CURRICULUM OF HUMAN PHYSIOLOGY FOR MEDICAL STUDENTS Appendix-XXXII

Resolution No. 15 (15-6)

PHYSIOLOGY

1. VISION / GOAL

The broad goal of the teaching of undergraduate students in Physiology aims at providing the student comprehensive knowledge of the normal functions of the organ systems of the body to facilitate an understanding of the physiological basis of health and disease. Simultaneously focus is to inculcate requisite skills, attitudes, values and responsiveness, so that they may function appropriately and effectively as a physician of first contact of the community while being globally relevant.

2. LEARNING OBJECTIVE (overall)

Demonstrate knowledge of normal human structure, function and development from a molecular, cellular, biologic, clinical, behavioral and social perspective so that he becomes capable of fulfilling his various roles of an Indian Medical Graduate as a clinician, leader, communicator, lifelong learner and professional,

3. COMPETENCIES

(a) Knowledge /Cognitive Domain

At the end of the course the learner shall be able to:

- 1) Understand and explain the physiological functioning of all the organ systems and their interactions for well coordinated total body function.
- 2) Assess the relative contribution of each organ system to the maintenance of the milieu interior.
- 3) Explain various regulatory mechanisms and their integration.
- 4) Elucidate the physiological aspects of growth and development.
- 5) Describe the physiological response and adaptations to environment stresses and during disease processes.
- 6) List the physiological principles underlying, pathogenesis and treatment of disease.
- 7) Understand reproductive physiology and differences in sexual development.
- 8) Describe the various function tests for assessing the functioning of various organ systems.

Course content: see Appendix I

(https://www.nmc.org.in/information-desk/for-colleges/ug-curriculum)

(b) Skills/ Psychomotor Domain

At the end of the course the learner shall be able to perform and interpret following skills:



- 1) Conduct experiments designed for study of physiological phenomens
- 2) Interpret experimental / investigative data to assess health status.
- 3) Distinguish between normal and abnormal data derived as a result of tests which he/she has performed and observed in the laboratory.
- 4) Understand basic laboratory investigations relevant for a rural set up.
- 5) Able to perform a physical examination and perform diagnostic maneuvers

(List of Experiments/Investigation: Appendix I)

(c) Communication Domain

- 1) Communicate effectively with peers, students and leachers in various leaching-learning activities.
- 2) Demonstrate the use of verbal and non-verbal empathetic communication techniques while communicating with patients and/or caregivers.

(d) Attitude Domain

- 1) Demonstrate respect for inherent dignity and autonomy of patients and their caregivers
- 2) Due respect in handling human body parts and gender issues that could arise during-clinical examination
- 3) Appreciate the issues of equity and social accountability while exposing students to early clinical exposure
- 4) Demonstrate respect for diversity and professional behavior
- 5) Demonstrate ability to recognize and manage ethical and professional conflicts.

4. COURSE

Course content: see Appendix 1

General Physiology

- PY1.1 Describe the structure and functions of a mammalian cell
- PY1.2 Describe and discuss the principles of homeostasis
- PY1.3 Describe intercellular communication
- PY1.4 Describe apoptosis programmed cell death
- PY1.5 Describe and discuss transport mechanisms across cell membranes
- PY1.6 Describe the fluid compartments of the body, its ionic composition & measurements
- PY1.7 Describe the concept of pH & Buffer systems in the body
- PY1.8 Describe and discuss the molecular basis of resting membrane potential and action potential in excitable tissue
- PY1.9 Demonstrate the ability to describe and discuss the methods used to demonstrate the functions of the cells and its products, its communications and their applications in Clinical care and research.

Haematology

- PY 2.1Describe the composition and functions of blood components
- PY2.2 Discuss the origin, forms, variations and functions of plasma proteins
- PY2.3 Describe and discuss the synthesis and functions of Haemoglobin and explain its breakdown. Describe variants of haemoglobin
- PY2.4 Describe RBC formation (erythropolesis & its regulation) and its functions

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LEU DESCRIUE WAS rormation (granulopolesis) and its regulation

PY2.7 Describe the formation of platelets, functions and variations.

PY2.8 Describe the physiological basis of hemostasis and, anticoagulants.

Describe bleeding & clotting disorders (Hemophilia, purpura)

PY2.9 Describe different blood groups and discuss the clinical importance of blood grouping, blood banking and transfusion

PY2.10 Deline and classify different types of immunity. Describe the development of immunity and its regulation

PY2.11 Estimate Hb, RBC, TLC, RBC indices, DLC, Blood groups, BT/CT

PY2.12 Describe test for ESR, Osmolic fragility, Hematocrit. Note the findings and interpret the test results etc

PY 2.13 Describe steps for reticulocyte and platelet count

Nerve and Muscle Physiology

PY3 1 Describe the structure and functions of a neuron and neuroglia; Discuss Nerve Growth Factor & other growth factors/cytokines

PY3.2 Describe the types, functions & properties of nerve fibers

PY3.3 Describe the degeneration and regeneration in peripheral

PY3.4 Describe the structure of neuro-muscular junction and transmission of impulses

PY3.5 Discuss the action of neuro-muscular blocking agents

PY3.6 Describe the pathophysiology of Myasthenia gravis

PY3.7 Describe the different types of muscle libres and their structure

PY3.8 Describe action potential and its properties in different muscle types (skeletal & smooth)

PY3.9 Describe the molecular basis of muscle contraction in skeletal and in smooth muscles

PY3_10 Describe the mode of muscle contraction (isometric and isotonic)

PY3.11 Explain energy source and muscle metabolism

PY3.12 Explain the gradation of muscular activity

PY3.13 Describe muscular dystrophy

PY3.14 Perform Ergography

PY3.15 Demonstrate effect of mild, moderate and severe exercise and record changes in cardiorespiratory parameters

PY3.16 Demonstrate Harvard Step test and describe the impact on induced physiologic parameters in a simulated environment

PY3.17 Describe Strength-duration curve

PY3.18 Observe with Computer assisted learning (i) amphibian nerve -muscle experiments (ii) amphibian cardiac experiments

Gastrointestinal Physiology

PY4.1 Describe the structure and functions of digestive system

PY4.2 Describe the composition, mechanism of secretion, functions, and regulation of saliva, gastric, pancreatic, intestinal juices and bile secretion

PY4.3 Describe GIT movements, regulation and functions. Describe defecation reflex. Explain role of dietary fibre.

PY4.4 Describe the physiology of digestion and absorption of nutrients. Describe the source of GIT hormones, their regulation and functions

PY4.6 Describe the Gul-Brain Axis

PY4.7 Describe & discuss the structure and functions of liver and gall bladder

PY4.8 Describe & discuss gastric function tests, pancreatic exocrine function tests & liver function tests

PT # 9 Discuss the physiology aspects of, peptic vicer, gastropesophageal reflux. disease, vomiting, diarrhoss, constipation, Adynamic lieus, Hirschapfung's

PY4.10 Demonstrate the correct clinical examination of the abdomen in a normal volunteer or simulated environment

Cardiovascular Physiology

PY5.1 Describe the functional anatomy of heart including champers, sounds; and Pacemaker tissue and conducting system.

PY5.2 Describe the properties of cardiac muscle including its morphology. electrical, mechanical and metabolic functions

PY5.3 Discuss the events occurring during the cardiac cycle

PY5.4 Describe generation, conduction of cardiac impulse

PY5.5 Describe the physiology of electrocardiogram (E.C.G.), its applications and the cardiac axis

PY5.6 Describe abnormal ECG, arrythmias, heart block and myocardial Infarction

PY5.7 Describe and discuss haemodynamics of circulatory system.

PY5.8 Describe and discuss local and systemic cardiovascular regulatory mechanisms

PY5.9 Describe the factors affecting heart rate, regulation of cardiac output & blood pressure

PY5.10 Describe & discuss regional circulation including microcirculation. lymphatic circulation, coronary, cerebral, capillary, skin, foetal, pulmonary. and splanchnic circulation

PY5.11 Describe the patho-physiology of shock, syncope and heart failure

PY5.12 Record blood pressure & pulse at rest and in different grades of exercise and postures in a volunteer or simulated environment.

PY5.13 Record and interpret normal ECG in a volunteer or simulated environment

PY5,14 Observe cardiovascular autonomic function tests in a volunteer or simulated environment

PY5.15 Demonstrate the correct clinical examination of the cardiovascular system in a normal volunteer or simulated environment

PY5 16 Record Arterial pulse tracing using finger plethysmography in a volunteer or simulated environment

Respiratory Physiology

PY6.1 Describe the functional anatomy of respiratory tract.

PY6.2 Describe the mechanics of normal respiration, pressure changes during ventilation, lung volume and capacities, alveolar surface tension, compliance, airway resistance, ventilation, V/P ratio, diffusion capacity of

PY6.3 Describe and discuss the transport of respiratory gases. Oxygen and Carbon dioxide

PY6.4 Describe and discuss the physiology of high altitude and deep sea diving

PY6.5 Describe and discuss the principles of artificial respiration, oxygen. therapy, acclimatization and decompression sickness.

PYE.6 Describe and discuss the pathophysiology of dysprices, hypoxia, cyanosis asphyxia, drowning, periodic breathing

PY6.7 Describe and discuss lung function tests & their clinical significance

PY6.8 Demonstrate the correct technique to perform & interpret Spirometry

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a normal volunteer or simulated environment

PY5.10 Demonstrate the correct technique to perform measurement of peak expiratory flow rate in a normal volunteer or simulated environment

Renal Physiology

PY7.1 Describe structure and function of kidney

PY7.2 Describe the structure and functions of juxta glomerular apparatus and role of renin-angiolensin system

PY7.3 Describe the mechanism of urine formation involving processes of filtration, tubular reabsorption & secretion; concentration and diluting mechanism

PY7.4 Describe & discuss the significance & implication of Renal clearance

PY7.5 Describe the renal regulation of fluid and electrolytes & acid-base balance

PY7.6 Describe the innervations of urinary bladder, physiology of micturition and its abnormalities

PY7.7 Describe artificial kidney, dialysis and renal transplantation

PY7.8 Describe & discuss Renal Function Tests

PY7.9 Describe cystometry and discuss the normal cystometrogram

Endocrine Physiology

PY8.1 Describe the physiology of bone and calcium metabolism

PY8.2 Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of pitultary gland, thyroid gland, parathyroid gland, adrenal gland, pancreas and hypothalamus

PY8.3 Describe the physiology of Thymus & Pineal Gland

PY8.4 Describe function tests: Thyroid gland: Adrenal cortex, Adrenal medulla and pancreas

PY8.5 Describe the metabolic and endocrine consequences of obesity & rnetabolic syndrome, Stress response, Outline the psychiatry component pertaining to metabolic syndrome.

PY8.6 Describe & differentiate the mechanism of action of steroid, protein and amine hormones

Reproductive Physiology

- PY9.1 Describe and discuss sex determination; sex differentiation and their abnormities and outline psychiatry and practical implication of sex determination.
- PY9.2 Describe and discuss puberty, onset, progression, stages; early and delayed puberty and outline adolescent clinical and psychological association.
- PY9.3 Describe male reproductive system: functions of testis and control of spermatogenesis & factors modifying it and outline its association with psychiatric illness
- PY9.4 Describe female reproductive system. (a) functions of ovary and its control; (b) menstrual cycle hormonal, uterine and ovarian changes

PY9.5 Describe and discuss the physiological effects of sex hormones

PY9.6 Enumerate the contraceptive methods for male and female. Discuss their advantages & disadvantages

PY9.7 Describe and discuss the effects of removal of gonads on physiological functions

PY9.8 Describe and discuss the physiology of pregnancy, parturition & lactation and outline the psychology and psychiatry-disorders associated with it.

- PY9.9 Interpret a normal semen analysis report including (a) sperm count, (b) sperm morphology and (c) sperm motility, as per WHO guidelines and discuss the results
- PY9.10 Discuss the physiological basis of various pregnancy tests
- PY9.11 Discuss the hormonal changes and their effects during per menopause and menopause
- PY9.12 Discuss the common causes of infertility in a couple and role of IVF in managing a case of infertility.

Neurophysio ogy

- PY10.1 Describe and discuss the organization of nervous system
- PY10.2 Describe and discuss the functions and properties of synapse, reflex, receptors
- PY10.3 Describe and discuss somalic sensations & sensory tracts
- PY10.4 Describe and discuss motor tracts, mechanism of maintenance of lone, control of body movements, posture and equilibrium & vestibular apparatus
- PY10.5 Describe and discuss structure and functions of reticular activating system, autonomic nervous system (ANS)
- PY10.6 Describe and discuss Spinal cord, its functions, lesion & sensory disturbances
- PY10.7 Describe and discuss functions of cerebral cortex, basal ganglia, thalamus, hypothalamus, cerebellum and limbic system and their abnormalities
- PY10.8 Describe and discuss behavioural and EEG characteristics during sleep and mechanism responsible for its production
- PY10.9 Describe and discuss the physiological basis of memory, learning and speech
- PY10.10 Describe and discuss chemical transmission in the nervous system. (Outline the psychiatry element).
- PY10.11 Demonstrate the correct clinical examination of the nervous system:

 Higher functions, sensory system, motor system, reflexes, cranial nerves in a normal volunteer or simulated environment
- PY10.12 Identify normal EEG forms S S Y Small group teaching OSPE/Viva voce Psychiatry
- PY10 13 Describe and discuss perception of smell and taste sensation
- PY10.14 Describe and discuss patho-physiology of altered smell and taste sensation
- PY10.15 Describe and discuss functional anatomy of ear and auditory pathways.

 & physiology of hearing
- PY10.16 Describe and discuss pathophysiology of deafness. Describe hearing tests
- PY10.17 Describe and discuss functional anatomy of eye, physiology of imageformation, physiology of vision including colour vision, refractive errors, colour blindness, physiology of pupil and light Reflex
- PY10.18 Describe and discuss the physiological basis of lesion in visual pathway
- PY10.19 Describe and discuss auditory & visual evoke potentials
- PY10.20 Demonstrate (i) Testing of visual acuity, colour and field of vision and (ii) hearing (iii) Testing for smell and (iv) taste sensation in volunteer/ simulated environment

Integrated Physiology

- PY11.1 Describe and discuss mechanism of temperature regulation
- PY11.2 Describe and discuss adaptation to altered temperature (heat and cold)
- PY11.3 Describe and discuss mechanism of fever, cold injuries and healstroke

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during exercise; physical training effects

PY1.1.5 Describe and discuss physiological consequences of sedentary lifestyle

PY11.6 Describe physiology of Infancy

PY11.7 Describe and discuss physiology of aging; free radicals and antioxidants

PY11.8 Discuss & compare cardio-respiratory changes in exercise (isometric and isotonic) with that in the resting state and under different environmental conditions (heat and cold)

PY11.9 Interpret growth charts

PY11.10 Interpret anthropometric assessment of infants

PY11.11 Discuss the concept, criteria for diagnosis of Brain death and its implications

PY11.12 Discuss the physiological effects of meditation

PY11.13 Obtain history and perform general examination in the volunteer /simulated environment

PY11.14 Demonstrate Basic Life Support in a simulated environment

5. TEACHING LEARNING METHODS

- Interactive lectures
- DOAP (Demonstration-Observation Assistance-Performance) Sessions:
 Hematology experiments, Human experiments including Clinical examination, Computer assisted learning of frog and mammalian experiments, Demonstration of some human experiments
- Small Group Discussions
- Student seminars
- Graphs and charts to be made in the departments to teach different principles of physiology, as well as pathophysiology, and to provide problem-solving exercises
- Early Clinical Exposure
- Self Directed Learning

Integration

Efforts are to be made to encourage integrated teaching between medical subjects. At the end of this teaching the student shall acquire an integrated knowledge of organ structure, physiological and biochemical function, its regulatory mechanisms, its pathophysiology and principles of management.

AETCOM Modules

AETCOM (Attitude, Ethics & Communication) modules for the first year would be taught through various teaching learning methodologies, and would also be assessed.

G. ASSESSMENT

- a) Formative Assessment: Formative assessment shall be done periodically throughout the course.
 - I) Log Book: Log book is to be maintained to record all activities like seminar, symposia, early clinical exposure, AETCOM modules and other academic activities. It has to be submitted to the department regularly and would be assessed

 October 1.

regularly.

(ii) Cartiflable competencies. Achievement of certifable competencies would also be recorded in logbooks. The student must have completed the required cartifable competencies and completed the tog book to be eligible for appearing at the final university examination.

b) Internal Assessment:

 No less than three internal assessment exams shall be conducted during the course.

 Up To twenty percent IA marks (Theory and Practical) would be from Log book assessment.

50%combined in theory and practical (not less than 40% in each) for eligibility for appearing for University Examinations.

c) Summative Assessment:

University (Professional) examination: Will have Theory, viva and practical examinations.

I) THEORY PAPERS

There shall be two theory papers. The student must secure at least 40% marks in each of the papers with minimum 50% of marks in aggregate (both papers together) to pass.

Each paper shall be of 03 hours duration and 100 marks.

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PAPER + F(100 Marks)

Topics:

Q4 b. Explain the following:

Q5. Describe Briefly / Short notes

Blood, CVS, Respiration, Kidney, GIT including Nutrition, and Integrated Physiology PAPER - II (100 Marks) Topics: Gen Physiology, Nerve - Muscle Physiology, CNS, Special Senses, Endocrines, Reproduction and Integrated Physiology THEORY QUESTION PAPER FORMAT (Applicable for Paper-1 and Paper-II) Part I Q 1 Objective Type Questions including MCOs 10-2=20 Part II Q 2a. Long structure question / Problem based question 10 Q2b.Physiological / Clinical significance 4'25 = 10 Q 3. Write Short Notes 4-5= 20 Part III Q4 a. Long structure question / Problem based question 10

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4'2 5 = 10

4.5 = 20

THEORY PAPER - PHYSIGLOGY

PAPER - I (100 Marks)

	Topics:	11 Tail 0 10 10 10 10 10 10 10 10 10 10 10 10 1	STATE OF CO.	
-	Blood, CVS, Respiration, Kidney, GIT Including Nutrition Communication (AETCOM) and Integrated Physiology	n. Attitude, Et	pics.&	
	Sommand the sompand magnitude injurious	/		
	PAPER - II (100 Marks)	/		
	PAPER - II (100 Marks)	/		
	Topics:			
	Gen Physiology, Nerve - Muscle Physiology, CNS, Spe- Endocrines, Reproduction and Integrated Physiology	ciai Sensits,		
		/		
		/		
	THEORY QUESTION PAPER FOR			
	(Applicable for Paper- I and Paper	r-H)		
			10	
	Part I			
	Q 1. Objective Type Questions including MCVs	10*2=20		
	Q 1. Objective Type Goosbors including incides	10 2-20		
	Part II			
	Q 2A. Long structure question / Problem based question	10		
	Q2b Physiological / Clinical signifigance	2.5 = 10	2. 0	
	geo-nyamogical i chircal algungance	2 3 - 10		
1	Q 3. Write Short Notes	4*5= 20		
/			d	4
	Part III		Duchland	a.
			- honital	7
	Q4 a. Long structure question / Problem based question	10	Telephonically Dr. Workhay	
	O4 b. Explain the following: O5. Describe Briefly / Short notes (ar July)	2.5 = 10	ben Will	U
	Q5. Describe Briefy / Short notes	4*5 = 20	Varahrey	27
	US. Describe Briefly / Short Holes	- 0 - 20	18/1/20	(85)
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1. Spotting/OSPE 10 marks Problem solving exercise 10 marks Graph and charts 05 marks (including those pertaining to Amphibian nerve muscle and heart experiments) 4. Human Experiment 15 marks 5. Haematology 15 marks 6 Climcal Exercise 10 marks Practical record book 05 marks Total 70 marks VIVA 30 marks

Note:

Grand Total

Internal Assessment: 50% combined in theory and practical (not less than 40% in each) for eligibility for appearing for University Examinations

100 marks

University Examination: Mandalory 50% marks in theory and practical (theory=theory paper(s) only) (practical= practical/clinical + viva)

internal assessment marks are not to be added to marks of the University examinations and should be shown separately in the grade card.

A candidate obtaining 75 % marks in theory plus practicals shall be declared to have passed the subjects with Honors.

A maximum number of four permissible altempts would be available to clear the first Professional University examination, whereby the first Professional course will have to be cleared within 4 years of admission to the said course. Partial attendance at any University examination shall be counted as an availed attempt.

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7. RECOMMENDED READING

(A) TEXT BOOKS

- Guyton & Hall Textbook of Medical Physiology, Second South Asia Edition-Elsovier
- 2. Comprehensive Textbook of Medical Physiology- G K Pal Second Edition-Jaypee

Brothers

- 3 Textbook of Physiology 8 Ed. A. K. Jain- Avichal
- 4. Understanding Physiology by Dr. R.L. Bijlani
- 5. Medical Physiology by Indu Khurana
- 6. Human Physiology 13th Ed C C Chatterjee

(B) REFERENCE BOOKS

- 1 Garlong's Review of Medical Physiology 26 Ed. Lange Publisher
- 2 Lippincott's Illustrated Reviews; 2 Ed. Preston & Wilson, Wolter Kluver
- 3 Objective Structured Practical Examination in Physiology, Aarti Sood Mahajan, Jaypee Brothers Medical Publishers (P) Ltd

(C) PRACTICAL BOOKS

- 1. Manual of Practical Physiology For M.B.B.S. 6- Ed. A. K. Jain Arya publications
- 2 Practical Physiology V.P. Varshney & Mona Bedi Jaypee Brothers
- 3. Textbook of Practical Physiology 4- Ed. G K Pal-University Press
- 4. Ghai's Textbook of Practical Physiology 9th Ed

(D) CLINICAL EXAMINATION

- 1. Bales' Guide to Physical examination and History Taking Uzma Firdaus- Wolters Kluwer
- 2 Hulchinson's Clinical Methods.
- 3. Macleod's Clinical Examination 14 th ed

(E) AETCOM

Jonsen AR, Siegler M, Winslade WJ. Clinical Ethics: A Practical Approach to Ethical Decisions in Clinical Medicine. 8th Edition. New York: McGraw-Hill, Inc., 2015

Timms O. Biomedical Ethics. 2nd Edition Elsevier India, 2019

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7. RECOMMENDED READING

- (A) TEXT
- (B) S
- 1. Guyton & Hall Textbook of Medical Physiology, Second South Asia Edition-Elsevier
- 2. Comprehensive Textbook of Medical Physiology- G K Pal Second Edition-Jaypee

Brothers

- 3. Textbook of Physiology latest Ed. A. K. Jain- Avichal
- 4. Understanding Physiology by Dr. R.L. Bijlani
- 5. Medical Physiology by Indu Khurana
- 6. Human Physiology latest Ed C C Chatterjee

(B) REFERENCE BOOKS

- 1. Ganong's Review of Medical Physiology, latest Ed. Lange Publisher
- 2. Lippincott's Illustrated Reviews, latest Ed. Preston & Wilson, Wolter Kluver
- 3. Objective Structured Practical Examination in Physiology,
 Aarti Sood Mahajan, Jaypee Brothers Medical Publishers (P) Ltd

(C) PRACTICAL BOOKS

- 1 Manual of Practical Physiology For M.B.B.S. latest Ed. A. K. Jain Arya publications
- 2. Practical Physiology V.P. Varshney & Mona Bedi Jaypee Brothers
- 3. Textbook of Practical Physiology latest Ed. G K Pal-University Press
- 4. Ghai's Textbook of Practical Physiology 9th Ed

(D) CLINICAL EXAMINATION

- 1. Bates' Guide to Physical examination and History Taking Uzma Firdaus- Wolters Kluwer
- 2. Hutchinson's Clinical Methods.
- 3 Macleod's Clinical Examination latest ed

(E) AETCOM

Jonsen AR, Siegler M, Winslade WJ. Clinical Ethics: A Practical Approach to Ethical Decisions in Clinical Medicine. latest Edition. New York: McGraw-Hill, Inc., 2015.

Timms O. Biomedical Ethics. latest Edition. Elsevier India, 2019

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				HISTOLOG
Topic: Gene	rat Physiology Number of compete	nclos: (09)		
PY1.1	Describe the structure and functions of a mammakan cell.	K	КН	, Y
PY1.2	Describe and discuss the principles of homeostasis	*	KH	Ψ
Y1.3	Describe intercellular communication	R	KH	×
PY1.4	Describe apoptosis – programmed cell death	*	HOH	Y
PY1.6	Describe and discuss transport mochanisms across cell mombrenus	ic:	364	
PY1.6	Describe the fluid compartments of the body, its lonic composition & measurements	ж	КН	
PY4.7	Describe the concept of pH & Buffer systems in the body	K	KH.	190
PY18	Describe and discuss the inologular basis of resting intembrane potential and ooken potential in excitable have	ĸ	101	*
PY13	Demonstrate the ability to describe and discuss the methods used to demonstrate the functions of the cells and its products, its communications and their applications of Clinical direction research	К	IGH	¥

Topic: Haematology

Number of competencies: (12)

Number	The student should be able to:	Demain K/S/A/C	SHIP	Core (Y/N)
PY2.1	Describe the composition and functions of blood components	К	Кн	Y
PY2 2	Discuss the origin forms, variations and functions of plasma proteins.	К	КН	Υ.
PY2.3	Describe and oscuss the synthesis and functions of Hasmoglobin and explain its breakdown. Describe variants of hasmoglobin.	*	KH	*
PYZ 4	Describe RBC larmation (erythroposeus & its regulation) and its functions	×	ЖН	Y
PY75	Describe different types of pnaemias & Jaundou	*	KH.	Y
PY26	Describe WBC formation (granulopolesis) and its regulation	К	KH	, X
PY2.7	Describe the formation of platetels, functions and variations.	ж	KH.	Y
PYZS	Describe the physiological basis of hemostasis and, anticoagularits. Describe bleeding & clotting disorders (Homophilia, purpura)	К	КН	X
PY2.9	Describe different blood groups and 4-scuss the clinical importance of blood grouping, blood banking ann transfes on	К	Кн	Y

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Number of	procedures that	requite :	certification	121411.3

Lecture: Small group discussion	Writen/Viva	Digge.	
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Latture, Small group discussion	Witter/Vivis		
Lecture, Smo# group discussion	Writien/Viva	Pathology	
Lecture Small group discussion	Winten/Vivis		
Lectur Small ртыр фафиянов	Whiten/Vrviii work		Biochemistry
Lecture, Small group discussion	Written/Viva voce		Biochumistry
Loctore: Small group distursion	Whiten/Viva voce		
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Number of procedures that require cartification: (NIL)

Suggested	Suggested	Number	Vertical	Horizontal
Leaching Learning method	Assessment	required to cortfly	integration	Integration
Lecture, Small group discussion	Whiten/Viva			
Lecture, Small yeaup discussion	Writinn/V:va			Biochemistry
Lecture, Small group discussion	Winten/Vivs kode			Biochemisky
Lecture, Small group discussion	Writign/Viva			
Lecture, Small group discussion	Written/Viva		Pathology	Bechenisky
Lecture, Small group discussion	Willen/Viva			
Lecture, Small grunp discussion	Winders/Vivo			
Lecture South Broup discussion	Written Vwa		Pathology	
Lecture, Small group discussion, ECE- Vigit to blood bank	Writter/VIvs NOCK		Pathology	

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TAPE 4 A	Secretary Page 71 C Page		011	9
Y2.11	Estimate Hb, RBC, TLC, RBC Indices, DLC, Blood groups, BT/CT	S	SH	X.
PY2.12	Describe test for ESR, Osmotic fraglity, Hamatocril. Note the findings and interpret the test results etc.	к	КН	¥
Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)
PY2.13	Describe steps for reliculacyte and platelet count	к	KH	Y
Topic: Nerve	and Muscle Physiology	Fr Shirt Liv	Number of com	potencies: (18)
PY3	Describe the structure and functions of a neuron and neuroglia; Discuss Nerve Growth Factor & other growth	K	КН	Y
PY3 2	Describe the types, functions & properties of nerve fibers	К	кн	Y
PY3 3	Describe the degeneration and regeneration in peripheral nerves	К	KH	Y
PY3.4	Describe the structure of neuro- muscular junction and transmission of impulses	К	KH	. Y
PY3.5	Discuss the action of neuro- musicular blocking agents	К	КН	Y
PY36	Describe the unthophysiology of Myasthenia gravis	К	KB	y
PY3.7	Describe the different types of muscle titres and their structure	K	КН	Υ
PY3.E	Describe action potential and its properties in different muscle types (skelptal & smooth)	.8	Юн	Y
PY3 9	Describe the molecular basis of nuiscle contraction in skeletal and in smooth muscles	К	KH	Y
PY3 10	Describe the mode of muscle contraction (isometric and isotonic)	К	KH	Y
PY3.11	Explain energy source and muscle metabolism	- 6	Кн	4
Number	The student should be able to:	Domain K/S/A/C	SHIP .	Core (Y/N)
PY3.12	Explain the gradation of muscular activity	K	КН	Y
PY3.13	Describe muscular dystrophy:	К	Кн	Y
PY3 M	Perform Ergography	5	SH	Y
PY3.15	Demonstrate effect of mild, moderate and severe exercise and record changes in cardiorespiratory parameters	S	SH	κ.
PY3 IG	Demonstrate Harvard Step test and describe the impact on induced physiologic parameters in a simulated environment.		SH	Y
PY3,17	Describe Strength-duration curve	15	КН	Y
PY3.18	Observe with Computer assisted learning (i) amphibien nerve - muscle experiments (ii) amphibial cardiac experiments	S	KH	Y

Oliver Janes

N				
SUDVE SERVICE	Pra-tical/OSPE/		Pathology	
Demonstration	Written Alva voca		Pathology	
Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Demonstration sessions	Written M.va		Pathology	
	of procedures th	al require certif	ication: (NIL)	L
Group discussion	Willen/V-va voca			Human Anatomy
Lecture Small group discussion	Written/Viva 9009 Written/Viva		General	<u>;</u>
group discussion Lecture Small group discussion	Voce Written/Viva		Medic no Anaesthesiology	
Lecture Small group discussion Lecture Small	Written/Viva voce Written/Viva	74	Anaesthesiology , Pharmacology Pathology	
group discussion Lecture, Small group discussion	Written/Viva		3/	Human Anatony
Lecture, Swall group discussion	Watten/Viva voce			
Lecture Small group discussion	Written/Viva			
Lecture, Small group discussion Lecture Small	Written/Viva			I Discourance
group discussion Suggested Teaching Learning Inothed		Number required to certify	Vertical Integration	Horizontal Integration
Lecture, Small group discussion			General Medicine	
Lecture, Small group discussion DOAP sessions	Practical/OSPE/		General Medicine	Human Analomy
DOAP sussions	Viva voce Practical/OSPE/ Viva voce			
DOAP sessions	Practical/OSPE/ Viva voce			
Lecture, Small group discussion Domonstration,	Written/Viva			,
Computer assisted learning methods	voce .			

Mulan Derivy

Pha t	Describe the strubture and functions of digestive system	*	104	Y
Pred	Discrete the composition, inactions and regulation of service, gastric, panereals, injestical jusces and late secretion.	ж	101	_/Y
PY4.3	Describe GIT movements, regulation and functions. Describe defocation relies. Explain role of dietary fibre.	К	кн	Y
PY4.4	Describe the physiology of digestion and absorption of nutrients	K	кн	3
Varribor .	The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)
PY4.5	Describe the source of GIT hormones, train regulation and functions	К	Кн	Y
PY4 6	Describe the Gut-Brain Axis	11.	KM	Α
PY4.T	Describe & discuss the structure and functions of level and gall bladder	K	Sht.	
PY48	Oescribe & discuss gastric function trails, pancroatic executive function trails & liver function tools	К		
PY4.9	Discuss the physiology aspects of: peptic stour, gratro- posophageal reflux discuse, vomiting, diarrhoea, constitution. Advisance days. Thereforements disease.	R	жн	*
P\$4.10	Demonstrate the corect clinical examination of the abdomen in a normal volunteer or simulated anymoment.	:00	SH	Y
Topic: Cardi	evascular Physiology (CV5)		Number of co	mpetuncies: (16
PY5 1	Describe the functional enteriory of heart including chimiters sounds and Pacentifier tissue and conducting wistom.	K	RH.	, Y
PY5 2	Oescribe the properties of circles muscle including its morphology, olectrical, mechanical and irretabolic functions.	К	KH	Y
PY5.3	Discuss the events occurring ithring the cardiac cycle	K	KH	Y
PY5-4	Describe generation, conduction of cardiac impulse	K.	KH.	.Y.
PYSS	Describe the physiology of mechicardiagram (E.C.G.), its implications and the Gardiac axis	K	Юн.	Y
Number	COMPETENCY The student should be able to:	Demain K/S/A/C	Level K/KH/ SH/P	Cure (Y/N)
PYS 6	Ouscribe abnormal ECG, arrythmiss, heart block and invocardial infarction	*	Кн	Y

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Lecture Small group discussion	Written/Viva			Human Aracemy
Lecture, Small group discussion	Written/Viva			i B.ocham-stry
Lecture 'Small gro in discussion	Walten/Viva			
Lecture, Small group discussion	Written/Viva voce			Biochemistry
Suggested Teaching Learning	Suggested Assessment method	Number required to certify	Vertical Integration	Horizontal Integration
Lecture Small group discussion	Written/Viva vacu		1	
Lecture Small group discussion				
Lecture, Small group discussion	Written/Viva voce			Biochemistry
Lecture, Small group discussion, Demonstration Esophageal	Written/Viva voon			Biochemistry
endoscopy Lecture: Small group discussion	Written/Viva		General Medicine	Biochemistry
	·			
DOAP session	Skill assessment V-va voce/OSCE			
Number of	procedures that re	equire certificat	ion: (03)	· .
Lecture, Small group discussion	Written/Viva	,		Human Anatomy
Lecture, Small group discussion	Writign/Viva			
Locture Small	WollenMiva			
group discussion Lecture, Small group discussion	Written/Viva			
Lecture, Small group discussion	Written/Viva		General Medicine	
Suggosted Teaching Learning method	Suggested Assessment method	Number required to certify	Vertical Integration	Horizonta) Integration
Lecture, Small group discussion	Whiten/Viva	···	General Medic-ne	Human Anatom

The Cin Ji rey

Y5 8	Describe and discuss local and systemic card ovascular regulatory mechanisms	' κ Į	KH	Υ
PY5 9	Describe the factors affecting heart rate regulation of cardiac output & blood pressure	К	КН	Y
PY5 10	Describe & discuss regional circulation including microcirculation, lymphatic circulation, coronary, carabral.	К	КН	Y
PY5.11	capillary, skin, logial, pulmonary and splanchnic circulation	1		
	Describe the patho-physiology of shock, syncope and heart failure	К	KH.	Y
PY5 12 ·	Record blood pressure & pulso at rest and in different grades of exercise and postures in a volunteer or simulated environment	S	SH	Y
PY5.13	Record and interpret normal ECG in a volunteer or simulated environment	S	· SH	Y
PY5 14	Observe cardiovascular autonomic function tosts in a volunteer or simulated environment	S	SH	N
PY6.*5	Demonstrate the correct clinical examination of the cardiovascular system in a normal volunteer or simulated environment	S	SH	Y
PY5 16	Record Arterial pulse tracing using finger plethysmography in a	S	SH	N .
	volunteer of simulated environment			
Topic Rospi	volunteer or simulated environment		Number of cor	ngelencies: (10)
Topic Rospi	rotory Physiology COMPETENCY	Domain		Oper (Y/N)
76 m	volunteer or simulated environment	Domain K/S/A/C	Number of cor Level K/KH/ SH/P	Core (Y/N)
Nuinber PY6 1	COMPETENCY The student should be able to: Describe the functional anatomy of respiratory tract	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Level K/KH/	
Nuinber	Describe the functional anatomy of respiratory fraction of normal respiration, pressure changes during ventilation, lung volume and capacities, alveolar surface tension compliance, always resistance ventilation of the property of the prop	KISIAIC	Leve) K/KH/ SH/P	Core (Y/N)
PY6 1 PY5.2 PY6-3	COMPETENCY The student should be able to: Describe the functional anatomy of respiratory tract Describe the mechanics of normal respiration, pressure changes during venillation, lung volume and capacities, alveolar surface tension compliance, acrosy resistance venillation V/P ratio, diffusion capacity of lungs Describe and discuss the transport of respiratory guses	K/S/A/C	Level KIKHI SHIP KH	Core (Y/N)
PY6.1 PY6.3 PY6.4	COMPETENCY The student should be able to: Describe the functional anatomy of respiratory tract Describe the mechanics of normal respiration, pressure changes during ventilation, lung volume and capacities, alveolar surface tension compliance, always resistance ventilation V/P ratio, diffusion capacity of lungs Describe and discuss the	K/S/A/C K	Leve) K/KH/ SH/P KH KH	Core (Y/N) Y
PY6.1 PY6.3 PY6.4	retory Physiology COMPETENCY The student should be able to: Describe the functional anatomy of respiratory tract Doscribe the mechanics of normal respiration, pressure changes during ventilation, lung volume and capacities, alveolar surface tension compliance, already resistance ventilation V/P ratio, diffusion capacity of lungs Describe and discuss the transport of respiratory gases Oxygen and Carbon discuss the physiology of high altitude and dego sea diving Describe and discuss the principles of artificial respiration, oxygen therapy, acclimatization	K/S/A/C K K	KH KH	Core (Y/N) Y Y
PY6.1 PY6.3 PY6.4 PY6.5	volunteer or simulated environment COMPETENCY The student should be able to: Describe the functional anatomy of respiratory tract Doscribe the mechanics of normal respiration, pressure changes during ventilation, lung volume and capacities, alveolar surface tension compliance, always resistance ventilation V/P ratio, diffusion capacity of lungs Describe and discuss the transport of respiratory gases Oxygen and Carbon discuss the physiology of high altitude and deod sea diving Describe and discuss the principles of artificial respiration, oxygen therapy, acclimatization and decompression sickness Describe and discuss the pathophysiology of dyspnood, hypoxia, cyanosis asphyxia,	KISIAIC K K	KH KH	Core (Y/N) Y Y Y
PY6.1 PY6.3 PY6.4	volunteer or simulated environment Colory Physiology COMPETENCY The student should be able to: Describe the functional anatomy of respiratory tract Doscribe the mechanics of normal respiration, pressure changes during ventilation, lung volume and capacities, alveolar surface tension compliance, always resistance ventilation V/P ratio, diffusion capacity of lungs Describe and discuss the transport of respiratory gases Oxygen and Carbon discuss the physiology of high altitude and deoo sea diving Describe and discuss the principles of artificial respiration, oxygen therapy, acclimatization and decompression sickness Describe and discuss the pathophysiology of dyspnooa.	KISIAIC K K	KH KH KH KH	Core (Y/N) Y Y Y Y

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Lecture, Small	Westen/Viva			
group discussion				
Leciure Small group discussion	Written/Viva			
Lecture Small group discussion	WrittersViva		General Medicine	
		4 34 40	Section .	
Lecture, Small group discussion	Written/Viva	100		
	Practical/OSPE/ Viva voce	1 each x 3	BAST!	
DOAP sessions	Practical/OSPE/ Viva voce		General Medicino	
DOAP sessions	Skill assussment Viva voce		11 (
DOV13 zeasitus	Practical/OSPE/ Vivil voce			
DOAP sessions, Computer assisted learning methods	Practical/OSPE/ Viva voce		General Medicine	
	or of procedures (hal reguire certi	fication; (01)	
Suggested Teaching Leanting Inothod	Suggested Assessment mothod	Number required to certify	Vertical Integration	Horizontal Integration
Lenure, Small generaliscussion	Writen/Viva			
Lecture Small group discuss or	, Written/Viva			
Group discussion	Myuren/Viva			
Lecture, Small group discussion	Walten/Viva vaçe			
Lecture, Small group discussio	Written/Viva	8		
Lecture Small group discuss of				
Lecture, Small group discussion		, , ,		
DOAP sessions	Skill UssessmenV Viva voco		Respiratory Med-cine	

Mellon Orny

	simulated environment			
PY6.10	Demonstrate the correct technique to perform measurement of peak expiratory flow rate in a normal volunteer or simulated environment	S	SH	Y
Topic: Renal	Physiology		Number of camp	elancies: (09)
PY7.1	Describe structure and function of kidney	К	кн	Y
PY7 2	Describe the structure and functions of juxla glomerular apparatus and role of room-anglotensin system	K	кн	Y 05-05 (200)
Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)
PY7.3	Describe the niechanlsm of urine formation involving processes of filtration, tubular reabsorption & secretion; concentration and diluting mechanism.	к	кя	Y
PY7.4	Describe & discuss the significance & implication of Renal clearance	К	КН	. У
PY7,5	Describe the renal regulation of fluid and electrolytes & acid-base balance	К	КН	Y .
77.G	Describe the innervations of unnary bladder, physiology of iniciarition and its abnormalities	K	КН	Y
PY7.7	Describe artificial kidney, diatysis and renal transplantation	К	кн	Y
PY7 ()	Describe & discuss Renal Function Tests	K	KFI	Y
PY7.9	Describe cyslometry and discuss the normal cyslometrogram	К	кн	Y

Topic: Endocrine Physiology

Number of compotencies: (00)

PY8.1	Describe the physiology of bone and calcium metabolism	К	ХН	Y
PY8 2	Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of pituitary gland, thyroid gland, parathyroid gland, adronal gland, pancreas and hypothalamus		кн .	Y
C BY9	Describe the physiology of Thymus & Pineal Gland	ik	кн	Y
PY8 4	Describe function lesis: Thyroid gland. Adrenal cortex, Adrenal modulla and pancreas.	К	КН	Y
Nomber	The student should be able to:	Doinain K/S/A/C	Levol K/KH/ SH/P	Core (Y/N)
PY8.5	Describe the metabolic and endocrine consequences of obesity 8 metabolic syndrome. Stress response Outline the psychiatry component pertaining to include syndrome	K	КН	¥ .
D.8Y9	Describe & differentiate the mechanism of action of steroid, protein and amine hormones	К	КН	Y

Melen Derry

Lecture, Small group discussion	Written/Vive			
Lecture, Small group discussion	Written/Viva			
Suggested Teaching Learning Incthed	Suggested Assessment mothod	Number required to certify	Vortical Integration	Horizontal Intogration
Lecture. Sma'l group discuss on	Written/Viva voce			
Leclure, Small group discussion	Writign/Viva			,
Lecture Small group discussion	Written/Viva			
Lecture, Small group discussion	Written/Viva			
Lecture Small group discussion	Muttou/Ana		General Medicine	
Lecture, Small group discussion	Written/Viva			Blochemistry
l ecturo Small group discussion	Walten/Vivii			

Number of procedures that require certification: (NIL)

Ceclure, Small	Wdlten/Viva	7	7	
group discussion				
Lecture, Small	Willen∕∨va		Ţ	
group discussion	voce	ļ		
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Lecture Small	Written/Viva	 	4	
group discussion			1	
Lecturo, Small	WrittenWiva		1	Biochemistry
group discussion	VOCE			,
<u> </u>				
	1		Vortical	Harlzantal
Suggested	Suggested	Number	· Aouticai	חסנוצטמנגנו
Teaching	Assessment	required to	Integration	Integration
Teaching Learning				
Teaching Learning method	Assessment inethod	required to		
Teaching Learning method Lecture Small	Assessment method	required to		
Teaching Learning method	Assessment method	required to		
Teaching Learning method Lecture Small	Assessment method	required to		
Teaching Learning method Lecture Small	Assessment method	required to		
Teaching Learning method Lecture Small	Assessment method	required to		
Teaching Learning method Lecture Small group discussion	Assessment inethod Widen/Viva voce	required to		
Teaching Learning method Lecture Small group discussion	Assessment inethod Writen/Viva	required to		
Teaching Learning method Lecture Small group discussion	Assessment inethod Writen/Viva	required to		

Derland Dany

LAD I	Describe and discuss sex	к	KH	Y
	dotermination; sex differentiation and their abnormities and outline psychiatry and practical implication of sex determination.			
PY9 2	Describe and discuss puberty, onset, progression, stages, early and delayed puberty and outline adolescent clinical and psychological association.	К	KH	Y
PY9.3	Describe male reproductive system: functions of testis and control of spermatogenesis & factors modifying it and outline its association with psychiatric illness	K	кн	Y 1
PY9.4	Describe lemate reproductive system: (a) functions of overy and its control, (b) menstrual cycle - hormonal, uterine and overlan changes	K	. KH	Y
PY9 5	Describe and discuss the physiological effects of sex hormons	К	КН	Y
PY96	Enumerate the contraceptive methods for male and female Discuss their advantages & disadvantages	К	КН	Y
PY9.7	Describe and discuss the effects of removal of gonads on physiological functions	к	кн	· V
Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)
PY9.8	Describe and discuss the physiology of pregnancy, parturition & lactation and outline the psychology and psychiatry-disorders associated with it.	К	КН	Y
PY9 9 .	Interpret a normal semen analysis report including (a) sporm count, (b) sporm morphology and (c) sporm mouthly as per WHO quidelines and discuss the results		KH	Y
PY9.10	Discuss the physiological basis of various pregnancy tests	K	КН	Y
PY9.1'1	Discuss the hormonal changes and their effects during perimenopause and menopause		КН	Y
PY9 12	Discuss the common causes of infertility in a couple and role of IVF in contaging a case of infertility	К	КН	Y
Topic: Neur	onhysiology	Nunibe	r of compotencies	: (20)
PY10.1	Oescribe and discuss the organization of nervous system	К	KH	Y
PY10.2	Describe and discuss the functions and properties of synapse, reflex, receptors	К	. кн	Y
PY10.3	Doscribe and discuss somatic sensations & sensory tracts	К	KH	Y
PY10.4	Describe and discuss motor tracts, inechanism of maintenance of lone, control of body movements, posture and equilibration & vest bulg, apparatus	К	. КН	. Y .

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group discussion	ANUMANANA ANUMANANANANANANANANANANANANANANANANANAN		İ	Human Analogy
Lecture Small	Written/V-va			-
group discussion				
	1994		1	
			100	2
Lecture, Small group discussion	Writton/Viva voce		THE SHEET HE	
Lecture: Small group discussion	Whiten/Vivo			
Lecture, Small	Written/Viva			
group discussion	VOCC		100	
Lecture Small group discussion	Writen/V va voce		Ousletrics & Gyntincology, Community Medicine	
Lecture, Small group discussion	Written/Viva		, and the second	
Suggested Teaching Learning	Suggested Assessment Inethol	Number required to certify	Vertical integration	Horizontal Integration
ceture. Small group discussion	Written/Viva		Obsletrics &	
	75			
Lecture, Small group discussion	OSPE/VIVA VOCE			
Lecture Small	Written/Vivn		Obstetrics 8	
group discussion	voce		Gynaecology	1
Lectum, Small group discussion	Written/Viva		Obstetnes & Gynaecology	
Lecture, Sinall group (liscussion)	wate vace		Obstetrics & Gynaecology	
Number	of procedures tha	l require certific	eation: (09)	
Lecture, Small	WrittenViva			Human Anatomy
group discussion		1		,
Lecture, Small group discussion	Wntten∕Viva voce			Human Anatomy
	Wollen/Viva			Human Anatomy
ectore Small			4	Trianian Anaiamy
Lecture Small	VOCE :		1	ì

Nelan Jay

	(ANS) Dascribe lind discuss Spinal sara.	K	KR		
	its Ametions, Neigh & sonsory distarbances	, n	- Nh		
amber 1	COMPETENCY	Domain	Level KIKNI	Care (Y/N)	
	The student should be able to	K/S/A/C	SHIP		
ne fanal	Oirscnow and discuss functions of ourselved cortex, besst gangles, thatoness, hypothetenus, derobellum and limbic system and	K	KH	. *	
Y10.8	their abnormalities Describe and discuss behavioural olid. EEG characteristics during sides and mechanism disponsible.	К	КН	v	, M.,
	for as production		1 - 1	1.5	
Y16.5	Describe and discuss the physiological basis of momory, loaning shif speech	К.	No.	*	
Y10.10	Describe and discuss chemical transmission in the nervous system. (Out ne the psychiatry planeth)	К -	KH	Ψ.	
Y10/11	Demonstrate the correct clinical examination of the servous system. Higher functions, sensory system, receives, crain all nerves in a normal volunteer or simulated environment.	\$	р	Y	
Y10.32	Identify normal EEG forms	8.	5	Α.	
Y10-13	Describe and discuss percovors of	K	КН		
P/10 14	sindi and taxto sensation Describe and discuss patho- physiology of atternal smell and	Ж	KH	Y	
10/200	Calta surgation	-			
W 10 15	Destribution discuss functional analysis of ear and auditory of ear and auditory astheory & physiology of hearing	K	KH	4.	
PY10.16	Describe and discuss pathophysicingly of dealness Describe hearing tests	×	КН	· ·	
2Y10:17	Describe and discuss functional anatomy of eye, physiology of image formation, physiology of vision including octour vision, infractive errors, colour picodiress strysology of pupil and light refer	К	КН	Y	
Number	COMPETENCY The student should be note to:	R/S/A/C	Level K/KH/ SH/P	Core (YIN)	
PY12.1E	Describe and discuss the physiological basis of Resion in visual pathway	N.	KH	Y	
PY10.18	Describe and discuss auditory & visual evoke potentials	К.	KH	Ψ	
PY10 20	Demonstrate (i) Testing of visual lacusty, culture and field of vision and (ii) hearing (iii) Tusting for	5	p	Y	
5	Smoll and (iv) tasto sensation in Valuelaed simulated environment				
Topic: Integrate			shor of competent	les: (14)	
PY11.1	Describe and discuss mechanism of temperature regulation	14	KH	Y	Nelson!

nouse Small 1	Westurn/Viron			Higmith Additions
ming deputation				D. M. STELLEY, P. STELLEY, C. W.
	Suggested Assessment	Number regulated to	Vertical Integration	Honzontar Integration
	nethidd	certify	THE PERSON NAMED IN	THE RESERVE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TO THE PERSON NA
nethod		p		
ecture, Small mus discussion	Written/Vivis		Psychology	Haman Anaiomy
177			175	
Committee of Contract of Contr	Walter/Vvva vpce	-	Psychatry	1
	Vintsun/Vivis Vocn		Psychiatry	
CONTRACTOR	Westign/Nivo			
DOAP sessions	Skill assignament/ Vwa vecis/DSCE	1 sech (istal fi)		Human Anatomy
and the same of				
Sinsifigroup . engtieng	OSPENWa yoce		Paychatry	
Lecture Sinsel preud discursion	Written/Vivis vidco		ENT	
сотните: Бизаб group discursion	Weitare/Vera voce	11	ENT	
Lecture, Smolt group drawssion	Wintpon/Viva		ENT	
Lactury, Small group discussion	Written/Viva voce		ENT	
Littler Small group discussions	WritenOriza vacu		Opidesimulogy	
Suggested Teaching Learning method	Suggested Assessment method	Number required to sertify	Vertical Integration	Horizantai Integration
Locking Small	Written/Vivo		Carithalmelogy	
group decussion	voče		(2.5)	
Lectury, Small group discussion	Writer/Viva		Opiniatriciogy	4
DOAP sessions	Skill assessment/ Viva voce	1 sech (fotal 4)	ENT, Ophihisimelagy	
Number of p	vocedures that re	equire certificati	pro (90L)	1

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	Leokt:		Absertage	
PY11.3	Describe and discuss inculturism of fever, costs change and feed stroke	×	KOn	Υ
PY11.4	Obscribe and discuss card o- respiratory and metabolic adjustments during exercise physical training effects	К	XH	Y
PY11.5	Describe and discuss physiological consequences of sedentary lifestyla	ж	KH	Y
PY11.6	Describe physiology of Infancy	K	KH	14
PX117	Opscribe and discuss physiology of organic from radicals and ship existants	К	КН	N
PH118	Dertues & compare cardio- respentory changes in userose (isometric and isotonic) with that in the resting state and under different environmental conditions (heat and cold)	, X	ЖН	Y
Nunrbor	The strident should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)
PY119	Imarpret growth charts	К	KH	62
PY11:10	Integrand antivopomokic	K	104	N
PV11.11	Discuss the concept, orderia for diagrapsis of Brain death and its implications	K	жн	Ψ
PY11,12	Discuss the physiological effects of meditation	К	101	Pt.
PY11.13	Oblain history and perform general examination in the volunteer I simulated environment	5	SH	Ý
我似的	Driponstruce Basic Life Segment in an ambitated edisconnects	S	SH.	Α.

Column C: K: Knowledge, 5 - Skill, A - Attitude / professionalism. C: Communication. Column D: K - H
DOAP session - Demonstrate, Observe, Assess, Ferform.
Column H: If entry is P: indicate how many procedures must be done independently for certification g

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		4)		
Lacture Small group discussion	Wallen/Viva voce			
Lecture Small group discussion	Written/Viya voce			Fig.
Locture Small 900-ip discussion	WrttenViva vece			
Lecture, Small group discussion	Written/Viva	· · · · · · · · · · · · · · · · · · ·	Pedialnes	
Locture, Small group discussion	Written/Viva			
Cecluro, Small group discussion	Written/Viva voce	-		
Suggested Teaching Learning method	Suggested Assessment inclood	Number required to certify	Vertical Intogration	Hotizontal Integration
Small group teaching	Practical/OSPE/ Viva voce		Pediatrics	
Sinal group	Práctical/OSPE/ Viva voce	14	Pedian cs	
Lecture, Small group tirscussion	Written/Viva			
Lecture Small group discussion	Written/Viva			
DOAP sessions	Skill assessmenV V.va voce			
DOAP session?	OSCE		General Medicine, Anaesthesiology	

mows, KH - Knows How, SH - Shows how, P-performs independently, Column F:

raduation

New Gary

	The student should be able to:	KISIAIC
PY1.1	Describe the structure and functions of a mammalian cell	К
PY1.2	Describe and discuss the principles of homeostasis	- K
PY1.3	Describe intercellular communication	K
PV14	Describe apoptosis – programmed cell death	- к
PY1.5	Describo and discuss transfinit mechanisms across cell membranes	К .
PY1.6	Describe the fluid compartments of the body, its ionic composition &	. к
PY1.7·	Describe the cancept of pH & Buffer systems in the body	К
PY18	Describe and discuss the molecular basis of resting membrane potential and action potential in excitable tissue	К
PY1 9	Demonstrate the ability to describe and discuss the methods used to demonstrate the functions of the cells and its products, its communications and their applications in Clinical care and research	К



SH/P		Teaching Leagaing method	Assossment method	required to certify	Integration
KH KH	_ Y	Lecture, Small group discussion	Wniten/Viva voce		
KH	Y	Lecture, Small group discussion.	Written/Viva		
КН	Y	Lecture, Small	Wri(len/√iva		
KH	Y	Lecture, Small group discussion	WolledViva		Pathology
. KH	Y	Lecture, Small group discussion	Wintten/Viva		
кн	Υ	Lecture, Small group discussion	Written/Viva voce	THE ST	Wight 18
KIH	Y	Lecture Small group discussion	Wollen/Viva		
КН	Y	Lecture Small group discussion	Writen/Viva	. "P"/ys	
КН	Y	Lecture, Small group discussion	Written/Viva		



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	_		_		
	-	-	_	_	
Biochemistry		8		_	
400			_	_	
Biochematry	-				
			4.5		

Kumber	COMPETENCY The student should be able to.	Domain K/S/A/G	ftevel K/KH/ SH.P	Core (Y/N)
P: `i	Describe the structure and functions of a neuron at d	Х	KH	Y
	neuroglia Discuss Norve Growiii Factor & other growth			
	factors/cytologes)		l
Y3 2	Describe the types, functions & properties of nerve libers	К	KH .	Υ.
PY3 3	Describe the degeneration and regeneration in peripheral nerves	. к	кн	Y
bAs 1	Describe the situating of neuro- muscular function and transmission of impulses	К	KH	·Y
PY3.5	Discuss the action of neuro- inuscular blacking agents	К .	КН	Y
PY3.6	Describe the pathophysiology of Myasthenia gravis	K	KH .	Y
PY3,7	Describe the different types of muscle fibres and their structure	К	KIH	Υ
PY3 B	Describe action potential and its properties in different muscle types	к	кн	Y
ry3 9	(skeletal & smooth) Describe the molecular basis of muscle contraction in skeletal and in smooth muscles	K *	кн	Y .
PY3, 10.	Describe the mode of muscle contraction. (isometric and isotonic)	К	KH	Y
PY3 11	Explain energy source and muscle metabolism	К	КН	Y
PY3,12	Explain the gradation of muscular activity	К	кн	Y
PY3.13	Describe muscular dystrophy myopathies	К	КН	Ý
PY5 14	Perform Ergagraphy	S	SH	Ψ *
P13 (5	Demonstrate effect of fold, moderate and severe exercise and record changes in cardiorespiratory parameters	S	SH	Y .
PY3.16	Demonstrate Harvard Step test and describe the impact on induced physiologic parameters in a simulated environment	\$	SH	Y
PY3.17	Describe Strength-duration curve	K	KH	Y
PY3 18	Observe with Computer assisted learning (i) amphibian nerve - inviscle experiments (ii) amphibian cardiac experiments	S	КН	Y



anggested Teaching Cearning mothod	Suggesma Assessment method	required to certify p	veruesi Integration	nonzontal Integration
Lecture, Small	Woltzen/Vivit			Haman Animomy
унир сівсивася	voca			
Carried, Separt	Wittion/Vivin	-		
group discussion			-	
Lecture Small	Written/Viva		Contral	
group discussion	VOCD		Medicine	
Lecture, Small group discussion	Written/Viva voce		Artaesihes ology	
Lacture, Small eroup discussion	WhitenVive vote		Avansihasiology Pharmacology	1041
Lecture, Small group discussion	Written/Vwg		Pathaogy	
Lecture Smell	Written/Vive			Human Andipmy
wound discussion		4		
Lecture, Small group discussion	Wniten/Vwa _		F 11	
Lecture Small group decussion	Wetten/Vwa vace			18
Lecture, Small	Winter/Vea	- V		
group discussion	voce			
Leblurg Small	WhiteryVivis			Biochemistry
group discussion	A committee of the comm		-	
Locturu, Small	Wretur/Voia		General	
dumb magnesian		-	Monone	
Locking, Small	Winter/Vive		General	Human Analomy
group discussion			Medicine	
DDAP sessions	Practica/O5PE/ Viya voca			
DOAP sespont	Procition/OSPE/ Viva visto	25		
DON'S sessions	PrinciposPD Viva vide			
Lecture, Small	Writion/Vwa	-		
Tyruup discussion	VIOCU		No.	
Domonstration, Computer assisted learning	Proches / Viva		ĺl.	
mpihods				1

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hustber	COMPETENCY The swittern should be runtho	Domain K. j.	\$1400 (77.20)	-0/E) ((n)
144	Describe the functional mustarry of heart including chambers sounds; and	×	ALI +	×
	Parcytaker tissuu and surmicing system			
PV52	Describe the properties of cardiac muscle including its morphology, electrical, mechanical and metabolic functions	ж	104	Y
YS J	Discuss the dyonts occurring up ng the cardiac cycle	К	KH	Υ,
AR 1	Describe generation, conduction of conflor impulse	К	KH	. Y
PY5.5	Describe the physiology of olectrocardiogram (6.C G), its applications and the cardioc skip	К	XXX	-¥.
7756	Describe abnormal ECG arryshmas, heart block and impecardial Infaction.	, n	- KH	Y
PY 4 7	Describe and decuss regoledynamics of circulatory system.	R	KH	Y
PY5.8	Describe and discuss local and systemic cordiovescular regulatory methanisms	К	Kn	y.
PY5.9	Describe the factors affecting flearless, regulation of cardiac output & Stood pressure	× .	КН	A
PYS In	Describe & discuss regional provision including religion, recipion, by plants circulation, caronary continua, capitary, skin, foutal pulnomary and apparetime circulation	Ж.	KH	Y
PY5.11	Describe the paths-physiology of shoot, syncope and heart teaure	ic.	XH	4
PY5.12	Record blood pressure A pulse at rost and in different grades of transitive and abstures in a volume as or sometime of a	-	594	Y
PY5.13	Record and interpret normal ECG his a volunteer or simulated unvestigated	5	SH	Υ.
PY5 14	Observe cardiovascular autonomic function texts in a valunteer or timutated onvironment	5	SH	N
PY5.15	Opmonstrate the correct clinical examination of the cardiovalicular system in a normal volunteer or smulated environment.	S	SH	Ψ.
PY5.16	Flucted Arterial pulse tracking using larger plethysmography is a whatere or smallest consumer.	4	514	N

Suggested Teaching	auggestea Assessment	Number	Vertical	Horizontal
Learning	inethod'	required to certify	Integration	Integration
Lecture Small group discussion	Written/Viva voce			Human Analomy
Lecture Small group discussion	Written/Viva voco			
Lecture, Small group discussion	Written/Viva			
Lecture, Small group discussion	Written/Viva		 	•
Lecture Small group discussion	Whiten/Viva	18 1	General Medicine	
Lecture Small group discussion	Written/Viva Voce		Goneral Medicine	Human Analomy
Locture, Small group discussion	Wrillen/Viva			
Locture, Small group discussion	Augrent/Aisa			
Lecture Small group discussion	Wellen/Veva	c ,	-	·
Lociure, Small group discussion	Whilen/Viva		General Medicine	
Lecture, Small	·Mullen/Viva	-		
group discussion				1 .
DOAP sassions	Practical/OSPE/ Viva voce	1 each x 3		
DOAP sessions	Practical/OSPE/ Viva voce		General Medicine	
DOAP sessions	Skill assessment Viva voce			
DOAP sessions	Practical/OSPE/ V.va vsce			
DOAP sessions. Compiler ussisted learning	Practical/OSPE/ Viva vuce		General Medicine	-

Mumber ,	COMPETENCY The student should be note to	Gamain KrSrAIC	Lovel X,KH.	Core (YIN)
PY0.1	Describe the functional anatomy of respiratory tract	к	. KH	Y
PY5.2	Describe the mechanics of	К	KH	Y
	normal respiration, pressure changes during ventilation, lung votume and capacities alveolar surface tension, compliance, airway resistance, ventilation, V/P ratio, diffusion capacity of lungs			
PY6,3	Describe and discuss the transport of respiratory gases: Oxygen and Carbon dioxide	К	Кн	Y
PY6.4	Describe and discuss the physiology of high attitude and deep see diving	К	KH	Y
PY6.5	Describe and discuss the principles of artificial respiration, oxygen therapy acclimatization and decompression sickness.	К	KH	Y
PYC 6	Describe and discuss the pathophysiology of dysphoea, hypoxia, cyanosis asphyxia; drowning, periodic breathing	K	Ķн	γ .
PY6 7	Describe and discuss lung function lests & their clinical significance	К	KH	Y
PY6 8	Damonstrate the correct rechaigue to perform & interpret Spirometry	S	SH	Y
PY6,9 _.	Demonstrate the correct clinical examination of the respiratory system in a normal volunteer or simulated environment.	S	- P	
PY6.10	Demonstrate the correct technique to perform mensurement of peak expiratory flow rate in a normal volunteer or simulated environment		SH	Ä

Teaching.	Assessment method	required to certify P	Vertical littegration	Horizontal Integration
Lecture, Small proup discussion	Wrigun/Viva.			
Locture, Sirt all group discussion	Whiten/Viva voca			
	de 2			
Lectury Small grown decusions	Writen/ywa voca			- 1
Lecture Small group discussion.	William /V/v2 1			
Locium, Smell group discussion	Writton/Viva			,
Lective Small prote discussion	Wrdion/Vica voci			
Lecture, Small group discussion	Wysten/Vna voce			
DOM sessions	assessment Viva vaco		Respiratory Medicine	-
OCIAP sessions	JAW statistement/ Viva vace/OSCE			
DOAP seasons	Practical/OSPE1 Viva voco			

liumber	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Care (YIN)
PY8,1	Describe the physiology of bone and calcium metabolism	К	КН	Y
PY8 2	Describe the synthesis, sucretion transport, olive plogical actions, regulation and effect of altered (hypo and hyper; secretion of pituitary gland, thyroid gland, parathyroid gland, adrenal gland, panereas and hypothalamus		КН	
PY8 3	Describe the physiology of Thymus & Pineal Gland	К.	КH	Y
PY8 4	Describe function lests. Thyroid tyland, Adrenal cortex, Adrenal medulla and pancreas.	K	. кн	
PY8 5	Describe the metabolic and endocrine consequences of obesity & metabolic syndrome. Stress response. Outline the psychiatry component pertaining to metabolic syndrome.		KH	Y
PY8.6	Describe & differentiate the mechanism of action of steroid, protein and amine hormones	к	. KH	Y .

Topic: Reproductive Physiology

Number of competencies: (12)

0.00	In			
PY9 t	Describe and discussive describe and discretion; sex differentiation and their abnormalies and outline psychiatry and practical implication of sex determination.	. К	. KH	Y .`.
bA3.5 .	Describe and discuss publing onset, progression, stages' early and delayed publing and delayed publing.	. К	. KH	Y
	adoloscent clinical and psychological desociation	•		
PY93	Describe male reproductive system functions of lest's and control of spermatogenesis & factors modifying it and outline its association with psychiatric illness	К .	КН	Y
PY9.4 -	Describe lemate reproductive system (a) functions of overy and its control; (b) monstrual cycle hormonal, uterine and overland thanges	ĸ	KH KH	Υ .
PY95	Describe and discuss the gays olugical effects of sex hormones	. K	KFI	. ү
PY9.6	Enumerate the contraceptive methods for male and female Discuss their advantages & disadvantages	к	ŘН	Y
PY9 7	Describe and discuss the offects of removal of gonads on physiological functions	К	KH	Υ
PY9.8	Describe and discuss the physiology of programmy, particulion & lactation and outline the psychology and psychiatry-disorders associated with it.	· K	КН	Y

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	leaching Learning method	Suggested Assessment incthod	Number required to certify	Vertical Integration	Horizontal Integration	
	group discussion	Written/Viva				
	graup discussion					
-	Light of File	Ų.				
100		X				
- 1	Lecture, Small group discussion Lecture, Small	Written/Viva			Biochemistry	
	group discussion	voce			- Sideriemsby	·
	Lecture Small group discussion	Written/Viva vace		E		
***	7					
	Lecture, Small group discussion	Written/Viva		1		
	Number of pro	בסלוונסג וו)שן נפקו	ulre certification	: (NIL)		
10	Lecture Small group discussion	Wollen/Viva		.	Human Analuniy	
		Ī.				
	Cecture, Small group discussion	Wallen/Viva				
	Lacture, Small group discussion	Watten/Viva				
	Lecture, Small group discussion	Written/Viva				
·	Lecture, Small group discussion	Written/Viva	-			
	Lecture, Small group discussion	Written/Viva		Obstetrics & Gyntrecology, Community Medicing		
	Lecture, Small- group discussion	Written/Viva			·]
	Group discussion	Mullen/Viva		Obstetnes & Gynaecology		

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	(b) sparm morehology and (c) sparm motility, as per WHO. guidelines and discuss the results				
PY9 10	Discuss the physiological basis of various pregnancy tests	К	кн	7	,
P\911	Discuss the hormonal changes and their effects during perimenopause	К	КН	γ	1
7	and menopause	1			
PY9 12	Discuss the common causes of intertitity in a couple and role of IVF in managing a case of intentity.	K	КН	Y	

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Leutura Sanaki Writton/Vivo	Obstatyles &	
group disc asson your Lecture, Smalt Whiten/Vive group depursion your	Gymecology Obstetrics & Gymecology	
Lockure, Small Wishun/Vive group discussion vices	Obelesias & Gynacology	
En e		
	7e 87	

	The student should be able to:	X/S/A/C	SHIP	७० ७७ (१४०)
PY7:	Describe structure and function of kidney	K	қ न	7.
PY7 2	Describe the structure and functions of juxta glomerular	K	Kn	Y
	apparatus and role of renin- angiotensin system			
PY7.3	Oescribe the mochanism of urine formation involving processes of filtration, lubular reabsorption & succetion; concentration and	К	КН	Y
PY7.4	Describe & discuss the significance & implication of Renal clearance	К	КН	Y
PY7 5	Describe the renal regulation of fluid and electrolytes & ac d-base balance	К	КН	Y
PY7.6	Describe the innervations of urinary bladder, physiology of micturition and its abnormalities	. к	кн	Y
PY7,7	Describe artifical kidney, dialysis and renal transplantation	} . K	КН	
PY78	Describe & discuss Renal Function Tools	K	кн	Y
PY7.9	Describe cystometry and discuss	К	KH	Ÿ

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Teaching Learning method	Assessment inclined	required to certify	vertical Integration	Integration
Lecture, Small group discussion	Written/Viva			
Lecture Somit group discussion	Written/Viva			
Lecture, Sinall group discussion	WrittenMiva veco	1.		
Lecture, Small group discussion	voce Writtau/Niva	1 2		
Lecture, Small group discussion	Writen/Viva			
Lecture, Small group discussion	Wotten/Viva		. ,	
Lácture, Small group discussion	Multeu/Viva		General Medione	
Lecture, Small group discussion	Written/Viva Voce			Biochemistry
Cecture Small group discussion	Mullicin/Nia		-	

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	This shadom's should be strip to	K-8-A/C	\$16.0	
Y101	Describe and discuts the	- ж	891	Ý
Y10.2	Describe and discuss the lunctions		104	Y
A.U.	receptors of synamus seller.		1	
7:10:3	Describe and discuss sometic sonspliens & sensory tracts	. 8	108	×
YEA	Obscale and discuss motor tracts, unochanger of neuroplance of tone, control of body movements posture and equilibrium \$ vestibular apparatus	Ж	Xb+	Y
¥10.5	Descrite and discuss structure and functions of relicular activiting system, autonomic nervous system (ANS)	. К	KH	Υ
V10.4	Describe and discusir Spiral eard, its functions, firsten & sensory characters.	К	161-4	y
Y10.7	Describe and discuss functions of cerebral cortex, basal ganglin, thatemus, hypothistanus, cerebullum and lambic system and their atmorrhabbes.	к	iG+	¥ .
PV10 s	Disperible wild unlesses betweenswaf in vill EEG charactionatics during slugg and modernism rutponsible for its production	8.	KH	Υ
PY 10.5	Describe and discuss the physiological busis of memory. learning and speech	. к	KH	Y
1715 10	Directive and discuss choincal lightenission in the revious system. (Outline the psychological otenent).	×	NH NH	٧
PY10.11	Demonstrate the contest clinical examination of the nervous system. Higher functions, sonsory system, motor system reflexes, cranel nervous in a normal voluntour or simulated driverpointees.	S	P	Y
PY10.12	Identify isomal EEG forms	5	8	T.

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esching	Assessment mathed	to certify p	Integration	Harrzontal Integration
noture, Small noup discussion	Wnitge/Vwa vuce			Human Acasemy
octum Small	Writal/VVIII vuote			Human Annumy
edure, Small roup discussion	Whiten/Vivis		11	Human Anatumy
octuru. Sirjeli proup discussion	Wrden/Viva voce			Human Anatomy
F	Writtim/Viva			Human Analomy
Lecture, Small group discussion	Written/Viva			Human Anatomy
Lindans, Simell gryupi discussion	Writish/Viva		Paychalley	Hussas Acarcery
Crickins Svigit Crickins Svigit	Written/Vivus HDcJU		Psychiatry	
Lecture, Snall group discussion	Writign/Viva	0	Раусмину	
Lecture, Small group discussion	Written/Viva			
DOAP nuss ons	Skill assessment/ Vv.a race/OSCE	7 cacis (tesat 5)		Human Anatomy
Small group leaching	QSPEN/via voce		Реуклану	-

Dr.

	The student should be sets to	KIB/A/C	SH.P	Agracing.
NTI T	Descripe the discuss mechanism of temperature regularion	e(-24	
Priiz	Describe and discuss adaptation to altered temperature (treat god pold)	K.	NH.	ľ
4113	Describe and discust mechanism of lever, cold injuries and heat strake	К	KH	V
PY11.4	Describe and discuss cardio- respiratory and metabolic adjustments during exercise physical training efforts	К	Ю	l
P1115	Describe and discurs physiological consequences of sedemary Mastyle	× .	X)1	ľ
PY11-9	Describu skysiology of Infancy	К	RH	N
PYILY	Describe and discuss physiology of aging free indicate and anticidents	К	КН	N
PY11#	Discuss & compare cardio- prespirate changes to exercise (isomotine and isolonar) with that in the resting state and under different environmental conditions (heat and cold)	×	KH.	V
PY11.9	tire/prit growth charis	К	ХН	14
PY11.10	interpret arribropometre assessment of infants	H.	KH	N.
PYITI	Ovecus the concept criteria for degrees of Brain death and its implications	Ж	KH T	¥ -
PY11.52	Oricuss the physiological offices of modestion	K	161	h
PYTEM	Obtain firstory and perform general contraction in the valuetr or / samueted environment.	5	SH	Y
PY11.14	Danienstrate Basic Life Support in a simulated environment	5	SH	V

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79	Teaching	Assessment	re
Sec.	Learning	method	
	as a thread	\$600 TO 100 TO 1	24

DOAP sussions

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norizontal v willian equired to Integration Integration certify method Lecture, Small Written/Viva group discussion voca Lecture. Small WrittenfViva group discussion voca Locture, Small WrittenNiva croup discussion VOCE Lecture, Small Wiitteni∀iva group discussion voce Lectore, Small WrittonViva group discussion VOCI: Lecture, Small Written/Viva Pediatrics group discussion vocc Lecture, Small Written∕Viva group discussion voce Locture Small (Waller/Viva group discussion voce Small group Practical/OSPE/ Pediatrics leaching Viva voce Small group Practical/OSPE/ Ped alrics luaching Viva vace Lecture, Small Written∕Viva group discussion: vocu Lecture, Small Written/Vivn group discussion voco . DOAP sassions Skill assessment Vita voce

> General Medicine. Anaesthesiology

6	minmous	The student should be able to:	Complin K/3/A/C	Lovel KAKHO SHIP	Care (YAN)	Ì
	PY10.13	Describe and discuss perception of sinell and laste sensation	К	KH	† Y	
	PY10 Is	Describe and discuss patho- physiology of altered on ex and tasks sensation	К	KH.	У	1
	PY 16-15	Déscrito and decuss functional inatony of ear and auditory pathways & physiology of hearing	K	KH	Y	
	PY10.16	Describe and discuss pathophysiology of deafness Describe hearing tests	К	КН	Y	
	PY10 17	Describe and discuss functional innatorny of eye, physiology of image formation, physiology of vision including colour vision, refractive errors colour blindness, physiology of pupil and light reflex.	8	Кн	Y	
	PY10.18	Describe and discuss the physiological basis of les-on in visual pathosay	K	КН	Y	
	PY10.19	Describe and discuss auditory & visual evoka potentials	K	КН	Y	1
	PY10 20	Opmonstrate (i) Testing of visual actity, cotour and field of vision and (ii) hearing (iii) Testing for small and (iv) tosto sensation in volunteed sensitive and provinced.	S		ľ.	



Lecture Small group discussion Lecture Small group discussion Venter/Viva voca Lecture Small group discussion Vinter/Viva voca Lecture Small group discussion Vinter/Viva voca Lecture Small group discussion Vinter/Viva Voca Certure Small Group discussion Vinter/Viva Vi	Lecture Small Whiten/Viva ENT Lecture Small Whiten/Viva ENT Lecture Small Whiten/Viva Ophthalmdagy Conspicional Whiten/Viva Ophthalmdagy DOAP sessions Stall Description DOAP sessions S	@	Teaching Learning Implied	Assistances Method	required to certify	Vertical Integration	Herizontal Integration
Lecture Small Writen/Viva ENT Lecture Small group discussion voca Lecture, Small group discussion voca Lecture Small Writen/Viva Ophilliamidiogy voca OoAP sessions Skill discussion voca DOAP sessions Skill discussion voca Lecture Small voca DOAP sessions Skill discussion voca DOAP sessions Sk	Lecture Small Writer/Viva ENT Lecture Small group discussion voca Uniter/Viva voca Don't interiory Optimal midogy Optimal midogy Optimal midogy Optimal midogy Optimal midogy Optimal midogy Conup discussion OOAP sessions Bioli discussion OOAP sessions Bioli discussion OOAP sessions Since I discit ENT, Optimal midogy Visa voca		Luctoro, Smat			ENT	
Lecture Small Writer/Viva Christiansion Voca Viva Vice Viva Voca Christiansion Viva Vice Viva Viva Viva Viva Viva Viva Viva Viva	Lecture Small Writer/Viva Dynamically Victorial Victoria			Written/Vivo		ENT	
Lucture, Small Written/Viva Ophinalmology Lecture Small Written/Viva Ophinalmology your discussion voce Lecture Small woce Uniten/Viva Ophinalmology Ophinalmology Ophinalmology Ophinalmology Constrained ophinalmology	Lecture, Small Written/Viva Ophthalmology Voca Voca (total 4)					ENT	
Lucture, Small Vinten/Viva Ophilluminogy Escure Small Whiten/Viva Ophilluminogy group discussion voce Lacture Small Whiten/Viva Ophilluminogy group discussion voce OOAP sessions Bird Lacti ENT, Ophilluminology Vira voce	Lucture, Small Vinten/Viva Vace Ophthalmology Vac						
Userum Small Whiten-Vina Opishalmology group discussion voce OOAP sessions (Bidl 1 cach ENT, Ophinalmology Visa voce (total 4)	Lecture Small Whiten-Yara Opishalmology group discussion voce DOAP sessions Birdl 1 opch (total 4) Visa voce	- 131	Lucture, Small group discussion			Least Contractions	
ODAP sessions Bidli Loch ENT, Ophthalmology Description (total 4) Value vace	ODAP sessions Bidli 1 opch ENT, Ophthalmology desertament/ (total 4) Vals vace		Lecture Small group discussion	Whiten/Viva	0	Орниплинноду	
OOAP sessions Bidli t ooch ENT, Ophthalmology ossystment/ (total 4) Vas voce	DOAP sessions Birdl 1 opch ENT, Ophthalmology (total 4) Visa vace					Opistwinelogy	
			DOAP sessions	Skell assessment		ENT, Ophilisalmology	
							1.0



*Rember	COMPETENCY The student streets be sale to:	Comain K/S/A/C	Level H/KHI SH/P	Core (VIN)
Pré i	Describe the structure and	К	3 % =	γ
PY41	Describe the composition, mechanism of secretion, functions, and regulation of safive, gastric, pancreatic, intestinal juices and bite secretion.	К.	KH.	T.
E.874	Describe GIT movements, regulation and functions. Describe defecation reflux. Explain role of chitags fibre.	К	KH	*
PYS.4	Describe the physiology of digestion and absorption of materials	К	9614	· · ·
PYAS	Describe the source of GIT hormones, their regulation and functions	Ж	1614	- 'A'
PY4.6	Describe the Gut-Brain Axis	*	104	
PY4.7	Describe 8 discuss the structure and functions of liver and gall bladder	ic:	SH	
PYCE	Omorfox & classess gratric function lests, pancreatic exactine function tests & liver function tests	K	NO-	
PY45	Discuss the physiology respects of spept, when, pastive economics from distance woming charmoon, consequent, Adynamic flees, Hirschaptung's disease	1	Кн	*
PY4.10	Demonstrate the correct clinical examination of the abdomes in a martini volunteer or simulated coverage of	89	5H	. *

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Suggested	Suggested	Number	Vertical	Horizontal
Teaching:	Assessment	required to	Injegration	Integration
Learning	method	cartify		
method	·	P		
Lecture, Small	Written/Viva		_	Human Ariatomy
group discussion	VOCO			, , , , , , , , , , , , , , , , , , , ,
Lecture, Small	Written/Viva			Biochemistry
grown discussion			3.	
r" "	ļ.		25	
	-			t
Lecture, Small	WrittonWiva			
Bronb discression	VOCO			1
Lecture, Small	Writton/Vivo			8:ochenistry
group discussion	Ance			
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Lecture, Small	WillenWiva		-	
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Lecture, Small	WoltenWva			.
group discussion			-	
	Written/Viva	-		Biochemistry
group discussion	voce		6	
Lecture, Small	WittenWiva			Biochem stry
group	Voce			alochern siry
discussion.	VOLC.		Ę.	Į.
Demonstration			*	
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- 10200p)				
Lecture, Small	WattenNwa		Genual .	8iochemistry
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DOAP session	Skill		1	
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!	Viva voce/OSCE			
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