



DEAN of the FACULTY OF MEDICINE
SOFIA UNIVERSITY "ST. KLIMENT OHRIDSKI"
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**SYNOPSIS FOR THE STATE EXAM OF HYGIENE, EPIDEMIOLOGY OF
INFECTIOUS DISEASES, INFECTIOUS DISEASES AND SOCIAL MEDICINE**

FOR THE SPECIALTY "MEDICINE", 2018-2019

A. HYGIENE

1. Basics of the science hygiene – subjects, objectives, tasks and methods. Main chapters - characteristics. Prevention – hygiene standardization, control.
2. Pollution of the biosphere – pollutants, sources, influence on the human and the Earth. Approaches for health and ecological prevention.
3. Climate and weather. Meteorotropic reactions. Acclimatization.
4. Health requirements of drinking water. Prevention of water pollution.
5. Hygienic characteristics and problems of water supply systems in settlements – water sources, systems of drinking water supply, standardization. Methods of water purification and disinfection. Hygienic norms. (reference ranges)
6. Hygiene problems at the settlements. Waste removal in the settlements. Activities against noise.
7. Hygiene of health care facilities – planning, construction, equipment – main requirements. Hygiene and anti-epidemic regime in health care facilities. Prevention of nosocomial infections.
8. Hygienic requirements of specialized hospitals – infectious, phthisiatry, surgery, obstetrics and gynecology, pediatrics. Hygiene characteristic of labor in healthcare.
9. Hygiene of Nutrition – basic tasks, methods. Healthy diet – main principles. Methods for assessment of dietary intake and nutritional status. Dietetics – basic principles and characteristics of the dietary interventions.
10. Dietary reference values. Nutrition in life cycle. Nutrition of different professional groups.
11. Hygienic requirements of some food products – milk, dairy products, eggs, meat, fish, plant and canned food
12. Diet-related non- communicable diseases. Nutritional deficiencies. Obesity. Prevention.
13. Food borne diseases by microbial and non-microbial origin. Prevention of food borne diseases. Basic tasks of the medical staff.

14. Hygiene requirements to restaurants and hospital catering system. HACCP system at the restaurants.
15. Objective and tasks of the occupational hygiene. Factors of the work process. The role of the doctor of the Occupational Health services.
16. Objective and tasks of the work physiology. Classification and characteristics of the work processes. Ergonomic problems.
17. Physiological changes associated with work process. Work capacity, fatigue, over-fatigue. Prevention.
18. Occupational hazards and occupational disease. Classification. Hazards related to the regime of work and rest. Prevention of diseases.
19. Hygienic characteristic of the occupational microclimate. Impact on workers' health. Prevention.
20. Hygienic characteristic of industrial radiation – UVR, IRR, laser and radio wave radiation. Professional diseases. Prevention.
21. Hygienic characteristic of occupational noise and vibration. Occupational diseases (Vibration disease of local and common vibrations, auditory neuritis). Prevention.
22. Chemical hazards – sources, classification, characteristic, impact on human. Prevention of industrial poisoning.
23. Occupational intoxication with metals and metalloids. (Pb, Hg, Mn, Cd, Cr, Ni)
24. Dust aerosols as factors of the working environment. Respiratory occupational diseases (Pneumoconiosis – silicosis, asbestosis; Occupational bronchitis). Prevention.
25. Hygienic requirements on organization and operation of the industrial enterprises.
26. Occupational health problems in agriculture. Occupational intoxication with pesticides (Organophosphates, Organochlorine)
27. Occupational hygiene in the chemical industry. Specific occupational diseases (intoxication with organic solvents – benzene, nitro- and amino-derivative of benzene, carbon disulfide, vinyl chloride). Prevention.
28. Occupational hygiene in the textile industry. Specific occupational diseases (Occupational bronchitis, Occupational respiratory allergic diseases – occupational asthma, byssinosis, musculoskeletal disorders). Prevention.
29. Occupational hygiene in mining industry, mechanical engineering and metalworking. Specific occupational diseases. Prevention.
30. Hygiene of children and adolescents. Specification of their health status. Prevention of some basic diseases during childhood.
31. Hygienic requirements of the structure and operation of child care facilities. Daily regime of children and adolescents. Hygiene of education – basic requirements of educational programs.

REFERENCES

1. Gatzeva, P. ed. Hygiene and Ecology. Lecture Guide for Medical Students, MPH “VAP”, Plovdiv, 2009.
2. Gatzeva, P. ed. Hygiene and Ecology. Handbook for practical exercises for medical students. MPH “VAP”, Plovdiv, 2011

3. Tzvetkov, D. p / q Hygiene and ecology, third edition, Volume I and II, ed. "Cameo" LTD 2014
4. Popov B. p / p Food hygiene and occupational diseases. Sofia 2014.
5. Ivanova, L, A Vatkova, R. Popova, P. Janeva. Hygiene and nutrition-practical guide for students and graduate students. University publishing house "St. Kl. Ohridski", Sofia, 2015.
6. Mahan, K. Krause's Food, Nutrition and Diet Therapy, 12th Edition, Elsevier (USA), 2008.

B. EPIDEMIOLOGY OF INFECTIOUS DISEASES

1. Subject and goal of Infectious diseases epidemiology. Epidemic process (chain of infection): links (chain elements) and forms (sporadic, endemic, epidemic, outbreak, pandemic).
2. Source (reservoir) of infection. Types of reservoirs: human, animal and abiotic environment reservoirs.
3. Mode of transmission: definition and stages (phases). Horizontal and vertical, direct and indirect modes of transmission. Factors (intermediaries) and routes of infection transmission.
4. Susceptible host. Host defences. Immunity: innate and adaptive (acquired). Herd immunity.
5. Immunoprophylaxis (immunization). General characteristics of vaccines, antiserums and immunoglobulins.
6. Adverse reactions following immunization. Contraindications to immunization.
7. Prevention and control of infectious diseases. Epidemiological (public health) surveillance.
8. Disinfection and sterilization: background, types, methods. Sterilization: methods. Monitoring of sterilization procedures.
9. Disinfection and sterilization: chemical methods. Chemical disinfectants. Hand hygiene. Monitoring of disinfection.
10. Vector control: types, methods, insecticides.
11. Rodent control: types, methods, rodenticides.
12. Nosocomial infections: Epidemiology, prevention and control.
13. Epidemiology and prevention of Typhoid fever.
14. Epidemiology and prevention of Cholera.
15. Epidemiology and prevention of Salmonellosis.
16. Epidemiology and prevention of Shigellosis.
17. Epidemiology and prevention of Escherichia coli enteritis.
18. Epidemiology and prevention of Viral hepatitis "A" and Viral hepatitis "E".
19. Epidemiology and prevention of Botulism.
20. Epidemiology and prevention of Brucellosis.
21. Epidemiology and prevention of Leptospirosis.
22. Epidemiology and prevention of Poliomyelitis.
23. Epidemiology and prevention of Viral gastroenteritis
24. Epidemiology and prevention of Influenza.

25. Epidemiology and prevention of Measles.
26. Epidemiology and prevention of Mumps.
27. Epidemiology and prevention of Rubella and Chickenpox/Herpes zoster.
28. Epidemiology and prevention of Diphtheria.
29. Epidemiology and prevention of Pertussis.
30. Epidemiology and prevention of Scarlet fever.
31. Epidemiology and prevention of Meningococcal infection.
32. Epidemiology and prevention of Legionellosis.
33. Epidemiology and prevention of Q-fever.
34. Epidemiology and prevention of Boutonneuse (Marseilles) fever and Lyme disease.
35. Epidemiology and prevention of Crimmean-Congo hemorrhagic fever and Haemorrhagic fever with renal syndrome.
36. Epidemiology and prevention of Plague and Tularemia.
37. Epidemiology and prevention of Viral hepatitis "B", Viral hepatitis "C" and Viral hepatitis "D".
38. Epidemiology and prevention of Rabies.
39. Epidemiology and prevention of Tetanus.
40. Epidemiology and prevention of Anthrax.

REFERENCES

1. Lectures on epidemiology of infectious diseases.
2. Epidemiology and prevention of vaccine preventable diseases (Pink book). 13th edition. Ed. by Jennifer Hamborsky, Andrew Kroger and Charles (Skip) Wolfe. CDC, USA, 2015.
3. Control of communicable diseases manual. 18th edition. Ed. by David L. Heymann. American public health association, USA, 2004.
4. Webber, R. Communicable Disease Epidemiology and Control. A Global Perspective. 2nd edition. CABI Publishing, UK, 2005.

C. INFECTIOUS DISEASES

COMMON PART

1. Symptoms and syndromes of the Infectious Diseases.
2. Appointment and interpretation of Laboratory, Microbiological, Virological and Parasitological tests.
3. Etiological therapy of the Infectious Diseases.
4. Immunotherapy of the Infectious Diseases.
5. Pathogenetic and symptomatic therapy of the Infectious Diseases.
6. Fever of Unknown Origin (FUO).
7. Organization of the therapy – regimen, diet, medical service.

GASTROINTESTINAL TRACT INFECTIONS

8. Diarrhea, upper and lower dyspeptic syndrome.
9. Chronic fatigue syndrome, consumable and asteno-vegetative syndrome of the Infectious Diseases.
10. Pathogenetic treatment of the Gastrointestinal Tract Infections: water-salt rehydration, water-salt homeostasis, alkaline-acid balans.
11. Salmonellosis, Typhoid Fever – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
12. Food Toxic Infections, Botulism – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
13. Shigellosis – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
14. Enteritis – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
15. Viral Gastroenteritis – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
16. Enteroviral infections – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
17. Brucellosis – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.

INFECTIOUS DISEASES OF THE LIVER

18. Jaundice syndrome and cytolytic syndrome of the Infectious Diseases.
19. Hepatosplenomegaly syndrome of the Infectious Diseases.
20. Acute Liver Failure (ALF) – pathogenesis.
21. Leptospirosis – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
22. Viral Hepatitis – etiology, mechanisms/pathophysiology and epidemiology of the HAV-infection, HBV-infection, HCV-infection, HDV-infection and HEV-infection.
23. Viral Hepatitis – clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention of the HAV-infection, HBV-infection, HCV-infection, HDV-infection and HEV-infection.
24. Hepatic Coma – pathogenesis, clinical manifestations and therapy.

RESPIRATORY TRACT INFECTIONS

25. Toxic infectious syndrome of the Infectious Diseases.
26. Upper and lower respiratory syndrome of the Infectious Diseases – differential diagnosis.
27. Rash syndrome of the Infectious Diseases – differential diagnosis.
28. Acute Respiratory Failure (ARF) – principles of treatment.
29. Scarlet fever – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
30. Measles – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.

31. Rubella – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
32. Chickenpox, Herpes Zoster virus infection – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
33. Influenza – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
34. Adenoviruses, Respiratory Syncytial Virus Infection (RSV-infection) – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
35. Atypical Contagious Respiratory Tract Infections – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
36. Pertussis (Whooping Cough) – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
37. Mumps – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.

BRAIN INFECTIONS & INFECTIONS OF THE NERVOUS SYSTEM

38. Meningo-radiculus syndrome of the Infectious Diseases.
39. Cerebrospinal Fluid syndrome (CSF syndrome) of the Infectious Diseases – interpretation.
40. Peripheral neurological syndromes of the Infectious Diseases – differential diagnosis.
41. Meningococcal Disease, Meningococcal purulent meningitis – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
42. Waterhouse-Friderichsen syndrome (WFS) – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
43. Viral meningitis – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
44. Bacterial meningitis – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
45. Poliomyelitis – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.

VECTOR-BORNE AND ZOOONOTIC DISEASES

46. Haemorrhagic syndrome of the Infectious Diseases.
47. Hepatorenal syndrome of the Infectious Diseases.
48. Mediterranean Spotted Fever (Boutonneuse Fever) – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
49. Q fever – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
50. Lyme Borreliosis – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
51. Crimean-Congo Hemorrhagic Fever (CCHF) – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.

52. Hemorrhagic Fever with Renal Syndrome (HFRS) – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
53. West Nile Fever (WNF) and West Nile Neuroinvasive Disease (WNND) – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.

54.

SKIN AND SOFT TISSUE INFECTIONS

55. Angina (Chest Pain) syndrome of the Infectious Diseases.
56. Lymphadenomegaly syndrome of the Infectious Diseases.
57. Tularemia – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
58. Anthrax – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
59. Tetanus – etiology, epidemiology, clinical manifestations, differential diagnosis, diagnostic tests, therapy and prevention.
60. HIV and AIDS – etiology, epidemiology and classification.
61. HIV and AIDS – pathogenesis.
62. HIV and AIDS – clinical manifestations of the Opportunistic Infections.
63. HIV and AIDS – clinical manifestations of the Non-infectious Diseases.
64. HIV and AIDS – principles of Highly Active Antiretroviral Therapy (HAART), drugs by groups.

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1. Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases – John E. Bennett, Raphael Dolin, Martin J. Blaser, editors. 8th Edition, 2015.
2. Infectious Diseases – Jonathan Cohen, William G. Powderly, Steven M. Opal, editors. 4th Edition, 2016.
3. Scientific Journal “New England Journal of Medicine”.
4. Scientific Journal “Lancet Infectious Diseases”.
5. Scientific Journal “Clinical Infectious Diseases”.
6. Scientific Journal “Journal of Infectious Diseases”.
7. Scientific Journal “International Journal of Infectious Diseases”.
8. Scientific Journal “Emerging Infectious Diseases”.
9. Scientific Journal “Eurosurveillance”.
10. Scientific Journal “Journal of Infection”.

D. SOCIAL MEDICINE

1. Social medicine as a science – definition, objective, structure, function and methods.
2. Social factors of health – essence, classification.
3. Socio-medical approach at medical practice. Social history of health and disease.
4. Epidemiological methods in social medicine. Basic concepts. Measuring the frequency of diseases. Comparing disease occurrence– absolute and relative comparison.

5. Analytical epidemiological studies. Cohort studies and case control studies - types, design, conducting, advantages and disadvantages, potential errors.
6. Epidemiology and prevention. Scope and levels of prevention. Premorbid prevention. Strategies of primary and secondary prevention. Screening.
7. Public health as a system phenomenon. Measuring and assessment of public health.
8. Demographic approach to population health. Age structure of the population. Population pyramid. Medical and social implications of population ageing.
9. Fertility related indicators. Birth rate - definition, worldwide trends and regional variation. Family planning and reproductive health.
10. Socio-medical aspects of total mortality. Trends of total mortality in the world and in Bulgaria.
11. Infant mortality - definition, worldwide trends and regional variation. Under-5 mortality rate.
12. Life expectancy – definition, worldwide trends and regional variation. Healthy life expectancy.
13. Morbidity as a measure of population health. Sources of information and methods of studying morbidity. International classification of diseases (ICD).
14. Working ability, temporary and permanent disability – concepts and factors. Medical and social problems of disability.
15. Non-communicable diseases - trends of morbidity and mortality worldwide. Measuring the burden of diseases - DALYs (Disability Adjusted Life Years). Major risk factors.
16. Health care system as social system. Fundamental goals and functions of the health care systems. Typology of health care systems.
17. Health policy – essence, levels and health authorities. Health policy priorities in developed countries.
18. Health management – definition, essence. Resource management in health care system.
19. International health cooperation – objectives and types. World Health Organization (WHO). WHO global health strategies and programs. European health strategies and programs.
20. Health legislation. Health as a right. Human rights and health. Basic health legislation acts – Health Act, Health Insurance Act, Medical-treatment Facilities Act.
21. Primary health care as a key strategy for improvement of population health – essence, objectives, elements. General practitioner as the main provider of primary health care for the population.
22. Hospital care – functions, organization, financing. Assessment of hospital performance. Current state and trends in hospital care in developed countries and in Bulgaria.
23. Socio-medical problems of maternal and child health. Health services for mothers and children.
24. Health Promotion – definition, principles, and strategies. Ottawa Charter for Health Promotion.
25. Health education – essence, models, principles, methods and resources.

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1. Mutafova M. (eds.) Social Medicine. ARSO, Sofia, 2013.
2. PH-SEE Project. Health determinants in the scope of New public health. Eds. L. Georgieva & G. Burazeri. H J Publishing Co, Germany, 2005.
3. Beaglehole R., Bonita R., Kjellström T. Basic Epidemiology. 2nd ed., Geneva: World Health Organization. 2006.
4. GBD 2015 Mortality and Causes of Death Collaborators, and others. Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980–2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*, Vol. 388, No. 10053, 2016.
5. <http://www.who.int/en/> - WHO official site
6. <http://www.euro.who.int/en/about-us/partners/observatory/publications> - European Observatory on Health System and Policies
7. Lecture notes