diagnostic machines for overload protection, circuit diagram; simplified circuit and block diagrams illustrating a sequence of events from the mains supply to controlled emission of x-rays.10C0												
Unit 4		Contra diapha to veri of sca grid, c bucky move	ontrol of scattered radiation: Beam limiting devices: cones, aphragms, light beam collimator, beam centering device, methods verify beam centering and field alignment; grids; design and control scattered radiation, grid ratio, grid cut-off, parallel grid, focused id, crossed grid, grided cassettes, stationary and moving grid potter ucky diaphragms, various types of grid movements; single stroke ovement oscillatory movement and reciprocatory movement												
Unit 5		Fluor fluore of flu adapt advar of vis circui CCD contre radiog chang use o	oscopy escent orosco ation. tages sualizin it telev . Aut ol, and graphy ger, ba f grid o	y: Fluo materi pic scr image over a ng an vision omatic d char : Man sic prin control	rescen als use ceen an e inter fluoros intensi camera brigh nber s ual ca nciples led x-r	ce and d in flu d relate scopic fied in a and ntness electic ssette of cir ay tub	phosph lorosco ed acces - Con device, nage, ba picture contro on durin change e fluoro e.	norescu pic scri ssories structi princt asic pri tube. l, au ng fl r, rap poscopy	ence - reens, o s, tilting on an iples, a rinciple Vidic tomatic luorosc id auto y and a	descrip constru- g table. d wor- and me es of c con car c exp copy. S comatic angiogr	ption, action dark king, thods losed mera, osure Serial film raphy	10	С	O 2,3	
Unit 6		Care function assession beam H.T. as acc	and M ional t sing uremen diaph cables cessory	Mainter ests; to the M nt of th ragm, p meter equip	nance esting IA se e focal practic s and c ment.	of X- the pe- ttings, spot c al prec	ray equ erformation testin of an X-ray autions s, tube s	uipmen nce of g the ray tub about stands	nt; Ge f expose e ava be, test Brake and tra	eneral sure ti ilable ing the s and l acks as	care; mers, KV, e light ocks, s well	10	С	O 4	
COP) and I	PSO M	anning												
CO-1 C	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	
CO1	3	3	3	2	2	3	2	2	3	3	2	2	2	2	
CO2	3	2	3	2	2	3	3	2	2	3	3	2	2	2	
CO3	2	2	3	2	2	3	3	2	2	3	2	3	3	2	
CU4 Strong co	L ntribution	2	5	5	²	2	2	5	2	2	2	2	3	5	
Suong con	tod Do	ndinger	Avera.	ige comPu	ounon-2,	1	Sw contrib	uwn-1,							
Sugges		aunigs	•	6	• •	0	• 1	7		077					
Text- P	300KS	1. Tex	kt book	of rad	liology	for res	idents a	nd tec	nniciai	ns-SK]	Bharga	va.			

Reference Books	2. Text book	Text book of Radiation physics.										
Recapitulation	on & Examinat	ion Patter	'n									
Internal Continuous Assessment:												
Component		Marks	Pattern									
Terminal Exa	m	12	 Contains a descriptive question of 4 marks Contains 4 MCQs Contains 2 short answer questions. Each question carries 2 marks 									
Attendance		04										
Project/Assign	nments	04										
Class participother	ation or any	04										
Class Presenta	ation	04										
Bed Side Beh Interaction in	avior or Class	02										
Total Marks		30										



Name of the	BRIT			Year/ Semester:	2	nd							
Course	Conventional	Course	BRT204	Type: Semester	Т	heory							
Name	Radiography	Code:				·							
	and												
Credits	03			Total Sessions Hours:	40								
Evaluation	Internal	30		End Term Exam:	70								
Spread	Continuous												
	Assessment:												
Type of Course	C Compulsory	Core		C Creative	0	Life Skill							
Course	The purpose of this	course is to	provide a	n understanding of physica	1 concept	ts							
Objectives	and underlying varie	ous technol	ogical ap	blications. This course also	o provide	28							
	fundamental idea at	out circuit	analysis,	working principles of ma	chines. I	n							
	addition, the course i	ition, the course is expected to develop scientific temperament and analytical											
	skill in students, to e	ill in students, to enable them logically tackle complex engineering problems											
	in their chosen area o	their chosen area of application.											
Course Outco	omes (CO): After the	successful c	ourse com	pletion, learners will develo	p followii	ng							
attributes:	[
Course													
(CO)													
CO1	Able to know produ	ction of X-	rav.										
	I I I I I I I I I I I I I I I I I I I												
CO2	Explain high tension	n circuits ,m	neter and e	xposure timers.									
CO3	Able to know interl	ocking syste	ems, contr	ol of scattered radiation									
CO4	Able to know handl	ing and mee	chanism o	Fluoroscopy.									
Pedagogy	Explanations by the Practical, Presentati	Instructor, ons.	Group/Pa	r Work, Discussion, Assign	ment,								
Internal	Terminal Exam, Att	endance, Pr	oject/Assi	gnment, Class participation	, Class pr	esentation,							
Evaluation	Bedside behavior of	Interaction	in class.										
Iviode													
Session		r	Горіс		Hours	Mapped							
Details						CO							

Unit 1	Production of x-rays: X-ray tube, gas filled x-ray tube, construction working and limitations; stationary anode x - ray tube; construction, working, methods of cooling the anode, rating chart and cooling chart; rotating anode x - ray tube: construction, working rating chart, speed of anode rotation, angle of anode inclination, dual focus and practical consideration in choice of focus, anode heel effect, grid controlled x - ray tube; effect of variation of anode voltage and filament temperature; continuous and characteristics spectrum of \mathbf{x} - rays, inherent filter and added filter, their effect on quality of the spectrum.	05	CO 1, 2
Unit 2	High tension circuits: H.T. generator for x-ray machines, three phase rectifier circuits, three phase six rectifier circuit, three phase 12 rectifier circuit, high and medium frequency circuits; capacitance filter control and stabilizing equipment; mains voltage compensator, mains resistance compensator, compensation for frequency variation, control of	05	CO 1

		tube v	oltage,	kV c	ompens	ator; ł	nigh ten	sion s	selector					
		switch,	filame	ent circ	uit, co	ntrol o	f tube c	urrent	, space					
		charge	compe	nsation					Î					
		-	-											
Unit 3		Meter constr voltm readin timers timers chamb Relay machi and bl supply	s and e uction eter, m g kV n s, synch s (fluoro per base s: descr nes for ock dia y to cor	xposure and wo eters con neter ar aronous escent a ed time ription a over lo agrams htrolled	e timers orking/c ommonl ad millin motor and pho rs, integ and wo oad prot illustrat emissio	: Movi onversi ly used meter, o timer, o toelecti grated t rking, u tection, ting sec on of x	ng coil g ion to m in diagn digital p electroni ric effec imer. 4. use of re circuit o quence o -rays.	galvano illimeto ostic x anel m c timen t as app Interlo lays in diagran f event	ometer: er, amn c-ray ma eters. (rs, phot plied in ocking c diagno n; simp ts from	neter ar achines Clockw o metri timers circuits: stic lified c mains	nd , pre ork c), ion ircuit	10	С	O 1,3
Unit 4		Contro diaphi to veri of sca grid, c bucky mover	ontrol of scattered radiation: Beam limiting devices: cones, aphragms, light beam collimator, beam centering device, methods verify beam centering and field alignment; grids; design and control scattered radiation, grid ratio, grid cut-off, parallel grid, focused id, crossed grid, grided cassettes, stationary and moving grid potter icky diaphragms, various types of grid movements; single stroke ovement, oscillatory movement and reciprocatory movement.											
Unit 5		Fluor fluore of flu adapt advar visua televi Autor cham Manu princi	oscopy escent orosco ation. ttages lising sion c matic ber se al cas ples c olled x	y: Fluo materi pic scr hnage over fl intensi camera bright election sette c of cine -ray tu	rescen- als use een an- uorosc fied im and p ness c hanger fluoro be.	ce and d in flu d relate sifier opic de nage, b picture control. ng flu c, rapic pscopy	phosph lorosco ed acces - Con evice, p pasic pri tube. , auton lorosco l autom r and a	noresco pic scries ssories structi rinciple Vidico natic py. So atic fi ngiogn	ence - reens, o s, tilting on an les and es of cl on car exposu erial r ilm cha raphy	descrip constru g table, d wor metho osed c nera, (nera, (nera, (anger, use of	otion, dark king, ods of ircuit CCD. ntrol, aphy: basic	10	C 3,	O 2, ,4
Unit 6		Care functi assess measu beam locks as we	and M lonal t sing t uremen diaphn , H.T. ll as ac	Mainter ests; to the M nt of for ragm, p cables ccessor	nance esting IA se ocal sp oractica , meter cy equi	of X- the pe ottings, bot of al preca rs and pment	ray equerformative testin an x-ra autions controls	ipment nce of g the y tube pertain s, tube	nt; Ge f expose e ava e, testi ning to e stand	eneral sure ti ilable ng the Brake s and t	care; mers, KV, light s and racks	05	С	O 3, 4
) and I	DSO M	annina											
	PO1	PO2	apping PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	2	2	2	3	2	3	2	2	2	2	2	2	2
CO2	2	2	2	2	2	2	1	2	2	2	3	2	2	2
CO3	2	3	3	2	2	2	2	2	2	2	2	2	2	2
CO4	2	2	2	2	l hution 2	2	3	1 ution 1	2	2		2	1	2
Strong con	tod D -	i-s, adin ac	Avera	ige contru	vation-2,		low contribi	uion-1,						
Sugges	ieu Ke	aungs				-		_						
Text- E	ext- Books 1. Text book of radiology for residents and technicians-SK Bhargava.													

Reference Books	2. Text book	Fxamination Pattern										
Recapitulation & Examination Pattern												
Internal Cont	Internal Continuous Assessment:											
Component		Marks	Pattern									
Terminal Exa	m	12	 21. Contains a descriptive question of 4 marks 22. Contains 4 MCQs 23. Contains 2 short answer questions. Each question carries 2 marks 									
Attendance		04										
Project/Assign	nments	04										
Class participa other	ation or any	04										
Class Presenta	ation	04										
Bed Side Beha Interaction in	avior or Class	02										
Total Marks		30										



Name of the	BRIT			Year/ Semester:		2 nd						
Program												
Course	Medical	Course	BRT20	5 Type: Semester		Theory						
Name	Ethics and	Code:										
	Legal											
	Aspects											
Credits	03			Total Sessions Ho	ours:	30						
Evaluation	Internal	30		End Term Exam:		70						
Spread	Continuous											
T A	Assessment:											
Type of Course		Core		C Creative		O Life Skill						
Course												
Objectives	This course is designed to provide the students the basic knowledge in laws and											
	ethics to follow as he	alth profess	sionals.									
	After completion of	the course t	hastuda	ta will be able to: Und	loratond the	various definitions						
	After completion of	the course t	ine studer	is will be able to. Ulic		arious definitions						
Course Outco	mes (CO): After the	successful c	ourse co	npletion learners will	develop foll	owing						
attributes:		inceessjui e	ourse co	ipiciton, icamers with	uevelop jour	, , , , , , , , , , , , , , , , , , ,						
Course												
Outcome												
(CO)												
CO1	Understood the imp	ortance of t	he profes	sional laws and ethics	•							
	1		1									
CO2	Understood the lega	l aspects ar	nd medic	l ethics in health setu	ps							
Pedagogy	Explanations by the	Instructor,	Group/P	ir Work, Discussion,	Assignment,							
	Practical, Presentation	ons.	•		C							
Internal	Terminal Exam, Att	endance, Pi	roject/As	ignment, Class partic	ipation, Clas	s presentation,						
Evaluation	Bedside behavior or	Interaction	in class.									
Mode												
<i>a</i> •			T									
Session		,	Topic		Hou	rs Mapped						
Details		r a at	24.4	1	10	<u> </u>						
Unit I	Kole, Definition and	Interaction	with the	atients and	10							
	health care profession	als, Ethical	l, Moral,	and Legal		1,2						
	Responsibilities, Pati	ent safety a	nd qualit	, restrain								
	policies and role of h	ealth profes	sionals.									

	Biomedical waste Management, medical records and reports.		
Unit 2	Medical terminology- The course employs a body systems-oriented,	10	CO
	word-analysis approach to learning medical terminology		1

Unit 3		The go termino course their ro	ne goal of the class is to prepare students for the rminology they might encounter in their subsequent oursework, in their clinical rotations and ultimately in eir roles as health care professionals. 10 Comparing O Mapping 10 Comparing 10 Comparing											O 1, 2
CO-PO	O and I	PSO M	apping											
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	3	2	3	2	2	2	2	3	2	2	2	3	3
CO2	2	2	3	2	2	3	2	2	2	3	2	2	2	2
Strong co	ontribution	n-3,	Avera	ige contril	bution-2	2, L	ow contrib	oution-1,						
Recap	oitulatio	on & Ex	xamina	tion Pa	ittern	l								
Intern	al Con	tinuou	s Asses	sment:										
Comp	onent			Mar	ks 🛛	Pattern								
Termin	nal Exa	m		12	,	24. Cont 25. Cont 26. Cont mark	ains a d ains 4 M ains 2 cs	lescript MCQs short	ive que answer	stion o questio	f 4 mar ons. Ea	ks ch que	stion c	arries 2
Attend	lance			04										
Projec	t/Assig	nments		04										
Class p other	particip	ation of	r any	04										
Class I	Presenta	ation		04										
Bed Si	ide Beh	avior o	r	02										
Interac	ction in	Class												
Total	Marks			30										



Era University, Lucknow

Course Outline

Effective From: 2023-24

Name of the	BRIT			Year/ Semester:	2 nd						
Course Name	Environmental Science	Course Code:	BRT206	Type: Semester	Theory						
Credits	03			Total Sessions Hours:	30						
Evaluation Spread	Internal Continuous Assessment:	30		End Term Exam:	70						
Type of Course		Core		C Creative	C Life Skill						
Course Objectives	 The broad objectives of this course are To gain an understanding of the concepts fundamental to environmental science To understand the complexity of ecosystems and possibly how to sustain them To understand the relationships between humans and the environment. To understand major environmental problems including their causes and consequences. To understand current and controversial environmental issues and possible solutions to environmental problems and their pros and cons. To understand the hospital environment in general 										
Course Outco attributes:	omes (CO): After the suc	cessful cou	rse comple	tion, learners will develo	p following						
Course Outcome (CO)											
CO1	To gain knowledge on	the import	ance of env	vironmental education a	nd ecosystem.						
CO2	To acquire knowledge measures of environme	e about envental pollut	vironmental	pollution- sources, ef	fects and control						
CO3	To understand the treat	ment of wa	stewater an	d solid waste manageme	ent.						
CO4	To acquire knowledge appreciate the concept	with respe of interdep	ct to biodivendence.	versity, its threats and its	s conservation and						
CO5	To be aware of the national environment.	onal and in	iternational	concern for environmen	t for protecting the						
CO6	To understand the envir	ronmental i	ssues arisir	ng from different labs of	the hospital						
Pedagogy	Explanations by the In	structor, Gi	oup/Pair W	ork, Discussion, Assign	ment,						

	Practical, Presentations.									
Internal Evaluation Mode	Terminal Exam, Attendance, Project/Assignment, Class participation, Class presentation, Bedside behavior or Interaction in class.									
Session Details	Торіс	Hours	Mapped CO							
Unit 1	Definition and scope and importance of multidisciplinary nature of environment. Need for public awareness.	04	C0 1							
Unit 2	Natural Resources and associated problems, use and over exploitation, case studies of forest resources and water resources.	04	CO 2							

Unit 3	Concept of Ecosystem, Structure, interrelationship, producers, consumers and decomposers, ecological pyramids-biodiversity and importance. Hotspots of biodiversity	02	CO 3 , 2
Unit 4	Definition, Causes, effects and control measures of air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, nuclear hazards, Solid waste management: Causes, effects and control measure of urban and industrial wastes. Role of an individual in prevention of pollution. Pollution case studies, Disaster management: Floods, earthquake, cyclone and landslides.	03	CO 1,3,4
Unit 5	From Unsustainable to Sustainable development, urban problems related to energy, Water conservation, rain water harvesting, water shed management Resettlement and rehabilitation of people; its pros and concerns. Case studies, Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies, Wasteland reclamation, Consumerism and waste products. Environment Protection Act, Air (Prevention and Control of Pollution) Act. Water (Prevention and control of pollution) Act. Wildlife Protection Act, Forest Conservation Act, Issues involved in enforcement of environmental legislation Public awareness. Human Population and the Environment, Population growth, variation among nations. Population explosion- Family Welfare Programme. Environment and human health, Human Rights, Value Education, HIV/AIDS. Women and child Welfare. Role of Information Technology in Environment and human health. Case studies.	10	CO 5
Unit 6	Understanding the environment in the following clinical laboratories: Microbiology, Biochemistry, Histopathology, Hematology	02	CO 5
Unit 7	Clinical Laboratory Hazards to the environment from the following and means to prevent Infectious material, Toxic Chemicals, Radioactive Material, Other miscellaneous wastes	05	CO 5, 6

CO-P	O and I	PSO M	apping											
СО	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	2	2	2	3	2	2	2	2	1	2	1	2	2
CO2	2	3	3	2	2	2	2	2	1	2	2	2	1	1
CO3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
CO4	2	2	2	2	2	2	2	2	2	2	1	2	2	2
C05	2	2	2	2	2	2	2	2	2	2	2	2	2	2
CO6	2	1	3	2	l	2	2	2	2	2	2	2	2	2
Sirving Co		n- <i>3</i> ,	Aven	ige contra	<i>builon-2</i> ,	L	www.comm	<i>uuon-1</i> ,						
Sugge	sted Re	adings	:											
Text- Books 1. Chawla S., 2012. A Textbook of Environmental Studies, Tata Mc Graw Hill, Ne Delhi.										, New				
ReferenceReference 1: Jadhav, H & Bhosale, V.M., 1995. Environmental Protection and Laws. Himalaya Pub. House, New Delhi.BooksDeference 2: Codi B. Bettern S. 2006. Environmental Studies. KATSON Books														
	Reference 2: Gadi R., Rattan, S., 2006. Environmental Studies, KATSON Books,													
	New Delhi.													
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Terminal Exam 12						 27. Contains a descriptive question of 4 marks 28. Contains 4 MCQs 29. Contains 2 short answer questions. Each question carries 2 marks 								
Attend	lance			04										
Project/Assignments 04														
Class participation or any 04 other														
Class Presentation 04														
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