



MGMIHS, Navi Mumbai

Alignment Integration topics **Module**

**Common list of AITo
of
Department of Anatomy / Physiology / Biochemistry**

(as per CBME syllabus)



MGMIHS, Navi Mumbai
DEPT.OF ANATOMY

Common List of Alignment and integration topics

Sr. No.	Compe- tency No.	Competency	Teaching & Learning Method	No. of Hrs.	Vertical Integration with	Horizontal Integration with
1	AN 61.3	Describe anatomical basis and effects of Benedikt's and Weber's syndrome	Lecture,	2	Gen Medicine	
2	AN 62.6	Describe and identify formation, branches and major areas of distribution of circle of Willis	Practical, Lecture, small group discussion, DOAP session	3	Gen. medicine	
3	AN 62.2	Describe and demonstrate surfaces, sulci, gyri, poles and functional areas of cerebral hemisphere	Practical, Lecture, small group discussion, DOAP session	4	Gen. Medicine	
4	AN 62.3	Describe the white matter of cerebrum	Lecture,	3	Gen. Medicine	
5	AN36.5	Describe the clinical significance of Killian's dehiscence	Lecture,	3	ENT	
6	AN37.1, 37.2, 37.3	Describe and demonstrate features of nasal septum, lateral wall of nose and their blood supply and nerve supply Describe location and functional anatomy of paranasal sinuses Describe anatomical basis of sinusitis and maxillary sinus tumors.	Practical, Lecture, small group discussion, DOAP session	5	ENT	
7	AN 74.1, 74.2, 74.3, 74.4	Describe the various modes of inheritance with examples Draw pedigree charts for the various types of inheritance and give examples of diseases of each mode of inheritances Describe multifactorial inheritance with examples Describe the genetic basis and clinical features of Achondroplasia, Cystic fibrosis,	Lecture	8	Gen. Medicine	

		Vitamin D resistance rickets, Haemophilia, Dushene's muscular dystrophy and sickle cell anaemia				
8	AN 75.1	Describe the structural and numerical chromosomal aberrations	Lecture,	3	Pediatrics	
9	AN 38.1, 38.2, 38.3	Describe the morphology, identify structure of the wall, nerve supply, blood supply and actions of intrinsic and extrinsic muscle of larynx.	Practical, Lecture, small group discussion, DOAP session	4	ENT	
10	AN 75.3	Describe the genetic basis and clinical features of Prader Will syndrome, Edward syndrome and Patau syndrome	Lecture	1	Pediatrics	
11	AN 40.1, 40.2, 40.3	Describe and identify the parts, blood supply and nerve supply of external ear. Describe and demonstrate the boundaries, contents, relations and functional anatomy of middle ear and auditory tube. Describe the features of internal ear	Practical, Lecture, small group discussion, DOAP session	4	ENT	
12	AN 40.4, 40.5	Explain anatomical basis of otitis externa and otitis media Explain anatomical basis of myringotomy	Lecture,	1	ENT	
13	AN 35.5, 35.9	Describe and demonstrate extent, drainage and applied anatomy of cervical lymph nodes Describe clinical features of compression of subclavian artery and lower trunk of brachial plexus by cervical rib	Practical, Lecture, small group discussion, DOAP session	4	Gen Surgery	
14	AN 31.3	Describe anatomical basis of Horner's syndrome	Practical,	1	Ophthalmology	
15	AN 64.3	Describe various types of open neural tube defects with its embryological basis	Lecture,	3	OBGY and Pediatrics	
16	AN 29.3	Explain anatomical basis of wry neck	Lecture,	1	General Surgery	
17	AN 27.1	Describe anatomical basis of congenital hydrocephalus	Lecture, practical	3	Pediatrics	
18	AN 39.2	Explain the anatomical basis of hypoglossal nerve	Lecture,	1	ENT	
19	AN 60.3	Describe anatomical basis of cerebellar dysfunction	Lecture,	3	Gen Medicine	Physiology
20	AN 36.1, 36.2,	Describe the morphology, relations, blood supply and applied	Lecture,	6	ENT	

	36.3, 36.4	anatomy of palatine tonsil and composition of soft palate. Describe the components and functions of Waldeyer's lymphatic ring. Describe the boundaries and clinical significance of pyriform fossa Describe the anatomical basis of tonsillitis, tonsillectomy, adenoids and peritonsillar abscess				
21	AN 33.2	Describe and demonstrate attachments, direction of fibres, nerve supply and actions of muscles of mastication	Practical, Lecture, small group discussion, DOAP session	3	Gen. Surgery	
22	AN 52.5	Describe the development and congenital anomalies of diaphragm	Lecture,	2	General Surgery	
23	AN 33.4, 33.5	Explain the clinical significance of pterygoid venous plexus Describe the features of dislocation of temporomandibular joint	Lecture,	2	Gen. Surgery	-----
24	AN 28.9, 28.10	Describe and demonstrate the parts, borders, surfaces, contents, relations and nerve supply of parotid gland with course of its duct and surgical importance. Explain the anatomical basis of Fre s syndrome	Practical, Lecture, small group discussion, DOAP session	3	General Surgery	
25	AN 25.4, 25.5	Formation and folding of heart tube, Inter atrial septum, Inter ventricular septum and TA with anomalies	Lecture, small group discussion,	8	Gen. Medicine and pediatrics	
26	AN 19.6, 19.7	Anatomical basis of flat foot and club foot Metatarsalgia and plantar fasciitis.	Lecture,	2	Orthopaedic s	-----
27	AN 19.3, 19.4	Concept of peripheral heart Explain anatomical basis of rupture of tendoachilles	Lecture,	2	Gen Surgery Orthopaedic s	
28	AN 20.6	Identify bones and joints of lower extremity in x ray with AP and Lateral veiw	Lecture, small group discussion, DOAP session	3	Radio diagnosis	
29	AN 27.1	Describe layers of scalp, its blood supply, nerve supply and surgical importance	Practical, Lecture	3	General surgery	

30	AN 35.2, 35.5	Describe location, parts, borders, surfaces, relations and blood supply of thyroid. Describe extent, drainage and applied anatomy of cervical lymph nodes	Practical, Lecture, small group discussion, DOAP session	7	General Surgery	
31	AN 28.8	Explain surgical importance of deep facial vein	Lecture	1	Gen Surgery	
32	AN 34.1, 43.5	Describe morphology relations and nerve supply of submandibular salivary gland and submandibular ganglion. Testing muscle of facial expression	Practical, Lecture, small group discussion, DOAP session	5	General Surgery	
33	AN56.1 , 56.2	Describe and identify various layers of meninges and its extent and modification. Describe circulation of CSF with its clinical importance	Practical, Lecture, small group discussion, DOAP session	4	Gen. Medicine	
34	AN 25.3	Describe foetal circulation and changes occurring at birth	Lecture, small group disussion	3	Gen. Medicine	
35	AN 30.1, 30.2	Describe cranial fossa and identify related structure Describe and identify major foramina With structures passing through it and its clinical relevance.	Practical, Lecture, small group discussion, DOAP session	3	General Surgery	
36	AN 57.4	Enumerate ascending and descending tracts at mid thoracic level of spinal cord	Lecture	6	Gen. Medicine	
37	AN 35.8	Describe anatomically relevant clinical features of thyroid swelling	Lecture,	3	General Surgery	
38	AN 29.3	Explain anatomical basis Of wry neck	Lecture,	1	General Surgery	
39	AN 30.5	Explain effects of pituitary tumour on visual pathway	Lecture,	2	Ophthalmology	
40	AN 54.1, 54.2	Describe and identify features of plain X ray abdomen Describe and identify the special radiographs of abdominopelvic region (Contrast X ray: Barium swallow, meal, enema, cholecystography, IVP and HSG)	Lecture, DOAP session	4	Radiodiagnosis	
41	AN 55.1, 55.2	Demonstrate the surface marking of regions and planes of abdomen, superficial inguinal ring, deep ring, McBurnry's point, renal angle and	Practical, Lecture, small group discussion,	2	Gen. surgery	-----

		Mur h's oint	DOAP session			
42	AN 52.7	Describe the development of urinary system	Lecture,	5	Gen Surgery	
43	AN 78.5, 80.4	Describe and demonstrate the superficial and deep perineal pouch Describe and identify perineal body	Lecture,	3	OBGY	
44	AN 54.3	Describe ERCP, CT abdomen, MRI, arteriography in radio diagnosis of abdomen	Lecture,	3	Radiodiagnosis	
45	AN 48.7	Mention the lobes involved in benign prostatic hypertrophy and prostatic cancer	Lecture,	1	General Surgery	
46	AN 47.5, 48.8	Describe and demonstrate Rectum and anal canal Mention the structures palpable during vaginal and rectal examination	Practical, Lecture, small group discussion, DOAP session	3	Gen Surgery and OBGY	Physiology
47	AN 15.3, 15.4	Describe and demonstrate boundaries, floor, roof and contents of femoral triangle Explain anatomical basis of psoas abscess and femoral hernia	Practical, Lecture, small group discussion, DOAP session	3	General Surgery	
48	AN52.8	Describe the development of male and female reproductive system	Lecture,	10	OBGY	
49	AN 16.3	Explain the anatomical basis of Trendelenburg sign	Lecture, DOAP session	2	General Surgery	
50	AN 17.2	Describe anatomical basis of complications of fracture neck of femur	Lecture,	3	Orthopedics	
51	AN 16.2	Describe anatomical basis of sciatic nerve injury during gluteal intramuscular injections	Lecture,	1	General Surgery	
52	AN 18.3	Explain anatomical basis of foot drop	Lecture	1	General Surgery	
53	AN 18.6	Describe knee injury with its applied anatomy	Lecture, DOAP session	3	General Surgery	
54	AN 70.2	Identify the lymphoid tissue under microscope and describing microanatomy of thymus and spleen	Lecture, Practical	1	Pathology	-----
55	AN 79.4	Describe the development of somites and intra embryonic coelom	lecture	1	OBGY	-----
56	AN 47.1—47.4	Describe and identify boundaries and recesses of lesser and greater sac. Name and identify various	Written/ Viva voce/ skill	1	Gen Surgery	

		peritoneal folds and pouches with its explanation. Explain anatomical basis of ascites and peritonitis Explain anatomical basis of subphrenic abscess	assessment			
57	AN 78.5, 80.4	Describe in brief abortion, decidual reaction and pregnancy test and PCPNDT Describe embryological basis of twinning in monozygotic and dizygotic twins	Lecture,	1	OBGY	
58	AN 47.5, 47.6	Describe & demonstrate major viscera of abdomen under following headings (anatomical position, external and internal features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage & applied aspects). Explain the anatomical basis of, Liver biopsy (site of needle puncture), Referred pain in cholecystitis, Obstructive jaundice, Referred pain around umbilicus.	Practical, Lecture, small group discussion, DOAP session	1	General Surgery	
59	AN 47.5, 47.6, 47.7	Describe & demonstrate major viscera of abdomen under following headings (anatomical position, external and internal features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage & applied aspects). Explain the anatomical basis of Splenic notch, Accessory spleens, kehr's sign. Mention the clinical importance of Calot's triangle	Practical, Lecture, small group discussion, DOAP session	6	General Surgery	
60	AN 69.2	Describe the various types and structural and functional correlation of blood vessels	Lecture, Practical	2		Physiology
61	AN 47.5, 47.6	Describe & demonstrate major viscera of abdomen under following headings (anatomical position, external and internal features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage & applied aspects)	Practical, Lecture, small group discussion, DOAP session	1	General Surgery	-----

62	AN77.6, 79.5, 79.6	Describe teratogenic influences, fertility and sterility, surrogate motherhood and social significance of "sex ratio" Explain embryological basis of congenital malformation, sacrococcygeal teratomas and neural tube defects Describe the diagnosis of pregnancy in first trimester and role of teratogens, alpha fetorotein	Lecture,	1	OBGY	
63	AN 47.13	Describe the abnormal opening of thoracoabdominal diaphragm and diaphragmatic hernia	Lecture,	1	General Surgery	-----
64	AN 81.1 - 81.3	Describe various methods of prenatal diagnosis Describe indications, process and disadvantages of amniocentesis Describe indications, process and disadvantages of chorionic villus biopsy	Lecture,	1	OBGY	
65	AN 52.6	Describe the development and congenital anomalies of foregut, midgut and hindgut	Lecture,	4	General Surgery	-----
66	47.10, 47.11	Enumerate the sites of portosystemic anastomosis Explain the anatomic basis of hematemesis and caput medusa in portal hypertension	Lecture	1	General Surgery	
67	AN 47.5, 47.6	Describe & demonstrate major viscera of abdomen under following headings (anatomical position, external and internal features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage & applied aspects). Explain anatomical basis of radiating pain of kidney to groin	Practical, Lecture, small group discussion, DOAP session	1	General Surgery	
68	AN 49.4	Describe and demonstrate boundaries, contents and applied anatomy of ischiorectal fossa	Practical, Lecture, small group discussion, DOA? session	1	General Surgery	
69	AN 48.5, 48.6	Explain the anatomical basis of suprapubic cystostomy, urinary obstruction in benign enlargement of prostate. Describe anatomical basis of automatic bladder.	Lecture ,	2	General surgery	

70	AN25.7	Identify structure seen a plain x-ray chest (PA view)	Lecture	1	Radiodiagnosis, General Medicine	
71	AN25.8	Identify and describe in brief a barium swallow	Practical, DOAP session	1	Radiodiagnosis, General Medicine	
72	AN25.9	Demonstrate surface marking of lines of pleural reflection, lung borders and fissure, trachea, heart borders, apex beat & surface projection of valves of heart	Practical	1	General Medicine , Pediatrics	
73	AN44.1	Describe & demonstrate the planes (transpyloric, transtubercular, subcostal, lateral vertical, Linea semilunaris), regions & Quadrants of abdomen	Practical, Lecture, small group discussion, DOAP session	2	General Surgery	
74	AN44.4	Describe & demonstrate extent, boundaries, contents of inguinal canal including Hesselbach's triangle	Practical, Lecture, small group discussion, DOAP session	1	General Surgery	
75	AN44.6 AN 44.7	Describe & demonstrate attachments of muscles of anterior abdominal wall Enumerate common Abdominal incisions	Practical, Lecture, small group discussion, DOAP session	1	General Surgery	
76	AN46.1	Describe & demonstrate coverings, internal structure, side determination, blood supply, nerve supply, lymphatic drainage & descent of testis with its applied anatomy	Practical, Lecture, small group discussion, DOAP session	1	General Surgery	
77	AN47.5	Describe & demonstrate major viscera of abdomen under following headings -STOMACH (anatomical position, external and internal features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and applied aspects	Practical, Lecture, small group discussion, DOAP session	1	General Surgery	
78	AN46.4	Explain the anatomical basis of Varicocele	Practical, Lecture,	1	General Surgery	-----

79	AN 46.5	Explain the anatomical basis of Phimosis & Circumcision	Lecture,	1	General Surgery	
80	AN 47.1 AN 47.2	Describe & identify boundaries and recesses of Lesser & Greater sac. Name & identify various peritoneal folds & pouches with its explanation	Practical, Lecture, small group discussion, DOAP session	1	General Surgery	
81	AN 47.3 AN 47.4	Explain anatomical basis of Ascites & Peritonitis Explain anatomical basis of Subphrenic abscess	Lecture,	1	General Surgery	-----
82	AN 23.1	Describe & demonstrate the extent appearance, relations, blood supply, nerve supply, lymphatic drainage and applied anatomy of esophagus	Practical, Lecture DOAP session	1	General Surgery	-----
83	AN 23.2	Describe & demonstrate the extent relations tributaries of thoracic duct and enumerate its applied anatomy	Practical, Lecture DOAP session	1	General Surgery	-----
84	AN 23.7	Mention the extent, relations and applied anatomy of lymphatic duct	Practical, Lecture DOAP session	1	General Surgery	
85	AN 80.3A N 80.4	Describe formation of placenta, its physiological functions, fetomaternal circulation & placental barrier Describe embryological basis of twinning in monozygotic & dizygotic twins	Lecture ,	1	Obstetrics & Gynecology	
86	AN 80.7	Describe various types of umbilical cord attachments	Lecture ,	1	Obstetrics & Gynecology	
87	AN 78.3	Describe the process of implantation & common abnormal sites of implantation	Lecture ,	1	Obstetrics & Gynecology	
88	AN 70.2	Identify the lymphoid tissue under the microscope & describe microanatomy	Lecture, Practical ,	1	Pathology	-----

		of lymph node, tonsil and correlate the structure with function				
89	AN25.7	Identify structure seen a plain x-ray chest (PA view)	Lecture	1	Radiodiagnosis, General Medicine	
90	AN25.8	Identify and describe in brief a barium swallow	Practical, DOAP session	1	Radiodiagnosis, General Medicine	
91	AN25.9	Demonstrate surface marking of lines of pleural reflection, lung borders and fissure, trachea, heart borders, apex beat & surface projection of valves of heart	Practical	1	General Medicine, Pediatrics	
92	AN44.1	Describe & demonstrate the planes (transpyloric, transtuberular, subcostal, lateral vertical, Linea semilunaris), regions & Quadrants of abdomen	Practical, Lecture, small group discussion, DOAP session	2	General Surgery	
93	AN44.4	Describe & demonstrate extent, boundaries, contents of inguinal canal including Hesselbach's triangle	Practical, Lecture, small group discussion, DOAP session	1	General Surgery	
94	AN47.5	Describe & demonstrate major viscera of abdomen under following headings — STOMACH(anatomic al position, external and internal features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and applied aspects	Practical, Lecture, small group discussion, DOAP session	1	General Surgery	
95	AN 70.2	Identify the lymphoid tissue under the microscope & describe microanatomy of lymph node, tonsil and correlate the structure with function	Lecture, Practical,	1	Pathology	
96	AN74.1	Describe the various modes of inheritance with examples	Lecture	1	General Medicine, Pediatrics	
97	AN12.13	Describe the anatomical basis of Wrist drop	Lecture	1	General Surgery	
98	AN 66.2	Describe ultrastructure of connective tissue	Lecture	2	Pathology	
99	AN77.3	Describe spermatogenesis and oogenesis along with diagrams	Lecture Practical,	2	Obstetrics &	

					Gynecology	
100	AN24.1	Mention the blood supply, lymphatic drainage and nerve supply of pleura, extent of pleura and describe the pleural recesses and their applied anatomy	Practical, Lecture	1	General Medicine	Physiology
101	AN 10.7	Identify side, external features and relations of structures which form root of lung & bronchial tree and their clinical correlate	Practical Lecture, small group discussion, DOAP session	1	General Medicine	Physiology
102	AN77.1	Describe the uterine changes occurring during the menstrual cycle	Lecture	1	Obstetrics & Gynecology	
103	AN 7.5	Describe principles Of sensory and motor innervation of muscles	Lecture,	1	General Medicine	Physiology
104	AN 7.6	Describe concept of loss of innervation of a muscle with its applied anatomy	Lecture,	1	General Medicine	
105	AN12.8	Describe anatomical basis of Claw hand	Lecture,	1	General Surgery	



**MGMIHS, Navi Mumbai
DEPT.OF PHYSIOLOGY**

Common List of Alignment and integration topics

Sr. No.	Competency No.	Competency	Teaching & Learning Method	Horizontal Integration	Vertical Integration
1	PY. 1.4	Apoptosis – Programmed cell death	Lecture + Small group discussion		Pathology
2	PY1.6	Fluid compartment of the body, its ionic composition & measurements	Lecture + Small group discussion	Biochemistry	
3	PY2.2	Discuss the origin, forms, variations and functions of plasma proteins	Lecture + Small group discussion	Biochemistry	
4	PY2.3	Describe and discuss the synthesis and functions of Hemoglobin and explain its breakdown. Describe variants of hemoglobin	Lecture + Small group discussion	Biochemistry	
5	PY2.5	Describe different types of anaemias & Jaundice	Lecture + Small group discussion	Biochemistry	Pathology
6	PY2.8	Describe the physiological basis of hemostasis and, anticoagulants. Describe bleeding & clotting disorders (Hemophilia, purpura)	Lecture + Small group discussion		Pathology
7	PY2.9	Describe different blood groups and discuss the clinical importance of blood grouping, blood banking and transfusion	Lecture + Small group discussion		Pathology

8	PY.2.12	Blood Indices	Lecture, Small Group discussion		General Medicine
9	PY 2.11	Blood Group Estimation	DOAP sessions		Pathology
10	PY 2.11	Total Leukocyte count	DOAP sessions		Pathology
11	PY 2.11	Estimation of bleeding time & clotting time	DOAP sessions		Pathology
12	PY2.12	Describe test for ESR	Demonstration		Pathology
13	PY 2.13	Platelet & Reticulocyte count	Demonstration sessions		Pathology
14	PY3.1	Describe the structure and functions of a neuron and neuroglia; Discuss Nerve Growth Factor & other growth factors/cytokines	Lecture, Small group discussion	Anatomy	
15	PY3.3	Describe the degeneration and regeneration in peripheral nerves	Lecture, Small group discussion		General Medicine
16	PY3.4	Describe the structure of neuro-muscular junction and transmission of impulses	Lecture, Small group discussion		Anaesthesia
17	PY3.7	Describe the different types of muscle fibers and their structure	Lecture, Small group discussion	Anatomy	
18	PY3.5/ PY3.6	Discuss the action of neuro-muscular blocking agents Describe the pathophysiology of Myasthenia gravis	Lecture, Small group discussion		Pharmacology Pathology
19	PY3.11	Explain energy source and muscle metabolism	Lecture, Small group discussion	Biochemistry	
20	PY3.12	Explain the gradation of muscular activity	Lecture, Small group discussion		General Medicine

21	PY3.13	Describe muscular dystrophy: myopathies	Lecture Small group discussion	Anatomy	General medicine
22	PY4.1	Describe the structure and functions of digestive system	Lecture Small group discussion	Anatomy	
23	PY4.2	Describe the composition, mechanism of secretion, functions, and regulation of saliva, gastric, pancreatic, intestinal juices and bile secretion	Lecture Small group discussion	Biochemistry	
24	PY4.4	Describe the physiology of digestion and absorption of nutrients	Lecture Small group discussion	Biochemistry	
25	PY4.7	Describe & discuss the structure and functions of liver and gall bladder	Lecture Small group discussion	Biochemistry	
26	PY4.8	Describe & discuss gastric function tests, pancreatic exocrine function tests & liver function tests	Lecture Small group discussion	Biochemistry	
27	PY4.9	Discuss the physiology aspects of: peptic ulcer, gastro- oesophageal reflux disease, vomiting, diarrhoea, constipation, Adynamic ileus, Hirschsprung's disease	Lecture Small group discussion	Biochemistry	
28	PY5.1	Describe the functional anatomy of heart including chambers, sounds; and Pacemaker tissue and conducting system.	Lecture, Small group discussion	Anatomy	
29	PY5.5	Describe the physiology of E.C.G, its applications and	Lecture, Small group discussion		General medicine

		the cardiac axis			
30	PY5.6	Describe abnormal ECG, arrhythmias, heart block and myocardial Infarction	Lecture, Small group discussion	Anatomy	
31	PY5.6	Describe abnormal ECG, arrhythmias, heart block and myocardial Infarction	Lecture, Small group discussion		General medicine
32	PY 5.10	Regional circulation including microcirculation, lymphatic, coronary, cerebral, capillary, Skin, pulmonary and splanchnic circulation	Lecture, Small group discussion		General Medicine
33	PY5.12	Clinical examination of pulse	DOAP		General Medicine
34	PY5.13	Record and interpret normal ECG in a volunteer or simulated environment	DOAP		General Medicine
35	PY5.16	Recording Arterial pulse tracing using finger plethysmography in a volunteer or simulated environment	DOAP		General Medicine
36	PY 6.8	Technique to perform & interpret Spirometry	DOAP		Respiratory Medicine
37	PY7.7	Describe artificial kidney, dialysis and renal transplantation	Lecture		General Medicine
38		Describe & discuss		Biochemistry	

	PY 7.8	Renal Function Tests			
39	PY8.4	Describe function tests: Thyroid gland; Adrenal cortex, Adrenal medulla and pancreas	Lecture, Small group discussion	Biochemistry	
40	PY 9.1	Describe and discuss sex determination; sex differentiation and their abnormalities and outline psychiatry and practical implication of sex determination.	Lecture, Small group discussion	Anatomy	
41	PY9.6	Enumerate the contraceptive methods for male and female. Discuss their advantages & disadvantages	Lecture, small group discussion		Obstetrics & Gynaecology, Community Medicine
42	PY9.8	Describe and discuss the physiology of pregnancy, parturition & lactation and outline the psychology and psychiatry-disorders associated with it.	Lecture, small group discussion		Obstetrics & Gynaecology, Community Medicine
43	PY9.10	Discuss the physiological basis of various pregnancy tests	Lecture, small group discussion		Obstetrics & Gynaecology, Community Medicine
44	PY9.11	Discuss the hormonal changes and their effects during perimenopause and menopause	Lecture, small group discussion		Obstetrics & Gynaecology, Community Medicine
45	PY9.12	Discuss the common causes of infertility in a couple and role of IVF in managing a case of infertility.	Lecture, small group discussion		Obstetrics & Gynaecology, Community Medicine
46	PY10.1	Describe and discuss the organization of nervous system		Anatomy	
47				Anatomy	

	PY10.2	Describe and discuss the functions and properties of synapse, reflex, receptors			
48	PY10.3	Describe and discuss somatic sensations & sensory tracts		Anatomy	
49	PY10.4	Describe and discuss motor tracts, mechanism of maintenance of tone, control of body movements, posture and equilibrium & vestibular apparatus		Anatomy	
50	PY10.5	Describe and discuss structure and functions of reticular activating system, autonomic nervous system (ANS)	Lecture, Small group discussion	Anatomy	
51	PY10.6	Describe and discuss Spinal cord, its functions, lesion & sensory disturbances.	Lecture, Small group discussion	Anatomy	
52	PY10.7	Describe and discuss functions of cerebral cortex, basal ganglia, thalamus, hypothalamus, cerebellum and limbic system and their abnormalities.	Lecture, Small group discussion	Anatomy	
53	PY10.7	Describe and discuss functions of cerebral cortex, basal ganglia, thalamus, hypothalamus, cerebellum and limbic system and their abnormalities	Lecture, Small group discussion		Psychiatry
54	PY10.8	Describe and discuss behavioral and EEG characteristics during	Lecture, Small group discussion		Psychiatry

		sleep and mechanism responsible for its production			
55	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	DOAP	Anatomy	
56	PY10.12	Identify normal EEG forms	Lecture, Small group discussion		Psychiatry
57	PY10.13	Describe and discuss perception of smell and taste sensation	Lecture, Small group discussion		ENT
58	PY10.14	Describe and discuss patho-physiology of altered smell and taste sensation	Lecture, Small group discussion		ENT
59	PY10.15	Describe and discuss functional anatomy of ear and auditory pathways & physiology of hearing	Lecture, Small group discussion		ENT
60	PY10.16	Describe and discuss pathophysiology of deafness. Describe hearing tests	Lecture, Small group discussion		ENT
61	PY10.17	Describe and discuss functional anatomy of eye, physiology of image formation, physiology of vision including colorvision, refractive errors, color blindness, physiology of pupil and light reflex	Lecture, Small group discussion		Ophthalmology
62	PY10.18	Describe and discuss the physiological basis of lesion in visual pathway	Lecture, Small group discussion		Ophthalmology

63	PY10.19	Describe and discuss auditory & visual evoke potentials	Lecture, Small group discussion		ENT , Ophthalmology
64	PY.11.6	Physiology of Infancy	Lecture, Small group discussion		Pediatrics
65	PY.11.9	Interpret growth chart	Lecture, Small group discussion		Pediatrics
66	PY.11.10	Interpret anthropometric assessment of infants	Lecture, Small group discussion		Pediatrics



MGMIHS, Navi Mumbai
DEPT.OF BIOCHEMISTRY

Common List of Alignment and integration topics

Sr. No.	Competency No.	Competency	Teaching & Learning Method	No. of Hrs. requirement	Vertical Integration with following subject	Horizontal Integration with following subject
01	BI 6.1	Metabolism in Fed and Fasting Stage	Lecture	01	General Medicine	-----
02	BI 6.3	Metabolism of Nucleic acid	Lecture	01	-----	Physiology
03	BI 6.4	Metabolism of Nucleic acid	Lecture	01	General Medicine	-----
04	BI 6.9	Mineral metabolism- Calcium, Phosphorus, Sodium , Potassium	Lecture	01	General Medicine	Physiology
05	BI 6.10	Mineral metabolism- Calcium, Phosphorus, Sodium , Potassium, copper, zinc, selenium	Lecture	01	General Medicine	-----
06	BI 7.7	Role of free radicals in diseases	Lecture	01	General Medicine, Pathology	-----
07	BI 8.1	Nutrition	Lecture	01	Pathology, General Medicine, Pediatrics	-----
08	BI 8.4	Nutrition	Lecture	01	Pathology, General Medicine	-----
09	BI 8.5	Nutrition	Lecture	01	Community Medicine, General Medicine, Pediatrics	-----

10	BI 6.9	Estimation of Serum Phosphorus	SGT	04	General Medicine	Physiology
11	BI 11.17	Estimation of Serum Uric acid	SGT	04	General Medicine, Pathology	-----
12	BI 11.23	Calculate Energy content of food Items & glycemic Index	SGT	02	General Medicine	-----
13	BI 11.24	Calculate Energy content of food Items & glycemic Index	SGT	02	General Medicine	-----
14	BI 5.4	Tryptophan, Glycine, Sulphur containing amino acids Metabolism disorders Urea cycle disorders	Lecture	04	Pediatrics	-----
15	BI 6.7	ECE: Dehydration Water, electrolyte balance and imbalance	Lecture	01	General Medicine	Physiology
16	BI 6.13	ECE: Kidney diseases KFT	Lecture	01	Pathology, General Medicine	Physiology, Human Anatomy
17	BI 6.14	ECE: Kidney diseases, Jaundice KFT, LFT	Lecture	02	Pathology, General Medicine	Physiology, Human Anatomy
18	BI 3.9	Ketone Body Metabolism	Lecture	01	General Medicine	-----
19	BI 4.1	Phospholipid and Eicosanoids	Lecture	01	General Medicine	-----
20	BI 4.2	Fatty acid Synthesis, Fatty acid oxidation, Lipid storage disorders	Lecture	02	General Medicine	-----

21	BI 4.3	Lipoprotein metabolism, Cholesterol Metabolism, Fatty Liver Atherosclerosis	Lecture	03	General Medicine	-----
22	BI 4.6	Phospholipid and Eicosanoids	Lecture	01	General Medicine	-----
23	BI 11.17	Ketone Body Metabolism, Cardiac Biomarkers	Lecture	02	Pathology, General Medicine	-----
24	BI 5.3	Digestion and absorption of proteins, Transamination, Deamination, Fate of ammonia.	Lecture	02	Pediatrics	-----
25	BI 5.4	Phenylalanine and tyrosine metabolism and disorders	Lecture	01	Pediatrics	-----
26	BI 6.5	Vitamin A	Lecture	01	General Medicine	-----
27	BI 7.3	Genetic code, Gene Mutation, Translation	Lecture	01	Pediatrics	-----
28	BI 7.4	RDT, PCR	Lecture	02	General Medicine, Pediatrics	-----
29	BI 8.4	Obesity	Lecture	01	General Medicine, Pathology	-----
30	BI 9.2	Extra cellular matrix	Lecture	01	General Medicine	-----
31	BI 10.1	Biochemical basis of cancer	Lecture	01	Obstetrics & Gynaecology, General Surgery, Pathology	-----

32	BI 10.2	Tumour markers	Lecture	01	Obstetrics &Gynaecology, General Surgery, Pathology	-----
33	BI 10.3	Cell mediated immunity, Humoral immunity	Lecture	01	Obstetrics &Gynaecology, General Surgery, Pathology	-----
34	BI 10.4	Cell mediated immunity, Humoral immunity	Lecture	01	General Medicine, Pathology	Physiology
35	BI 10.5	Antigen, Vaccine development	Lecture	01	Pathology, Pediatrics, Microbiology	-----
36	BI 6.5	Vitamin D	Lecture	01	General Medicine	-----
37	BI 6.9	Minerals: Calcium, Phosphorus, Iodine, Copper	Lecture	01	General Medicine	Physiology
38	BI 6.10	Minerals: Calcium, Phosphorus, Iodine, Copper	Lecture	01	General Medicine	-----
39	BI 6.13	TFT	Lecture	01	Pathology, General Medicine	Physiology, Human Anatomy
40	BI 6.14	TFT, Adrenal FT	Lecture	01	Pathology, General Medicine	Physiology, Human Anatomy
41	BI 6.15	TFT, Adrenal FT	Lecture	01	Pathology, General Medicine	Physiology, Human Anatomy
42	BI 7.3	Regulation of gene expression	Lecture	01	Pediatrics	-----

43	BI 11.22	Calculate AG ratio and creatinine clearance	SGT	04	General Medicine	-----
44	BI 3.4	Glycolysis and PDH complex, Glycogen metabolism, Gluconeogenesis, Fructose and Galactose metabolism, Uronic acid pathway, HMP shunt, G6PD deficiency case	Lecture	05	General Medicine	-----
45	BI 3.7	Glycolysis and PDH complex, Glycogen metabolism, Gluconeogenesis, Fructose and Galactose metabolism, Uronic acid pathway, HMP shunt, G6PD deficiency case	Lecture	05	-----	Physiology
46	BI 3.8	Glycolysis and PDH complex, Glycogen metabolism, Gluconeogenesis, Fructose and Galactose metabolism, Uronic acid pathway, HMP shunt, G6PD deficiency case	Lecture	05	Pathology, General Medicine	-----

47	BI 3.9	Blood glucose regulation, Diabetes mellitus	Lecture	01	General Medicine	-----
48	BI 11.17	Blood glucose regulation, Diabetes mellitus Dyslipidemia Myocardial Infarction	Lecture/SGD	05	Pathology, General Medicine	-----
49	BI 4.2	Malabsorption syndrome, Digestion and absorption of lipids	Lecture	01	General Medicine	-----
50	BI 3.10	GTT chart	SGD/ LCD	02	General Medicine	-----
51	BI 6.5	Vit. K, Vit E, Vit C, Thiamine, Riboflavin, Niacin, Pantothenic acid, Pyridoxine, Biotin	Lecture	04	General Medicine	-----
52	BI 2.4	Enzyme Inhibition	Lecture	01	Pathology, General Medicine	-----
53	BI 2.5, BI 11.17	Enzyme pattern in pathological conditions	Lecture	01	Pathology, General Medicine	-----
54	BI 2.6	Enzyme based Assays	Lecture	01	Pathology, General Medicine	-----
55	BI 10.3	Immunoglobulin Biochemistry chart	SGT	02	Obgy&GyneGen.Surg eny Pathology	-----

56	BI 10.3	Immunoglobulins and Electrophoresis	Lecture	01	OBGY and GYNE Gen.Surgery Pathology	----
57	BI 10.4	Immune response	Lecture	01	Gen.Medicine Pathology	Physiology
58	BI 10.5	Vaccines	Lecture		Pathology Pediatrics Microbiology	----
59	BI 6.5	Vit K, Thiamin, Riboflavin ,Niacin	Lecture	01	General Medicine	----
60	BI 5.2 ,6.12.	Abnormal and Normal Hemoglobin	Lecture	02	Pathology, GeneralMedicine	Physiology
61	BI 6.5	Vit. B12, folic acid	Lecture	01	General Medicine	-----
62	BI 6.9, BI 6.10	Iron Metabolism Iron Metabolism	Lecture Lecture	 01	General Medicine General Medicine	Physiology -----
63	BI 6.11	HB Metabolism	Lecture	01	Pathology, General Medicine	Physiology
64	BI 4.1	Lipid Classification	Lecture	02	General Medicine	-----
65	BI 11.4	Normal and abnormal Urine constituents	DOAP	08	General Medicine	Physiology