Curriculum for the Bachelor Degree in Medicine and Surgery

Second Year Syllabus

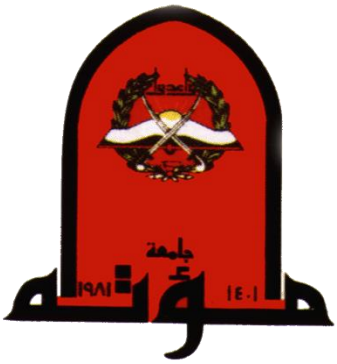
GENERAL PATHOLOGY

COURSE Title: General pathology
Course Code: 1504201
CREDIT HOURS: 2 hours
Course designation: Second year / First semester
Department: Pathology and Microbiology

Course Syllabus:

Lectures

1- Introduction to pathology
2- Cell injury \ Adaptation Normal cell structure and function
3- Cell injury \ Adaptation Reversible cell injury
4- Cell injury \ Adaptation Irreversible cell injury
5- Cell injury \ Adaptation Irreversible cell injury
6- Cell injury \ Adaptation Necrosis
7- Cell injury \ Adaptation Programmed cell death
8- Cell injury \ Adaptation Cellular adaptation mechanisms
9- Cell injury \ Adaptation Ageing
10- Inflammation and Repair The acute inflammatory reaction
11- Inflammation and Repair Chronic inflammation
12- Inflammation and Repair Systemic manifestations
13- Inflammation and Repair Healing regeneration
14- Inflammation and Repair The connective tissue response
15- Inflammation and Repair Healing of skin wounds
16- Inflammation and Repair Fracture healing
17- Inflammation and Repair Healing in other tissue
18- Hemodynamic Disorders Disturbances
19- Hemodynamic Disorders Haemostasis
20- Hemodynamic Disorders Bleeding disorders
21- Hemodynamic Disorders Thrombosis
22- Hemodynamic Disorders Abnormalities of blood flow
23- Hemodynamic Disorders Abnormalities of blood flow
24- Neoplasia Normal control of cell proliferation in tissues
25- Neoplasia Abnormalities of growth
26- Neoplasia Hypertrophy and hyperplasia



27- Neoplasia Metaplasia
28- Neoplasia Benign and malignant tumors
29- Neoplasia Clinical pathology of tumors
30- Neoplasia The cell biology of tumors
31- Neoplasia Causation of human cancer
32- Revision

Practical session outlines

1- Introduction
2- Cell injury & adaptation
3- Cell injury & adaptation
4- Cell injury & adaptation
5- Inflammation & repair
6- Inflammation & repair
7- Hemodynamic disorders
8- Revision
9- Med Exam
10- Neoplasia
11- Neoplasia
12- Revision

GENERAL PHARMACOLOGY

Course title: General Pharmacology
Course code: 1505201
Credit hours: Three
Course designation: Second year / First semester
Department: Pharmacology and Physiology

Course Syllabus:

1- Definitions and subdivisions of pharmacology
2- Definition and classification of drugs; Drug names
3- Pharmacodynamics
4- Pharmacokinetics
5- Clinical pharmacokinetics
6- Drug prescribing in infants, children, and elderly
7- Drugs modifying cholinergic transmission
8- Drug prescribing and drug compliance
9- Drug prescribing in pregnancy and lactation
10- New Drugs: Their development and evaluation
11- Pharmacovigilance
12- Sources of drug information
13- Drugs modifying noradrenergic transmission
14- Histamine and its antagonists
15- Serotonin (5-hydroxy-tryptamine)
16- Kinins, angiotensin II, other peptides, and nitric oxide
17- Principle of anti-microbial therapy
18- Anti-bacterial drugs
19- Anti-fungal and anti-viral drugs
20- Antiprotozoal and anthelmintic drugs
21- Antiseptics and disinfectants
22- Blood expanders; vaccines and anti-sera
23- Management of Drug poisoning
24- Vitamins
25- Central neurotransmitters
26- Cancer chemotherapy
27- Immunosuppressants and immuno-stimulants

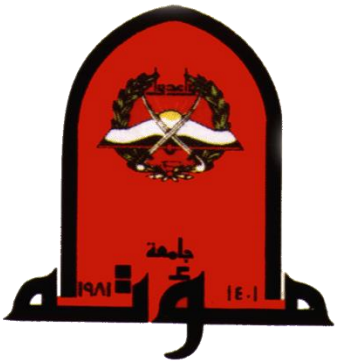
GENERAL MICROBIOLOGY

Course title: General microbiology
Course code: 1504202
Credit hours: 3 hours
Course designation: Second year / First semester
Department: Pathology and microbiology

Course syllabus:

Lectures

1- Introduction to parasitology
2- Sources of parasitic infections
3- The effect of parasites on the host
4- Pathogenesis of parasitic infections
5- Diagnosis of parasitic infections
6- Taxonomy &classification of parasites of medical importans
7- Introduction to protozoa &E histolytica & Ecoli
8- Toxoplasma gondii
9- Introduction to trematodes& H heterophes
10- Fasciola hepatica
11- Introduction to cestodes &Taenia (Tsolium& saginata)
12- Diphylobothrium latum
13- Introduction to nematodes & E vermicularis
14- Wuchereria bancrofti
15- Introduction to bacteriology
16- Bacterial morphology & structure
17- Bacterial morphology & structure
18- Bacterial physiology & metabolism
19- Pathogenesis of bacteria
20- Host- parasite relation ship
21- Antimicrobial chemotherapy (1)
22- Antimicrobial chemotherapy (2)
23- Antimicrobial chemotherapy (3)
24- Structure & classification of virus
25- Cultivation of virus



26- Replication& pathogenesis of viruses
27- Diagnosis & treatment of viruses
28- General mycology (2)
Definition & morphology &pathogenesis
29- Clinical picture , diagnosis& treatment
30- Genetic in microbiology
31- Genetic engineering
32- Sterilization

Practical laboratories

1- Safety procedures in microbiology & microscope
2- Laboratory diagnosis of parasitic infections
3- Slide demonstration of E histolytica, coli & toxoplasma gondii
4- Slide demonstration of trematodes
5- Slide demonstration of cestodes
6- Slide demonstration of nematodes
7- Stains (simple& gram stains)
8- Sterilization
9- Types of culture media & cultivation of bacteria
10- Identification of bacteria
11- Biochemical reactions
12- Antibacterial sensitivity test

MEDICAL IMMUNOLOGY

Course title: Medical Immunology
Course Code: 1504203
Credit hours: 2 hours
Course designation: Second year / First semester
Department: Pathology and microbiology

Course syllabus:

Lectures

1- Infection and disease
2- Innate immunity
3- Immunogen and antigens
4- Cells of immune response
5- Antibody structure and functions
6- Biology of B cells
7- Complement system
8- In vitro antigen antibody reaction
9- Biology of T cells
10- Cell mediated immune response
11- Cytokines I
12- Immunoglobulin superfamily and MHC
13- Hypersensitivity reactions
14- Autoimmune diseases
15- Tumor immunology
16- Transplantation
17- Immunodeficiency diseases
18- Mechanisms of protective immunity
19- Immunoprophylaxis

Practical laboratories

1- Biosafety &Withdrawing venous blood and serum separation
2- Leukocytes count
3- Blood film &Leishman stain for diffrential count
4- Blood grouping and titration of isohaeagglutinine

5- Titration of isohaemagglutinin
6- Agglutination technique (1)Slide agglutination ;Pregnancy test(HCG),C-Reactive protein
7- Agglutination technique (2)Tube agglutination test
8- Cell functional assay (1)Phagocytosis
9- Complement fixation test
10- Precipitation techniques: Single radial immunodiffusion
11- Cell functional assay (2) Lymphocyte separation and assessment of immuncompetent cells
12- ELISA
13- Immunoflurocent technique

PUBLIC HEALTH

Course title: Public health
Course code: 1506202
Credit hours: 2 hours
Course designation: Second year / First semester
Department: Public Health and Community Medicine

Course syllabus:

Lectures

1- Health care system
   Sectors that provide health care in Jordan
2- Primary health care
   Concept and principles of PHC, strategies, and function; referral system
3- Rural health
   Health problems, factors leading to health problems, strategies to organize rural health service in Jordan
4- Universal child-immunization
   Objectives, schedule, strategy for vaccine immunization delivery, cold chain, surveillance in immunization policy
5- Demography
   Elements, population pyramid, rates measuring growth of the population, world population change
6- Maternity care
   Indicators for safe motherhood, women's care programs
7- Family planning
   Levels of objectives, basic components, activities of family planning clinic
8- Under-five health
   A. Infant period: Services health problems, goals of services, type of health care services
   B. preschool period: Characteristics, care, indicators of Under-five services
9- School health

Common problems, health services: appraisal, preventive and curative

10- Children with disabilities
    Definition, categories of handicapped children, prevention of the problem
11- Health care of the elderly
    Demographic background, health problems, preventive health care
12- Mental health
    Common problems, preventive measures
13- Medical management
    Objectives, planning, organization, staffing, directing, coordinating, reporting, budgeting, and evaluation

Practical training (Field visits):

Rural area
Health office (several visits)
MCH center
School health
Institute for disabled children
Factories

MEDICAL HISTORY AND DOCUMENTATION

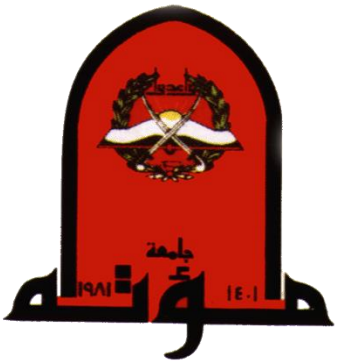
COURSE TITLE: History of medicine and medical documentation
COURSE CODE: 1500201
CREDIT HOURS: One hour
Course designation: Second year / First semester
Department: Medicine

Course Syllabus:

Lectures:
1- Mythology and medicine:
Hindu mythology
Egyptian mythology
Greek mythology
Chinese mythology
2- Pioneers
Indian (hindu)
Chinese
Persian
Greco-roman
3- Hospitals and nursing
4- Organ systems
The heart
The puls
Hypertention
Respiratory disease
Renal diseases
5- Some common diseases
Nutrition
Diabetes mellitus
Cancer
6- Drugs
7- Evolution of anesthesia
8- The romance of surgery
Ancient times
Medieval times

Surgery of the renaissance and post-renaissance period
Surgery during the 17th, 18th and 19th century
9- Obstetrics and gynaecology
Family planning and contraceptives
Tribal medicine and contraception
Ancient medicine and contraception
10- Sexually transmitted diseases and skin diseases
Syphilis
Gonorrhoea
AIDS
Skin diseases
11- Medical emergencies
Acute abdomen
Head injuries and neurological emergencies
Trauma, shock and parenteral therapy
12- Contribution of islam to medicine
Islam and the promotion of culture and science
Medicine before islam
Manpower and hospitals
a- Manpower before islam
b- Hospitals before islam
13- Characteristic features of hospitals in the islamic civilization
High standard of islamic hospitals
Specific hospitals
14- Islamic physicians
Al-Razi (razes)
841-926 ad
Al-Zahrawi
(abulcasis, bucasis, alzahravius)

Ibn-Sina (avicenna) 980-1037 ad
Ibn-Rushd (averroes) 1126-1198 ad
Ibn-Maimon (maimonedes) 1135-1204 ad
Ibn-El-Nafis 1208 - 1288 ad



14- The arabs and ophthalmology
Arabs and anesthesia
Arabs and obstetrics
Method of therapy in islamic medicine
Medical ethics in islam

MUSCULO- SKELETAL & INTEGUMENTARY SYSTEM

Course title: Musculo- skeletal & integumentary system
Course code: 1500202
Credit hours: 6 hours
Course designation: Second year / Second semester
Department: Integrated module

Course syllabus:

Distribution of sessions:

	Lectures	Pract	Disc/Sem	Others/Self-Learning
Anatomy	19	5	1	3
Physiology	2			1
Biochemistry	4		1	2
Pathology	5	2		2
Microbiology	5			1
Pharmacology	8		1	2
Public Health	1			1
Total	44	7	3	12

Lectures

Anatomy:

1- Over view of MSS
2- Bones of vertebral column
3- Intervertebral joints& spinal muscles
4- Histology of the skin
5- Bones of UL
6- Shoulder joints & axilla
7- Elbow joints &related muscles
8- Wrist, hands& related muscles
9- Histology of the muscular tissue
10- Bones of LL
11- Hip joints & related muscles
12- Hip joints & related muscles
13- Histology of cartilage & bones
14- Knee joints& related muscles
15- Ankle joints & related muscles
16- Foot
17- Development of the skeletal muscles
18- Cubital & popliteal fossa
19- Development of skull& limbs

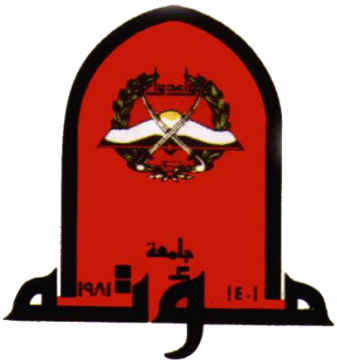
Physiology

1- Muscle physiology
2- Thermoregulation

Biochemistry

1- Biochemistry of bones & connective tissues
2- Metabolic disorders& clinical biochof muscles & bones
3- Biochemical & metabolic basis of diseases related to collagen& elastin metabolism
4- Biochemistry of melanin& effect of UV radiation (characteristic of melanin)

Pathology



1- Paget's disease & osteomylitis
2- Diseases of skeletal muscles
3- Soft tissue tumors
4- Acute inflammatory dermatoses
5- Chronic inflammatory dermayoses& blistering

Pharmacology

1- Anti-rheumatic , non- steroidal& anti- inflammatory drugs
2- Disease modifying ant- rheumatic drugs
3- Drugs of gout
4- Skeletal muscle relaxant
5- Pharmaceutical preparationsof skin disorder
6- Topical antimicrobial for skin infection
7- Drugs of eczema acne, seborreic dermaititis& psoriasis
8- Sun–screen& drug modifying pigmentation& drugs for hyperhidrosis

Microbiology

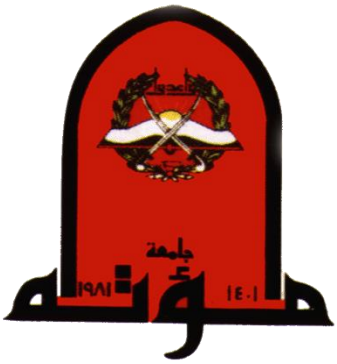
1- Trichinella spiralis
2- Bacterial infection of the skin
3- Parasitic infection of the skin
4- Viral infection of the skin
5- Fungal infection of the skin

Public health

1- Epidemiology of MSS

DIGESTIVE SYSTEM MODULE

Course Title: Digestive system module
Course Code: 1500203
Credit Hours: 6 hours
Course designation: Second year / Second semester
Department: Integrated module



Course syllabus:

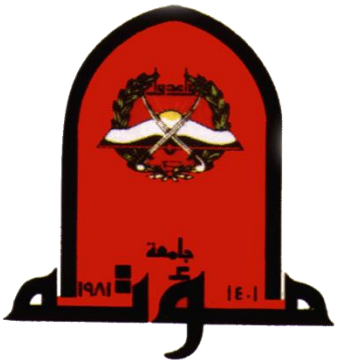
Distribution of sessions:

Department	# of Lectures	# of Practicals	# of Seminars
Anatomy	15	5 (3 Gross+2 Hist)	0
Physiology	6	0	0
Biochemistry	4	0	0
Pathology	11	4	0
Microbiology	10	2	0
Pharmacology	6	1	0
Public Health	2	0	0
Multidisciplinary	2	0	2
Total	56	12	2

Lectures

Anatomy

2- Morphology of oral cavity, pharynx & esophagus
3- Morphology of salivary glands
4- Histology of oral Cavity, Esophagus& Salivary Glands
5- Abdominal wall & Inguinal Region
6- Embryology of the Coelomic Cavity & peritoneum
7- Abdominal Cavity & peritoneum
8- Morphology of GIT Hollow organs:Stomach & Duodenum
9- Histology of Stomach & Duodenum
10- Small & Large Intestine
11- Embryology of the Gut
12- Morphology of Accessory organs of GIT Liver & Pancreas
13- Histology of liver& pancreas
14- GIT Lymphatic Drainage
15- GIT Blood Supply & Portal circulation
16- Endoscopic journey through GIT



Physiology

1- Salivary Secretion, Swallowing& Esophageal Motility
2- Gastric Motility And Vomiting
3- Gastric Secretion
4- Pancreatic secretion
5- Biliary & Intestinal Secretion
6- Absorption in GIT

Pharmacology

1- Drugs Affecting Gastric Motility & Antiemitics
2- Drugs Used in Peptic Ulcer (I)
3- Drugs Used in Peptic Ulcer (II)
4- Laxatives
5- Antidiarrheal drugs
6- Drugs in liver diseases

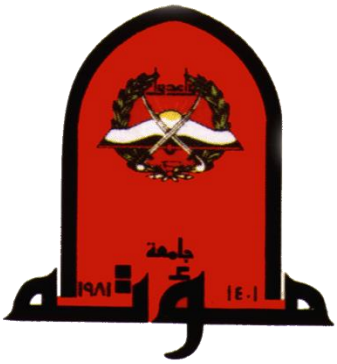
Pathology

1- Diseases of the Oral Cavity
2- Diseases of the Esophagus
3- Diseases of Stomach (Gastritis & Peptic Ulcer)
4- Gastric Tumors
5- Diseases of intestine (I) (inflammatory & ischemic bowl diseases)
6- Disease of the Intestine (II) (Malabsorption)
7- Disease of the Intestine (III) (Bowl Obstruction & Tumors)
8- Cholestasis & Cirrhosis
9- Hepatitis & Alcoholic Liver Disease
10- Liver Tumors & Diseases of Extrahepatic Biliary Tree
11- Exocrine pancreas diseases

Biochemistry

1- Major Types of Nutrients
2- Gastrointestinal Enzymes & Digestion
3- Liver functions (Detoxification & Excretion)
4- Liver's Metabolic Disease

Microbiology



1- Helicobacter Pylori & Gastroduodenal Disease
2- Schistosomiasis & Hydatidosis
3- Amoebiasis
4- Bacterial infections of GIT (Gastroenteritis)
5- Food Poisoning& Cholera
6- Parasitic intestinal infestation (I)
7- Parasitic Intestinal Infestation (II)
8- Diarrhea due to parasites
9- Viral hepatitis
10- Rotavirus

Community Medicine

1- Micro and macronutrients
2- Fibers

ENDOCRINE SYSTEM AND METABOLISM MODULE

Course title : Endocrine system and metabolism
Course code: 1500204
Credit hours: 5 hours
Course designation: Second year / Second semester
Department: Integrated module

Course syllabus:

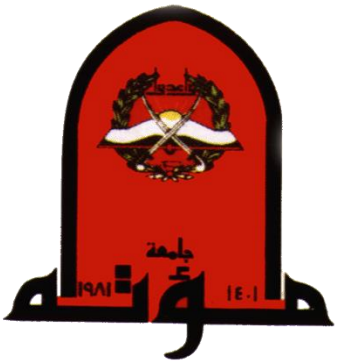
Distribution of Sessions

Discipline	Lectures	Practicals	Seminars	Discussions
Anatomy	3	2	0	1
Physiology	9	0	0	1
Biochemistry	8	0	0	1
Pathology	5	2	0	1
Pharmacology	7	0	0	1
Community Medicine	1	0	0	
Multidisciplinary	2	0	4	1
Total	35	4	4	6

Lectures

Anatomy
1- Morphology of the endocrine glands
2- Histology of the endocrine glands
3- Embryology of the endocrine glands
4- One gross anatomy lab& one histology lab

Physiology
1- Hypothalmic-pituitary relationship
2- Adenohypophyseal hormones
3- Posterior pituitary hormones
4- Thyroid hormones
5- Hormonal control of calcium metabolism



6- Endocrine function of pancreas
7- mineralocorticoid and adrenal medullary hormones
8- Glucocorticoid
9- sexual function of male and female

Pathology

1- Pathology of the anterior and posterior pituitary gland
2- Pathology of the thyroid gland 1
3- Pathology of the thyroid gland11;parathyroid glands
4- pathology of the endocrine pancreas
5- Pathology of the adrenal gland

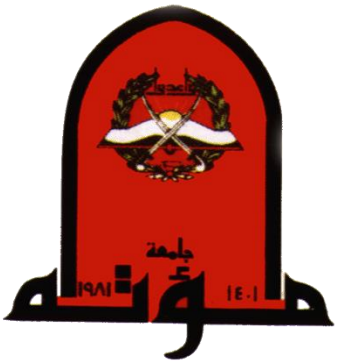
Pharmacology

1- Pharmacology of the hypothalamic hormones
2- Pharmacology of the anterior pituitary hormones
3- Thyroid and antithyroid deugs
4- Pharmacology of parathyroid,vitamin D,calcitonin
5- Insulin and oral hypoglycemic agents
6- Pharmacology of mineralocorticoids
7- Pharmacology of glucocorticoids

Community medicine

1- epidemiology of diabetes mellitus

Biochemistry (general lectures on metabolism)



1- Carbohydrate: digestion & absorption.
2- Glycolysis 1: aerobic & anaerobic, enzymes involved.
3- Glycolysis 11: regulation.
4- Gluconcogenesis & cori cycle key steps, enzymes involved & their regulation.
5- Pentose phosphate pathway: oxidative & non-oxidative reaction. Reactive oxygen species (ROS).
6- Fructose, galactose & lactose metabolism.
7- Glycogen: biosynthesis & degradation, regulation.
8- Beta oxidation of fatty acids & metabolism of ketone bodies.
9- Fatty acid biosynthesis.
10- Synthesis of triacylglycerol.
11- Cholesterol: synthesis, metabolism & fat.
12- Metabolism of eicosanoids.
13- Integration of carbohydrates & lipid metabolism.
14- Fate of amino acid nitrogen, urea cycle.
15- Synthesis & degradation of amino acids.

Biochemistry (specialized lectures)

1- Introduction to biochemical endocrinology
2- Mechanism of hormone action 1
3- Mechanism of hormone action 2
4- Mechanism of hormone action 3
5- Biochemical aspect of thyroid hormones metabolism
6- Regulation of metabolism
7- Steroidogenesis
8- Sex steroid biosynthesis

MEDICAL ETHICS

Course title: Medical Ethics
Course code: 1500205
Credit hours: 1 hour
Course designation: Second year / Second semester
Department: Medicine

Course Syllabus:

Lectures

1- General concepts of Medical Ethics
2- History of Medical Ethics
3- Ethical aspects of Genetic manipulations and ember ional intervention
4- Ethical aspects of organ transplants
5- Ethical aspects of prenatal diagnosis
6- Artificial aspects of artificial reproduction
7- Ethicas and sterilization ant conception
8- Etics in Patients 'physician relationship
9- Ethics interprofesional relationship
10- Ethics and medical charts
11- Medical confidentionality
12- Ethics and human experimentations
13- Medical consent
14- Ethicas and publicity
15- Ethicas and terminal patients
16- Ethicas and neonates
17- Ethicas and euthanasia
18- Ethicas and suicide behavior
19- Ethics and elderly patients
20- Physician and society

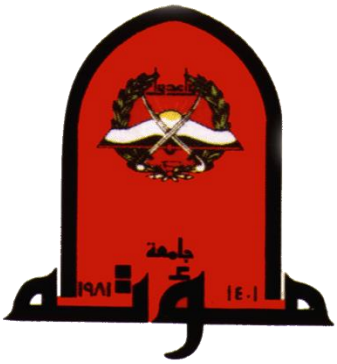
Seminars:
Medical case discussion related with ethics, with small groups

CLINICAL PSYCHOLOGY

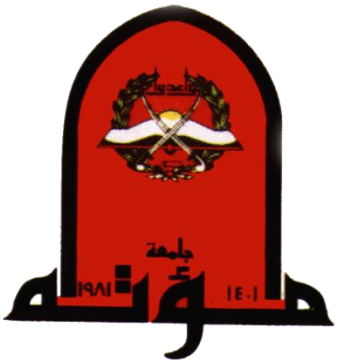
Course title: Clinical Psychology
Course code: 1507201
Credit hours: 2 hours
Course designation: Second year / Summer semester
Department: Medicine

Course Syllabus:

1- Introduction
   Definitions Fields of Psychology and Aims in relation Medicine, determinant of behaviouer
2- Instincts
   Concept, Motives, Drives and nature of instinctual behaviour development
3- Ethology and human behaviour
   Needs according to Maslow
4- Higher Mental Processes
   Perception (Definition, Influence, attention and disorders of perception; illusions and hallucination)
   Memory (Definition, Mechanism and influencing factors, forgetting and disorders)
   Thinking (Definition, Characteristic; concepts, symbols, abstract factors and disorders)
   Learning (Definition, Modes: classical and operant conditioning modeling and cognitive, principles of conditioning, reinforcement principles, implication and fear formation)
5- Applications of learning in illness and therapy
   Behavioural therapy techniques
6- Intelligence
   Definition, Intelligence, IQ, factors, measurement and mental retardation



7- Emotion
   Definition, aspects, theories, psychophysiology, emotion and learning
8- Relation between mind and body
   Psychosomatic medicine, Experiments, human diseases
9- Personality
   Concept, Approaches in understanding
10- Determinants of Personality; Internal Influencing Factors;
   Genetics, constitution etc.
11- External determinants
   Family, school, society, illness etc.
12- Anxiety
   Concept, Factors, Coping
13- Mental Defense Mechanism
   Definition, characteristics, types; Repression, denial etc.
14- Theories of the Mind I (Concept, types)
   Psychoanalytic-Psychodynamic Theory
15- Theories of the Mind II
   Psychosocial theory
16- Theories of the Mind III
   Cognitive learning and general system theories
17- Social Determinants of Behaviour;
   Social basis of Illness :-(Sick Role, Illness behavior and Reactions to illness)
   Social factors influencing illness
18- Doctor – Patient Relationship I
   Patient Role (Social expectation, personality, personal meaning of illness, renounce, other factors
19- Doctor – Patient Relationship II
   Doctor Role (Social, patient and professional characteristics Personality Expectation)
20- Doctor-Patient Relationship III
   Personalities of patient and doctor
21- Grief Reaction (Bereavement)
   Definition, normal reaction, stages of grief
22- Pathological or abnormal grief
   Types, sequel, risk factors management



23- Sleep psychophysiology
Definitions, Stages of sleep Dreams, Etc.
24- Communication Skills
25- Attachment theory
26- Psychometrics