Discipline of Primary Health Care
Analytical programme

MG. 3.2.7 Primary Health Care
Courses (10 hours)

1. Definition of epidemiology, preventive medicine and Community medicine. Main objectives and epidemiology compartments. Work and research methods in epidemiology. Prevention and clinical registration of diseases within Primary Health Care practice (definition, classification, control, elimination, eradication). (2 hours)

2. Definition and general structure of epidemiologic process in communicable vs. non-communicable diseases. Sources of pathogenic agents: definition, category, properties. Means and routes of infection. Receptivity, non-receptivity, resistance, immunity, population immunity background. Boosting/intensifying factors of the evolution of epidemiologic process. Forms of manifestation of the epidemiologic process. (2 hours)


4. Primary Health Care: definition, content. Epidemiologic methods and principles concerning Community health. (2 hours)

5. Epidemiologic surveillance within Community medicine. Priority programmes for monitoring diseases within health state primary assistance (cardiovascular, metabolic, mental and cancer). (2 hours)

Practical laboratories (15 hours)

1. Working methods as regards epidemiology with applications in primary health care (observational, descriptive, analytical and experimental). Incidence, prevalence, mortality and lethality: definition, classifications, use and interpretation in Community epidemiologic practice. (2 hours)


3. Epidemiologic investigation concerning more frequent communicable diseases in primary health care practice. (2 hours)

4. Epidemiologic investigation concerning more frequent non-communicable diseases in primary health care practice. (2 hours)


6. Structure of health programmes for the surveillance and control of diseases in Community medicine. Practical exercises. (2 hours)

7. Mini-project of Primary Health Care programmes.
Surgery

Course

1. Introductiv course: surgery in medical practice, the history of surgery in Roumania and in the world, surgery in Iasi, how the surgeon makes prepares before entering the theater
2. Evaluation of a patient in surgery
3. Bleeding in surgery
4. Infectious disease in surgery
5. Trauma: bruise and open trauma (wound)
6. Benign tumours, maligm tumours
7. Organ transplant
8. Head and neck pathology
9. Thyroid and parathyroid glands pathology
10. Torax disease pathology
11. Breast pathology
12. Abdominal disease pathology
13. Hernia of the antero-lateral abdominal wall
14. Upper limb and lower limb pathology

Practical skills

1. Organisation of the surgical service and operating room
2. Asepsis
3. Antisepsis
4. Clinical examination of surgical patient and medical records
5. Preoperative management
6. Postoperative management
7. Instruments
8. Pain killers
9. Injection
10. Wound dressing
11. Bandage
12. Incision
13. Drainage
14. Punction
15. Tubing and
17. Vesical tubes
18. Stome management
19. Haemostasis
20. Suture
21. Vascular tubes
22. Blood transfusion
23. First aid in trauma
24. Infections
25. Tumors
26. Pathology of head and neck
27. Pathology of torax
28. Abdominal pathology
29. Limb pathology
30. Hernia
31. Breast pathology

**Vascular surgery**

1. acute ischemia
2. peripheral arteriopathy
3. vein pathology

**Practice skills**

1. clinical examination of vascular patient
2. chronic arteriopathy stadalisation
3. diagnostic of acute ischemia
4. aorto-iliac disease
5. peripheral arteriopathy femuro-popliteal
6. pulse
7. doppler examination
8. bandage
9. management of arterial trauma
10. arteriography, flebography, angioRMN
11. vascular tubes
12. lower limb amputation
13. vein dilatation
14. post trombotic sindrom

**Plastic surgery**

Burns:
- definition
- skin anatomy
- etiology
➢ diagnostics
➢ pathology
➢ local treatment
➢ surgical treatment
➢ particular burns
➢ after burns treatment

Practical skills

1. Indept burn diagnostic
2. Determination of a surface burn
3. Preparing the burn surface
4. Prognostics
5. Hidro electrolyte balance
6. Surgical management
7. Prevention of sistemical complications
1. Introductive notions: definition, object of Pharmacology, divisions of Pharmacology, development stages

Pharmacology; General Pharmacokinetics: absorption, transport, distribution, metabolism, elimination of drugs; accumulation, biodisponibility, half time. (2 hours)

2. General Pharmacodinamics: general mechanisms of drugs’ actions, structure-effect relation, dose-effect relation; therapeutic index; synergism and antagonism of drugs; adverse reactions of drugs. (2 hours)

3. Pharmacology of the parasympathetic nervous system: parasympathetic mimetic with direct and indirect action. (2 hours)

4. Pharmacology of the parasympathetic nervous system: parasympatheticolitics (antimuscarinics, ganglioplegics, curarizants). (2 hours)

5. Pharmacology of the sympathetic nervous system: stimulants of the sympathetic nervous system. (2 hours)

6. Pharmacology of the sympathetic nervous system: blockers of the sympathetic nervous system. (2 hours)

7. Pharmacology of the smooth muscle: stimulants of the smooth muscle contraction, relaxants of the smooth muscle contraction. (2 hours)

8. Pharmacology of the autacoids: biologically active amines’ system, biologically active peptides’ system. (2 hours)

9. Pharmacology of the cardiovascular system: anti inotrops, anti arrhythmic, trophic venous medication. Pharmacology dislipidemiilor (2 hours)

10. Pharmacology of the hydro electrolytic and acidic-basic equilibrium: diuretics, anti diuretics (2 hours)

11. Pharmacology of the blood: anti anemic medication, anti-clotting medication, fibrinolytic medication, plasma replacements. (2 hours)

12. Algesiology: local anesthetics, general anesthetic and pre anesthesia medication (2 hours)

13. Algesiology: analgesics, antipyretics, anti inflammatory; drugs used in the therapy of gout. (2 hours)
14. Algesiology: opioids analgesics. Anti-coughing and expectorants (2 hours)

15. Immunopharmacology and antineoplastic medication. (2 hours)

Laboratory classes (45 hours)

1. Safety rules: rules to follow during the Pharmacology Laboratory classes. Introductive notions, active principals, drugs, drug forms, pharmacopeia, classification criteria for drugs. Drug forms: drug forms with oral administration. Drug forms with bucal and pharyngo -bronchic administration (3 hours)

2. Drug forms: drug forms with conjunctival administration. Drug forms with auricular administration. Drug forms with nasal administration. Drug forms with rectal administration. Drug forms with vaginal and urethral administration. Drug forms with cutaneous administration. Drug forms with parenteral administration. (3 hours)


4. Rules for writing the magistral prescription: the syrup, the aqueous potion for internal use, the infusion and the colutorium, mouthwash solution. General rules of treatment for intoxications. (3 hours)

5. Rules for writing the magistral prescription: ophthalmic solution, nose drops, ear drops, inhalation solution, enema. Acute and chronically intoxication with organophosphates. (3 hours)

6. Rules for writing the magistral prescription: the cachet, the ointment. The intoxication with atropine. Acute and chronically intoxication with nicotine. (3 hours)

7. Rules for writing the officinalis prescription. Rules for writing the typified prescription: the syrup, aqueous solution for internal use. Acute intoxication with organic solvents. (3 hours)

8. Rules for writing the typified prescription: the tablets, capsule, package. Intoxication with cyanides. Acute intoxication with methemoglobinizing drugs. (3 hours)

9. Rules for writing the typified prescription: drug powders for internal use, aqueous solution for mouth wash, ophthalmic solution, nose drops, ear drops. Acute intoxication with corrosive substances. (3 hours)

10. Rules for writing the typified prescription: inhaling solution, spray for oral and respiratory region. Intoxication with carbon monoxide. Intoxication with heavy metals. (3 hours)

11. Rules for writing the typified prescription: suppositories, pessaries, vaginal tablets and ointment. Prescription forms for psychotrophic and narcotic drugs. Acute and chronic intoxication with ethanol. Acute intoxication with methanol. (3 hours)
13. Rules for writing the typified prescription: revision. Practical demonstrations: Sinergism and antagonism of the drugs. Variation of the drugs’ effects depending on the dose and way of administration. Demonstration of the diuretic effect of hidroclorotiazide. Demonstration of the analgesic effect of morphin. Demonstration of the anti-inflammatory effect of phenylbutasone. Demonstration of the volatile general anesthetics. (3 hours)

14. Rules for writing the typified prescription: solution for injectable use, powders for injectable use, Acute intoxication with acetylsalicylic acid. Acute intoxication with acetaminophen. (3 hours)

15. Rules for writing the magistral and typified prescription: revision. Acute and chronically intoxication with opioids. (3 hours)


<table>
<thead>
<tr>
<th>Course code</th>
<th>Year of Study</th>
<th>Hours for 1 series / group (laboratory classes - LC)</th>
<th>Testing form</th>
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<tr>
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<td>Total 1 year</td>
<td>Semester I</td>
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<td>MG4.1.1</td>
<td>IV</td>
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Analitical program

MG4.1.1

Pharmacology - Algesiology

Course (20 hours)

1. Medication of the digestive system: gastric hypo- and hyperacidity, anti ulcerous, purgative and laxative drugs, bill ducts medication, liver protective medication. (2 hours)

2. Pharmacology of the motor nervous system. Miorexant drugs, antiparkinson drugs. (2 hours)


4. Pharmacology of the psychic area: neuroleptics, antidepressives, anxiolitics, analeptics, psychoanaleptics, phychotonics, euphorazing, phychomimetics. (2 hours)

5. Pharmacology of the endocrine system: hypothalamic hormones, hypophyseal hormones. (2 hours)


9. Chemotherapies: betalactamic chemotherapics, chloramphenicol, tetracycline, polypeptide chemotherapics, aminoglycosides, macrolides, lincosamides, drugs for tuberculosis therapy. drugs for lepers therapy. (2 hours)

10. Chemotherapies: antiviral, antifungal, antitumor, antiparasites. (2 hours)

Laboratory Classes (25 hours)

1. Safety rules. (1 hour).

2. Revision: Drug forms, rules for writing magistral, officinalis and typified prescriptions. Revision: cardiovascular system medication. Antihypertension drugs. (3 hours)

3. Rules for writing the magistral prescription: the potion, the syrup, the aqueous potion for internal use, the infusion and the colutorium, mouthwash solution, ophthalmic solution, nose drops, ear drops. Medication of the digestive system. Revision: anti angina medication (3 hours).

4. Rules for writing the magistral prescription: inhalation solution, enema, the pessaries, the suppositories, the cachet, solution for injectable use, powders for injectable use. Medication of the motor nervous system. Revision: heart failure medication. (3 hours).


8. Rules for writing the magistral and typified prescription. Chemotherapics. Revision: medication for respiratory diseases. (3 hours)

9. Rules for writing the magistral and typified prescription. Chemotherapics. Revision: medication of the blood. (3 hours)
Course Curriculum 2009-2010  
Pathophysiology courses (40 h)  

I. GENERAL PATHOPHYSIOLOGY  

1. GENERAL INFORMATION ON HEALTH AND DISEASE  
   1.1 Concepts of health and disease; General characteristics of disease  1h  
   1.2 Evolution of disease  1h  
   1.3 General etiology of diseases – exogenous factors (chemical, physical, biological, iatrogenic factors) and endogenous factors (genetical, hormonal, behavioral factors)  1h  
   1.4 General pathogenesis 2.5h  
      1.4.1 Stress and adaptation, mechanisms of stress, stress response, general adaptation reaction and its regulatory mechanisms, psychic stress and somatic diseases – a maladaptation pattern; psychosomatic, behavioral, psychodynamic, sociocultural and neuroscience related theories.  
      1.4.2 Cellular adaptation – types of adaptation (hyperplasia, hypertrophy, atrophy and metaplasia)  
      1.4.3 Cellular lesion and death. Ischemic and reperfusion lesion. Necrosis and apoptosis.  

2. ACUTE INFLAMMATORY REACTION 1.5h  
   2.1 Definition, general information  
   2.2 Vascular changes in acute inflammatory reaction  
   2.3 Cellular events in acute inflammatory reaction  
   2.4 Chemical mediators of inflammation (cellular and plasmatic)  
   2.5 Wound healing and chronic inflammation  
   2.6 Abnormalities of inflammatory reaction  

3. PATHOPHYSIOLOGY OF SHOCK 1.5h  
   3.1 Types of shock  
   3.2 Hemodynamic changes in shock (non-progressive)  
   3.3 Microcirculation in shock, progressive mechanisms in shock  
   3.4 Shock evolution.  
   3.5 Multiple organ failure syndrome  
   3.6 Other manifestations of acute circulatory insufficiency  

4. ALTERATIONS IN TEMPERATURE REGULATION 1h  
   4.1 Fever reaction- definition, etiopathogenesis, evolution, consequences  
   4.2 Hyperthermia- heat shock, malignant hyperthermia  
   4.3 Hypothermia  

5. PATHOPHYSIOLOGY OF CARBOHYDRATE METABOLISM 2h  
   5.1 Diabetes mellitus (DM)  
      5.1.1 Definition and classification  
      5.1.2 Etiology and pathogenesis of type 1 DM  
      5.1.3 Etiology and pathogenesis of type 2 DM  
      5.1.4 Metabolic characteristics of DM  
      5.1.5 Chronic complications of DM- micro și macroangiopathy
5.1.6 Acute complications of DM- ketoacidotic, hyperosmolar and hypoglycemic comas

5.2 Hypoglycemia

6. PATHOPHYSIOLOGY OF PROTEIN METABOLISM 1h
   6.1 Pathophysiology of dysproteinemias
   6.2 Pathophysiology of amino acids
   6.3 Pathophysiology of uric acid metabolism and endproducts of protein metabolism

7. PATHOPHYSIOLOGY OF LIPID METABOLISM 1h
   7.1 Primary hiperlypoproteinemias
   7.2 Secondary hiperlypoproteinemias: diabetes, alcohol abuse, endocrine diseases, kidney diseases and unbalanced nutrition.

8. PATHOPHYSIOLOGY OF FLUID AND ELECTROLYTES BALANCE 1h
   8.1 Pathophysiology of volume depletion
   8.2 Pathophysiology of volume excess
   8.3 Pathophysiology of sodium metabolism
   8.4 Pathophysiology of potassium metabolism

9. PATHOPHYSIOLOGY OF ACID_BASE BALANCE 1h
   9.1 Metabolic and respiratory acidosis
   9.2 Metabolic and respiratory alkalosis

10. PATHOPHYSIOLOGY OF CALCIUM AND PHOSPHATE METABOLISM 1h
    10.1 Hyper and hypocalcemia
    10.2 Hyper and hypophosphatemia
    10.3 Abnormal calcium-phosphate depositon in bone

11. PATHOPHYSIOLOGY OFCANCEROGENESIS AND TUMORAL PROGRESSION 1.5h
    11.1 General information
    11.2 Cancer etiology
    11.3 Genetic bases of oncogenesis - proto and antioncogenes
    11.4 Immunologic defects in cancer
    11.5 Cancer biology- initiation, promotion, conversion and progression; tumor growth and angiogenesis
    11.6 Paraneoplastic syndromes
    11.7 Tumoral markers

II. PATHOPHYSIOLOGY OF BODY SYSTEMS

1. PATHOPHYSIOLOGY OF BLOOD CELLS 2 h
   1.2 Pathophyiology of anemias
      1.2.1 Definition, classification, general mechanism of adaptation in anemias
      1.2.2 Anemias of deficient stem cells- aplastic anemia
      1.2.3 Anemias of deficient progenitor cells – anemias of chronic diseases, renal diseases, syderoblastic anemias
      1.2.4 Anemias of deficient precursor cells: iron deficiency anemia, megaloblastic anemia
      1.2.5 Hemolytic anemias- intracorpuscular anemias (spherocytosis, G6P-DH deficiency, thalasemias, sickle cell anemia) and extracorpuscular anemias
1.2.6 Acute blood loss anemias
1.3 Pathophysiology of polyglobulia
   1.3.1 Essential polyglobulia
   1.3.2 Secondary polyglobulia
2. PATHOPHYSIOLOGY OF COAGULANT-FIBRINOLYTIC SYSTEM 2h
   2.2 Disturbances of primary hemostasis - vascular and platelet bleeding syndromes
   2.3 Disturbances of secondary hemostasis – coagulation disorders
   2.4 Disseminated intravascular coagulation - definition, etiology, mechanisms and evolution
3. PATHOPHYSIOLOGY OF RESPIRATORY SYSTEM 2,5h
   3.2 Pathophysiology of respiratory failure
      3.2.1 Type I respiratory failure – mechanisms of hypoxemia
      3.2.2 Type II respiratory failure – mechanisms of hypoventilation
      3.2.3 Pathophysiology of dyspnea
      3.2.4 Pathophysiology of cyanosis
   3.3 Pathophysiology of lung diseases
      3.3.1 Bronchial asthma
      3.3.2 Chronic obstructive pulmonary disease
      3.3.3 Acute pulmonary edema
      3.3.4 Pleural diseases- pleural effusion, pneumothorax
      3.3.5 Acute respiratory distress syndrome
4. PATHOPHYSIOLOGY OF CARDIOVASCULAR SYSTEM
   4.2.1 Pathophysiology of blood pressure 2h
      4.2.1.1 Primary and secondary arterial hypertension
      4.2.1.2 Malignant hypertension
      4.2.1.3 Arterial hypotension
   4.2.2 Pathophysiology of ischemic heart disease 3,5h
      4.2.2.1 Pathophysiology of atherosclerosis- risk factors, mechanisms, evolution
      4.2.2.2 Determinants of myocardial oxygen demand and the pathological changes
      4.2.2.3 Determinants of myocardial oxygen supply and the pathological changes
      4.2.2.4 Pathophysiology of angina, types of angina and patophysiological characteristics
      4.2.2.5 Pathophysiology of myocardial infarction – mechanisms, evolution, complications
      4.2.2.6 Pathophysiology of arrhythmias
   4.2.3 Pathophysiology of heart failure 2h
      4.2.3.1 Etiology – determinant and precipitating factors
      4.2.3.2 Compensatory mechanisms in heart failure – early and late mechanisms
      4.2.3.3 Mechanisms of heart failure decompensation
      4.2.3.4 Pathophysiology of cardiac edema
      4.2.3.5 Types of heart failure
      4.2.3.6 Systemic effects of heart failure
5. PATHOPHYSIOLOGY OF GASTROINTESTINAL SYSTEM 2h
   5.2 Pathophysiology of oral cavity and esophagus
   5.3 Pathophysiology of gastritis
   5.4 Pathophysiology of peptic ulcer
   5.5 Pathophysiology of intestinal diseases – sprue, ulcerative-hemorrhagic rectocolitis, Crohn disease, Whipple disease
   5.6 Pathophysiology of malabsorption

6. PATHOPHYSIOLOGY OF EXOCRINE PANCREAS 1h
   6.1 Acute pancreatitis – etiology, mechanisms, evolution, complications
   6.2 Chronic pancreatitis - etiology, mechanisms, evolution, complications

7. PATHOPHYSIOLOGY OF LIVER 2h
   7.1 Hepatocellular dysfunction
       7.1.1 Alterations of interconversion of metabolic substrate and energy generation
       7.1.2 Alterations of protein synthesis
       7.1.3 Alterations of liver detoxification, solubilization and transport mechanisms
   7.2 Acute and chronic liver failure
   7.3 Pathophysiology of portal hypertension
   7.4 Pathophysiology of hepatic encephalopathy
   7.5 Pathophysiology of hepatorenal syndrome

8. PATHOPHYSIOLOGY OF RENAL SYSTEM 3h
   8.2 Pathological changes of glomerular filtration - diuresis, proteinuria, hematuria
   8.3 Pathological changes of tubular functions – proximal and distal functions
   8.4 Pathophysiology of nephrotic syndrome
   8.5 Pathophysiology of acute renal failure
   8.6 Pathophysiology of chronic renal failure

Total: 40 h
20 h/sem I +20 h/sem II

Chief of department,

Prof. Dr. Magda Bădescu
FACULTY OF MEDICINE
PATHOPHYSIOLOGY DEPARTMENT

Practical works Curriculum 2009-2010
Pathophysiology practical works (50 h)

1. Investigation of the inflammatory response: general pathobiological phenomena 1,5h
2. Investigation of the inflammatory response: local pathobiological phenomena 1,5h
3. Investigation of leukocyte disorders I – screening tests 1,5h
4. Investigation of leukocyte disorders II – analytical tests and diagnostic tests in leukemias 1,5h
5. Investigation of the CNS disorders: cerebrospinal fluid examination and electroencephalography (EEG) 1,5h
6. Investigation of red blood cell disorders – screening tests 2h
7. Investigation of red blood cell disorders – analytical tests 2h
8. Investigation of primary hemostasis 1,5h
9. Investigation of secondary hemostasis 2,5h
10. Investigation of respiratory system disorders I: ventilation control, diagnostic of ventilatory dysfunctions 1,5h
11. Investigation of respiratory system disorders II: gas exchange analysis; bronchomotricity tests 1,5h
12. Investigation of lipid metabolism disorders 1,5h
13. ECG I: normal ECG aspects; pathologic ECG: disorders in atrial and ventricular enlargements 1,5 h
14. Pathologic ECG II: disorders of impulse conduction 1,5h
15. Pathologic ECG III: disorders of cardiac rhythm 2h
16. Pathologic ECG IV: myocardial ischemia and myocardial infarction 2h
17. Pathologic ECG IV: aspects in electrolytic disorders 1,5h
18. Investigation of cardiovascular disorders V: ecocardiography, phonocardiography, the carotid pulse 1,5h
19. Investigation of cardiovascular disorders VI: arteries, venes, capillaries 1,5h
20. Investigation of esophageal and gastric disorders  
21. Investigation of intestinal and pancreatic disorders  
22. Investigation of liver and biliary tract disorders  
23. Investigation of renal disorders - static tests  
24. Investigation of renal disorders – dynamic tests  
25. Investigation of carbohydrate metabolism disorders – hyperglycemic syndrome  
27. Investigation of protein metabolism disorders  
28. Investigation of lipid metabolism disorders  
29. Investigation of hidroelectrolytic metabolism disorders  
30. Investigation of acid-base metabolism disorders  

Total 50 h  
25 h/sem I + 25 h/sem II  

Chief of department,  

Prof. Dr. Magda Badescu
COURSE: IMMUNOPATHOLOGY
CREDITS: 2
YEAR and SEMESTER of STUDY: IIIrd year, semester VI
LECTURERS: Dr. Eugen Carasevici - Professor,
    Dr. Petru Cianga,
    Dr. Florin Zugun,
    Dr. Irina Florea
    Dr. Carmen Aanei
    Biol. Lucian Negura
ASSISTANTS:

COURSE SPECIFICATIONS:
    Lectures: 14 hours
    Total: 14 hours
    Type of assessment: written examination
AIMS: To provide information regarding:
    - the immunologic mechanisms underlying several conditions
    - particular clinical aspects
    - therapeutic approach
    - immunologic investigations
OBJECTIVES:
    Theoretical skills:
        - outline the defense mechanisms against disease
        - describe the hypersensitivity reactions I, II, III and IV; immunologic conditions
          mediated by these mechanisms
        - describe the concepts of autoimmune processes; various autoimmunities
        - describe the concepts of immunodeficiencies; various immunodeficiencies
        - Immunologic conditions: general and particular aspects
    Practical skills:
        - normal haematology values
        - normal chemical values
        - normal immunology classes
        - complement components
        - vaccination schedules
        - coagulation and complement pathways
        - CD markers
        - cytokines
DESCRIPTION:
    1. Hypersensitivity I – mechanism, anaphylactic shock, allergic rhinitis, allergic asthma,
        atopic eczema – 2 hours
    2. Hypersensitivity II – mechanism, insulin-dependent diabetes mellitus, anti-glomerular
        basement membrane disease; Haemolytic disease of the newborn, autoimmune
        haemolytic anaemia, myastenia gravis, – 2 hours
    3. Hypersensitivity III – mechanism, extrinsic allergic alveolitis; Drug induced serum
        sickness, coeliac disease, Wegener’s granulomatosis, systemic lupus erythematosus,–
        2 hours
    4. Hypersensitivity IV – mechanism, contact dermatitis, pulmonary tuberculosis, leprosy,
        sarcoidosis, Crohn’s disease – 2 hours
    5. Immunodeficiencies - selective IgA deficiency, hyperimmunoglobulinaemia E-
        recurrent infection syndrome, X-linked agammaglobulinaemia, DiGeorge syndrome,
hiperIgM immunodeficiency, ADA deficiency, factor I deficiency, leukocyte adhesion deficiency, – 2 hours
6. Wiskott-Aldrich syndrome, acquired immunodeficiency syndrome, chronic granulomatous disease, type I hereditary angioedema – 2 hours
7. Transplantation

PREREQUISITES:
Recommended courses: Genetics, Microbiology, Histology, Fundamental Immunology

BIBLIOGRAPHY:
- Samter’s Immunologic Diseases, 6th Edition, 2001;
- Richard Goldsby, Thomas J. Kindt, Barbara Osborne: Kuby’s Immunology, 5th Edition, 2002;
- David Male, Jonathan Brostoff, David B Roth, Ivan Roitt: Immunology, 7th Edition, 2006;
COD
CURS: IMUNOPATOLOGIE
CREDITE:
An și semestrul de studiu: anul III, semestrul VI
Cadre de predare: Dr. Eugen Carasevici - Profesor,
Dr. Petru Cianga – Sef de Lucrări
Dr. Florin Zugun – Sef de Lucrări
Dr. Irina Florea – Sef de Lucrări
Dr. Carmen Aanei – Asistent
Biol. Lucian Negura - Asistent

ASISTENT:
SPECIFICATII ale cursului:
Cursuri: 14 de ore
Total: 14 de ore
Tipe de examinare: examen scrisl

SCOPURI: Să furnizeze informații privind:
- mecanismele imunologice care stau la baza a diverse afecțiuni
- aspecte clinice particulare
- abordare terapeutică
- immunologic investigations

OBIЕCTIVE:
Aptitudini teoretice:
- descrierea mecanismelor de apărare împotriva bolii
- descrierea reacțiilor de hipersensibilitate I, II, III and IV; afecțiuni imunologice mediate de aceste mecanisme
- descrierea fundamentului proceselor autoimune; diferite autoimunități
- descrierea fundamentului imunodeficiențelor; diferite imunodeficiențe
- afecțiuni de natură imunologică: aspecte generale și particulare

Aptitudini practice:
- valori hematologice normale
- valori chimice normale
- clase normale de imunoglobuline
- componente ale complementului
- programe de vaccinare
- căile de coagulare și ale complementului
- markeri CD
- citokine

DESCRIERE:
1. Hipersensibilitate I – mecanism, soc anafilactic, rinita alergică, astm alergic, eczema atopica – 2 ore
2. Hipersensibilitatea II – mecanism, diabet zaharat insulino-dependent, Sdr. Goodpasture, boala hemolitică a noului nascut, anemia hemolitică autoimună – 2 ore
3. Hipersensibilitatea III – mecanism, alveolita alergică extrinsecă, boala serului indusă de medicamente, boala celiacă, granulomatoza Wegener, Lupus eritematos diseminat – 2 ore
4. Hipersensibilitatea IV – mecanism, dermatita de contact, tuberculoza pulmonară, lepra, sarcoidoza, boala Crohn – 2 ore
5. Imunodeficiențe – deficiență selectivă în IgA deficiență cu, hiperimunoglobulinemia E, X-linked agamaglobulinemia, sindrom
DiGeorge, imunodeficienta cu hiperIgM, deficit in ADA, deficit in factor I, LAD – 2 ore
6. Sindrom Wiskott-Aldrich, SIDA, boala cronica granulomatoasa, edem angioneurotic ereditar tip I – 2 ore
7. Transplant

Cunostinte precedente necesare:
    Cursuri recomandate: Genetică, Microbiologie, Histologie, Imunologie Fundamentală

BIBLIOGRAFIE:
- Samter’s Immunologic Diseases, 6th Edition, 2001;
- Richard Goldsby, Thomas J. Kindt, Barbara Osborne: Kuby’s Immunology, 5th Edition, 2002;
- David Male, Jonathan Brostoff, David B Roth, Ivan Roitt: Immunology, 7th Edition, 2006;
THE METHODOLOGY OF DOCUMENTATION AND MEDICAL SCIENTIFIC RESEARCH

Lecturers (16 hours)

1. CONCEPTS AND DIRECTIONS

General aims of the lesson.
Scientific research and medicine evolution.
Main tendencies in contemporary medical scientific research.
Medical language, medical terminology – evolution, influences, difficulties.
Concepts and basic terms.

2. SCIENTIFIC DOCUMENTATION

Concept and definition of scientific documentation.
Types of scientific documents.
Modalities of documentation.
The stages of the documentation process: selection of the sources of information, principles of the selection, the selection of documents, documentary analysis (critical valuation of information).
Standards for the organization of resource centres.
General principles of structuring and stocking of information in a database. Access at medical databases.
Use of the INTERNET for the documentation at distance – concepts and basic terminology – positive and negative elements.
Servers and databases of biomedical problems. Principles and research methods.

3. SCIENTIFIC RESEARCH IN MEDICINE

Types of the personalities and fundamental characteristics of a scientific researcher.
The motivation of a scientific researcher.
The research topic selection – the originality of ideas.
The experiment (stages): the working hypotheses, organization of the experiment, the experimental model, collection and recording of data, the critical analysis of the results.
Hypothesis and scientific observation.
Intuition and imagination in scientific investigation.
Reasoning and strategy for the establishment of the working methodology and valuation of the results.

4. THE SCIENTIFIC FOUNDATIONS OF CLINICAL RAISONEMENT.
EVOLUTION OF MEDICAL DIAGNOSTIC. THE MEDICINE BASED ON SCIENTIFIC PROOF.
Definitions, criteria for the selection of publications; types of studies; characteristics of the protocol in relation of the idea of research; the level of proof and the gradation of recommendations.
Types of used studies: the research of risk factors or reasons of illness, valuation of performances of the diagnostic tests, therapeutic decision, valuation of the prognostic.
Types of studies: structure, sequence.
Use of statistics tests for valuation of the significance of the results.
5. CHARACTERISTICS BULKS OF CERTAIN DISCOVERIES.
Dedicated experimental models.
Reconstitution of stages of an important discovery in the medicine of the XXth century.

6. ELABORATION AND PRESENTATION OF A SCIENTIFIC PAPER.
Types of scientific papers.
Writing of a scientific paper: basic rules, general structure, modalities of illustration, comprehension of the text in an international language.
Originality and report to the bibliographic information.
Selection of the appropriate journal for publication, international rules of publication.
Techniques of technoredaction and of preparation of the manuscript.
Preparation of a paper for oral presentation: basic rules, material realization.
Preparation of a paper in POSTER format.
The review paper: purpose, elaboration, presentation.
The licence: organization, stages of elaboration, presentation.
The doctoral dissertation.

7. VALUATION OF USEFULNESS OF A SCIENTIFIC MEDICAL PAPER.
The critical lecture of an article.
Evaluation grids according to criteria of the methodology of study.
Criteria of valuation for: the review, the licence, the doctoral dissertation.

8. ETHICS OF THE RESEARCH IN MEDICINE.
The bioethics.
Medicine and ecology.
Errors and fraud in biomedical research.

9. THE PRESENT STATE IN THE RESEARCH OF SCIENTIFIC SUPPORT IN THE CASE OF "NONOFFICIAL" MEDICAL METHODS

10. MEDICINE AND MEDICAL SCIENTIFIC RESEARCH IN INTERNATIONAL CONTEXT.

Practical works (16 hours)

1. MAIN TENDENCES IN CONTEMPORARY MEDICAL SCIENTIFIC RESEARCH.
Types of documents.
Modalities of documentation.
Access on the medical database.
Use of the INTERNET for the documentation at distance – concepts and basic terminology – positive and negative elements.
Servers and databases of biomedical problems. Principles and research methods.

2. SCIENTIFIC RESEARCH IN MEDICINE.
The research topic selection – the originality of ideas.
The experiment (stages): the working hypotheses, organization of the experiment, the experimental model, collection and recording of data, the critical analysis of the results.
Hypothesis and scientifical observation.
Intuition and imagination in scientific investigation.
Reasoning and strategy for the establishment of the working methodology and valuation of the results.

3. THE MEDICINE BASED ON SCIENTIFIC PROOF.
Definitions, criteria for the selection of publications; types of studies; characteristics of the protocol in relation of the idea of research; the level of proof and the gradation of recommendations.
Types of used studies: the research of risk factors or reasons of illness, valuation of performances of the diagnostic tests, therapeutic decision, valuation of the prognostic.
Types of studies: structure, sequence.
Use of statistics tests for valuation of the significance of the results.

4. CHARACTERISTICS BULKS OF CERTAIN DISCOVERIES.
Dedicated experimental models.
Reconstitution of stages of an important discovery in the medicine of the XXth century.

5. ELABORATION AND PRESENTATION OF A SCIENTIFIC PAPER.
Types of scientific papers.
Technoredaction criteria and international rules of publication.
Preparation of a paper for oral presentation: basical rules, material realization.
Preparation of a paper in POSTER format.
The review paper: purpose, elaboration, presentation.
The licence: organization, stages of elaboration, presentation.

6. VALUATION OF USEFULNESS OF A SCIENTIFIC MEDICAL PAPER.
The critical lecture of an article.
Evaluation grids according to criteria of the methodology of study.
Criteria of valuation for: the review, the licence, the doctoral dissertation.

7. MEDICINE AND MEDICAL SCIENTIFIC RESEARCH IN INTERNATIONAL CONTEXT.
Organization of the medical care.
Features of the activity of research
International professional and scientific associations.

MEDICAL BIOSTATISTICS

Lesson – 2 hours
The definition of the samples of study. Test T, ANOVA, Chi square, Kaplan Meier.

Practical works – 8 hours
1. The definition of the samples of study, 2 hours
2. Comparison by Test T, ANOVA, 2 hours
3. Comparison by Test Chi square, 2 hours
4. Analysis of survival by method Kaplan Meier, 2 hours.
Subject Morphopathology
MG3.2.2 Morphopathology

Lectures (45 hours)

First semester
1. INTRODUCTION IN MORPHOPATHOLOGY


EXTRACELLULAR LESIONS. Hyalinises, Amiloidoses. Pathological calcification: dystrophic and metastasic.

2. ACUTE AND CHRONIC INFLAMATION

Chronic inflammation. Definition and causes. Histopathological aspects. Granulomatouse inflammation: tuberculotic inflammation, syphilitic inflammation, foreign object granulome; sarcocytoses.

TISSUE REPARATION (healing processes)
Regeneration. Reparations by means of conjunctive tissue (fibroses) and conjunctive organization. Wound healing.

4. SANGUINE CIRCULATION DISORDERS
Active hyperaemia and sanguine stasis. Haemorrhage.

5. THE PATHOLOGY OF THE CARDIO-VASCULAR APPARATUS
Aorta dissection.
Vein pathology: tromboflebitis, flebotromboses, varicose.

6. RESPIRATORY SYSTEM PATHOLOGY

7. URINARY APPARATUS PATHOLOGY (3 hours)
Congenital anomalies.


Urinary bladder and urinary tract morphopathology: congenital anomalies, inflammations, benign and malignant tumours.

8. DIGESTIVE TRACT PATHOLOGY (3 hours)
Oesophageal pathology: congenital anomalies, oesophagitis and tumours.
Appendix pathology: acute and chronic appendicitis; tumours.

Second semester:
1. LIVER, BILE TRACT AND EXOCRINE PANCREAS PATHOLOGY

2. HEMATOPOETHIC AND LYMPHOID SYSTEM PATHOLOGY
Spleen pathology: morphologic substrata of spleenomegalias.

3. MALE GENITALIA APPARATUS PATHOLOGY
Malformations, acute and chronic orchiepididimitis. Testicle and prostate tumours.

4. FEMALE GENITALIA APPARATUS PATHOLOGY


5. ENDOCRINE SYSTEM PATHOLOGY

Hipophysis gland pathology: adenomas.
Thyroid gland pathology: hypothyroidism (cretinism, mixedem), hyperthyroidism (tickotoxicosis), Basedow-Graves’s disease, acute and chronic thyroiditis, simple non-toxic diffuse gizzard, multinodular gizzard, benign and malignant tumors.
Parathyroid glands pathology: primary and secondary hyperparathyroid.
Corticosuprenal glands pathology: hyperadrenalism (Crushing sdr.), primary hyperaldosteronism, adrenogenital sdr., 21-hydroxylasys deficiency, primary acute adrenocortical insufficiency (Waterhouse-Friderichsen sdr.), primary chronic insufficiency (Addison’s disease).
Adrenocortical tumors.
Suprarenal medullar pathology: feocromocytomus, neuroblastomus.

6. SKELETAL BONY SYSTEM PATHOLOGY (30 minutes)


7. SKELETAL MUSCLE PATHOLOGY

Inflammatory miopathy, toxic miopathy. Neuromuscular junction diseases: miastenia gravis.

8. CENTRAL NERVOUS SYSTEM PATHOLOGY

Practical applications (75 hours)

First semester:

1. MORPHOPATHOLOGY STUDY METHODS AND TECHNIQUES
Lesion studies during the sick person’s lifetime. Methods of obtaining tissue samples (biopsy). Methods of analysing the biopsies in order to realise the histopathology diagnosis. Methods of harvesting products containing cells in order to realise the citodiagnosis. microorganism cultures obtaining techniques. Histopathology diagnosis and citodiagnosis. Study of post-mortem lesions. Notions regarding the organization and functionality of anatomical and pathological services in hospitals. Autopsy technique. Editing an autopsy protocol.

2. CELLULAR PATHOLOGY PROCESSES

3. INTRACELLULAR ACCUMULATIONS
Cellular predominant: intracellular accumulations of pigments: jaundice, hemosiderosis, lipofuscinosis;
Intracellular lipid accumulations: hepatic and renal steatosis, cholesterolosis, atherosclerosis.

4. CIRCULATORY DISORDERS

5. INFLAMMATION AND HEALING

6. TUMOUR MORPHOLOGY
fibrosarcoma, pleomorph rabdomiosarcoma, osteosarcoma. The morphology of benign and malign tumours occurring in the melanin creating tissue. Teratoma morphology: mature teratoma.

7. CARDIO-VASCULAR APPARATUS MORPHOLOGY

8. RESPIRATORY APPARATUS MORPHOLOGY
Lobar pneumonia; interstitial pneumonia; bronchopneumonia, bronchiectasiea, pulmonary abscess. Pulmonary tuberculosis; pneumoconiosis; emphysema; bronchopulmonary cancer.

Second semester:
1. URINARY APPARATUS MORPHOPATHOLOGY

2. DIGESTIVE TRACT MORPHOPATHOLOGY
Oesophagi: malformations, diverticulitis carcinoma.
Stomach: acute hemorrhagic erosive gastritis, acute ulcer and chronic peptic gastro-duodenal ulcer with complications; benign and malign tumours.
Intestine: Meckel diverticulitis, pseudo-membranous colitis, benign and malign tumours.

3. LIVER, BILE TRACT AND PANCREAS PATHOLOGY
Liver: acute viral hepatitis, chronic hepatitis. Types of cirrhosis and complications. Primary and secundary tumours.
Bile tract: cololithiasis, colecystitis, carcinoma.
Pancreas: acute pancreatitis with citosteanonecrosis, pancreas carcinoma.

4. HEMATOPOIETHIC AND LYMPHOID SYSTEM MORPHOPATHOLOGY
5. FEMALE GENITALIA APPARATUS MORPHOPATHOLOGY

6. PREGNANCY AND MAMMARY GLANDS MORPHOPATHOLOGY
Abortion: ectopic pregnancy; tumours of the placenta.
Mammary gland: benign and malign tumours

7. ANATOMICAL AND CLINICAL AUTOPSY
Subject Medical Symptomatology
MG3.1.4 Medical symptomatology

Lectures (90 hours)

13. Valvulopathies.
16. Renal apparatus symptomatology, glomerulonephritis.
17. Pielonephritis and nephritic syndrome.
18. Acute and chronic renal insufficiency.
19. Mouth symptomatology.
20. Oesophageal symptomatology and oesophageal syndromes.
22. Stomach and duodenal symptomatology (gastritis, ulcer, cancer)
23. Small intestine and colon symptomatology (diarrhoea, constipation, malabsorption syndrome).
24. Irritable colon. RCUH. Colon cancer.
25. Chronic hepatitis and hepatic cirrhosis.
27. The ghoul bladder and bile tracts. Pancreas symptomatology (pancreatitis, cancer).
29. Leukaemia.
30. Lymphoproliferative syndrome and hemorrhagipar syndrome.

**Practical applications (220 hours)**

First semester:
1. Clinical observation sheet. Objective examination (inspection, palpation, percussion, listening). (3 hours)
2. Attitude, physiognomy, stature, constitutional type. (2 hours)
3. Nutritional status. Obesity. Tegument exam (colour modifications, cyanosis, jaundice, discolorations, elementary skin lesions). (2 hours)
4. Coetaneous eruptions, coetaneous haemorrhages, superficial collateral venous circulation. (2 hours)
6. Cyanosis. Endema (cardiac, renal, hepatic, endocrine, lymphatic, venous, allergic, inflammatory). (2 hours)
8. Fever types. Lymphatic ganglions symptomatology. Eye exam. (2 hours)
10. Neurological symptomatology. LCR exam. meningeal syndrome. (2 hours)
11. Dermatological symptomatology. Endocrinological symptomatology (hypophysis, sdr. antehypophysis and posthypophysis). (2 hours)
12. Endocrinological symptomatology (thyroids, suprarenal). bone and joint system symptomatology. (2 hours)
13. Respiratory apparatus symptomatology (anamnesis particularities, chest pain, dyspnoea). (3 hours)
15. Objective examination of the respiratory apparatus (general, local, inspection, palpation, percussion). (2 hours)
16. Pulmonary listening. (2 hours)
17. Complementary methods of investigation of the respiratory apparatus (radiological exam, pleural puncturing, bronchoscopy, pleuroscopy, pulmonary scintigraphy). Functional exploration of the respiratory apparatus. (3 hours)
18. Bronchitis syndrome. Clinical syndrome of acute and chronic bronchitis. (2 hours)
19. Clinical syndrome of bronchial asthma. Clinical syndrome of bronchiecstasis. (2 hours)
22. Pulmonary hyperventilation syndrome. Clinical syndrome of pulmonary emphysema. (2 hours)
23. Pleural syndrome (dry pleurisies and pleural liquid over spilling syndrome). (2 hours)
26. Pleural syndrome in the hydropneumothorax. (2 hours)
27. Pleural syndrome in the pahipleuritis. (2 hours)
28. Mediastinal syndrome. (2 hours)
29. Cardiovascular apparatus symptomatology. Major symptoms – precardial pain (3 hours)
30. Dyspnoea. (2 hours)
31. Palpitations and other symptoms. (2 hours)
32. Objective exam. (2 hours)
33. Local exam, thorax and precardial regions inspection, palpation and percussion of the precardial region. (2 hours)
34. Heart listening niduses. (2 hours)
35. Normal cardiac noises. (2 hours)
36. Modifications to fundamental cardiac noises. (2 hours)
37. Extra cardiac noises. (3 hours)
38. Extra cardiac noises. (2 hours)
39. Arterial exam. (2 hours)
40. Complementary methods of exploration in arteriopathies. (2 hours)
41. Acute and chronic peripheral ischemic syndrome. (2 hours)
42. Arterial tension. (2 hours)
43. Vein exam. (2 hours)
44. Tromboflebitis clinical syndrome. (2 hours)
45. Complementary methods of exploration of the cardiovascular apparatus. Radiological exam. (2 hours)
46. Electrocardiography. (2 hours)
47. Electrocardiography. (2 hours)
48. Analysis of one EKG. (2 hours)
49. Pathological EKG. (2 hours)
50. Pathological EKG. (2 hours)
51. Sonic cardiogram. Mechanogram. (2 hours)
52. Mitral stenosis. Mitral insufficiency. (2 hours)
53. Aortic stenosis. Aortic insufficiency. (2 hours)
54. Tricuspid stenosis. Pulmonary stenosis. Tricuspid insufficiency. Pulmonary insufficiency. (2 hours)
55. Ischemic heart disease. Pectoral anginas. (2 hours)
56. Myocardial infarct. Unstable pectoral anginas. (2 hours)
57. Chronic and acute pericorditis. Myocardial syndrome. (2 hours)
58. Rheumatismal endocarditis. Bacterial endocarditis. (2 hours)
59. Clinical syndrome in arterial hypertension. (2 hours)
60. Arterial hypotension syndrome. Clinical syndrome of cardiac insufficiency. Congenital heart diseases. (2 hours)

Second semester:
1. Renal apparatus symptomatology. Anamnesis particularities. General symptoms. Local symptoms. Lumbar pain. (2 hours)
2. Urinary disturbances. Urine emission disturbances. (2 hours)
3. Objective examination of the renal apparatus. (2 hours)
4. Complementary methods of exploration of the renal apparatus. (2 hours)
5. Acute glomerular nephropathies syndrome. Acute poststreptococcic glomerulonephritis. (2 hours)
6. Acute parcelled infectious glomerulonephritis and chronic glomerular nephropathies. (2 hours)
7. Nephritic syndrome. (2 hours)
8. Pielonephritic syndrome. Acute pielonephritis. Chronic pielonephritis. (2 hours)
9. Acute renal insufficiency. (2 hours)
10. Chronic renal insufficiency. Renal-urinary lithiasis. Renal cancer. (2 hours)
11. Mouth-pharynx cavitations symptomatology. Symptoms in mouth-pharynx diseases, pain, taste modifications, saliva secretion disturbances, objective exam, smelling of the mouth. (2 hours)
12. Examination of the tongue, gums, teeth, palatine arch and shroud, mouth bridging and pharynx. (2 hours)
13. Oesophagus symptomatology. (2 hours)
14. Dysphagia, pain, regurgitation. (2 hours)
15. Oesophagus exploratory methods: radiologic and endoscopic exams, exploration of oesophagus mobility. (2 hours)
16. Mobility disturbances of the oesophagus. Cardia achalasia. Oesophageal diffuse spasm. (2 hours)
18. Oesophageal stenosis (oesophageal cancer). Oesophageal diverticulitis (2 hours)
19. Abdomen symptomatology: functional symptoms, abdominal pain, nausea, eructation, hematomesis, melena. (2 hours)
22. Abdomen palpation. Abdomen percussion. Paraclinical investigations: evacuation puncture of the abdomen, blank radiological exam, laparoscopy. (2 hours)
23. Stomach and duodena symptomatology: anamnesis particularities, functional symptoms, epigastric pain, eructation, appetite disorders. (2 hours)
24. Stomach and duodena symptomatology. Objective exam: general, local, inspection, palpation, percussion, listening. (2 hours)
25. Paraclinical investigations: the study of gastric secretion, the exploration of the stomach’s evacuation function. Radiological examination. (2 hours)
26. Gastric dyspeptic syndrome. Gastritic syndrome. Clinical syndrome of acute and chronic gastritis. (2 hours)
27. Ulcerous syndrome. (2 hours)
28. Clinical syndrome of gastric cancer. Stomach’s impaired evacuation function syndrome. (2 hours)
29. Acute peritoneal syndrome. (2 hours)
31. Paraclinical investigations: macroscopic and microscopic coprology examination, chemical examination, bacteriological examination, intestinal intubation, intestinal biopsy, endoscopic examination. Exploration of the intestinal absorption function. Radiological examination. (2 hours)
32. Diarrhoeic syndrome. Constipation syndrome. Anorectosigmoidic syndrome. Malabsorption syndrome. (2 hours)
33. Liver symptomatology: anamnesis particularities, pain, dyspeptic disorders, other functional disorders. Objective examination: general and local. (2 hours)
34. Complementary methods of liver examination: hepatic explorations with biochemical functionality, bile excretion system, hepatocitolytic syndrome, hepatopriv syndrome, mezenciema hyperactivity syndrome, hepatic immunological examination, morphologic exploration of the liver. Laparoscopy. Hepatic puncture biopsy. Invasive exploratory methods. (2 hours)
35. Hepatic-cellular jaundice. Obstructive jaundice. (2 hours)
36. Hepatomegaly: causes and paraclinical examinations. (2 hours)
37. Ascitic syndrome. Portal hypertension syndrome. (2 hours)
38. Major hepatic insufficiency syndrome: hepatic coma. (2 hours)
39. Chronic hepatitis syndrome: definition, classification, etiopathogenesis, symptomatology, paraclinical investigations. (2 hours)
41. Hepatic cirrhosis syndrome: complications. (2 hours)
43. Exocrine pancreas symptomatology: anamnesis particularities, clinical manifestations, pain, pancreatic dyspepsia. Local objective exam. Complementary methods of exocrine pancreas exploration. (2 hours)
44. Pancreatic syndromes. Acute pancreatitis. Chronic pancreatitis. Pancreatic cancer. (2 hours)
45. Spleen symptomatology. (2 hours)
49. Essential polyglobulism syndrome. (2 hours)
50. Acute leukaemia. (2 hours)
51. Chronic leukaemia: myeloidic and lymphatic. (2 hours)
52. Lymphoproliferative syndrome. Hodgkin’s disease. (2 hours)
53. Hemoragipar syndromes. (2 hours)
54. Hemoragipar syndromes through coagulopathy. (2 hours)
55. Haemophilia. Disseminated intravascular coagulation. (2 hours)
56. Revision. (2 hours)