General pharmacology:

1. Basic legislation related to drug use, Sources of information on drugs and medicinal products.
2. Types of pharmacotherapy, rules of rational and safe phramacotherapy. The question of drug misuse.
3. Preclinical and clinical trials, stages.
4. Pharmacology, sub-branches, origin of drugs, drug names.
5. Solid and gaseous pharmaceutical drug dosage forms - overview and their influence on pharmacokinetics and pharmacodynamics.
6. Semi-solid and liquid pharmaceutical drug dosage forms - overview and their influence on pharmacokinetics and pharmacodynamics.
7. Routes of drug administration – overview, characteristics.
8. Inhibition and induction of enzymes in pharmacokinetics and pharmacodynamics of drugs – examples.
9. Drug absorption, presystemic elimination, drug bioavailability.
10. Drug distribution, volume of distribution, redistribution. General principles of drug movement through the body.
11. Pharmacokinetic processes of the first and zero order, saturation pharmacokinetics, drug accummulation.
12. Drug elimination - $t_{0,5}$, K_E, Cl.
13. Drug biotransformation – stages, examples.
14. Drug excretion (ways of excretion, possibilities of their influence).
15. Therapeutic monitoring of drugs (TDM).
16. Pharmacokinetics of single, repeated and continual drug administration.
17. Nonspecific modes of drug action – examples of drugs.
18. Receptor theory of drugs mode of action.
19. Synergism and antagonism in drug effect (pharmacokinetics, pharmacodynamics).
20. Dose – response curves, types of doses, drug anamnesis, patient‘s adherence.
21. Specific modes of drug action – target structures, examples of drugs.
22. Adverse drug reactions (types, categories, examples).
23. Pharmacovigilance, drug safety.
24. Primary resistance of the patient to the treatment. Influence of repeated administration on drug efficacy - examples of tolerance and tachyphylaxis.
25. Factors influencing the drug effect – examples.
26. Pharmacotherapy in elderly, the influence of co-morbidities on drug effect, polypharmacy.
27. Pharmacotherapy in pediatric population, in breastfeeding women. Drugs influencing breast feeding.
28. Pharmacotherapy in pregnancy, drug teratogenicity.
29. Drug interactions - overview, examples.
30. Principles of biological treatment – classification, technology, examples of clinical use.
31. Pharmacogenetics, influence of genetic polymorfisms on pharmacokinetics and pharmacodynamics of drugs.

Special pharmacology:

1. Sympathomimetics - overview of single classes and their indications, examples of drugs
2. Sympatholytics - overview of single classes and their indications, examples of drugs
3. Cholinomimetics
4. Cholinolytics
5. Antispasmodics - GIT + UGT
6. Glucocorticoids
7. Immunostimulants + immunosuppressants (except glucocorticoids)
8. Antidiabetics (except insulines)
9. Insulins
10. Sex hormones - contraception and HRT
11. Drugs targeting H-P axis and their indications (except contraception and HRT)
12. Uterotonics and tocolytics
13. Opioid analgesics
14. NSAIDs, non-opioid analgesics, antimigraine agents
15. Antiuratics, antirheumatics incl. DMARDs
16. General anesthetics
17. Local anesthetics
18. Muscle relaxants
19. Antipsychotics
20. Drugs of neurogenerative diseases (Parkinson's disease; dementia)
21. Anticonvulsants
22. Nootropics, cognitive enhancers
23. Hypnosedatives, anxiolytics
24. Antidepressants - iMAO+SSRI+NDRI
25. Antidepressants - tricyclic, NASSA, MASSA, SARI, SNRI, NARI, SMS
26. Psychotomimetics, drugs used in ADHD
27. Antiasthmatics, drugs used in COPD
28. Antitussives, mucoactive drugs
29. H1 antihistamines
30. Hypolipidemics, anti-obesity drugs
31. Antihypertensives – drugs targeting RAAS
32. Antihypertensives – diuretics and aldosterone antagonists
33. Antihypertensives beta blockers + central antihypertensives
34. Antihypertensives - calcium channel blockers, α1 lytics
35. Antiangial agents
36. Antiarrhythmics
37. Drugs used in heart failure
38. Antiplatelet agents
39. Fibrinolytics, antifibrinolytics
40. Anticoagulants
41. Antianemics, hemostatics
42. Aminoglycosides
43. Principles of antibacterial therapy – overview, modes of action, resistance, MIC, MBC
44. Lincosamides, glycopeptides, polymyxins
45. Tetracyclines + related ATBs, amphenicoles
46. Cephalosporines, monobactams
47. Penicillins, carbapenems

48. Sulphonamides, nitrofurans and nitroimidazoles
49. Macrolides and related ATBs
50. Quinolones, antituberculotics
51. Antimycotics
52. Dermatologics – overview of classes, drugs and effects
53. Antivirotics
54. Antiemetic drugs, prokinetics, antivertigo drugs
55. Laxatives, antidiarrhoics, drugs of infectious diarrhoeas
56. Antiulcer agents, hepatoprotectives and drugs influencing the production and excretion of bile
57. Alkylating cytostatics and other drugs aiming on DNA in oncology
58. Biological treatment of autoimmune diseases
59. Targeted treatment in oncology
60. Antimetabolites + hormonal therapy in oncology
61. Drugs causing addiction
62. Drugs used in the treatment of addiction
63. General principles of drug poisoning, specific antidotes and their mechanisms of action
64. Drugs for inflammatory bowel disease
65. Drugs used in erectile dysfunction and BHP
66. Drugs used in osteoporosis, pharmacology of thyroid gland
67. Vitamins
68. Antiglaucomatics and cycloplegics

„Essential drugs“

1. adrenalin/noradrenalin
2. dobutamine
3. ephedrine/pseudoephedrine
4. phenylephrine
5. oxymetazoline
6. methyldopa
7. salbutamol
8. doxazosin
9. metoprolol
10. timolol
11. atropin
12. butylscopolamine
13. fenpiverine/pitofenon
14. pilocarpine
15. rivastigmine
16. physostigmine
17. solifenacin
18. dexametasone
19. prednisone
20. cyclosporine
21. interferons
22. methotrexate
23. metformin
24. glimepiride
25. sitagliptin
26. insulin lispro
27. insulin glargine
28. ethinylestradiol
29. cyproterone
30. tibolone
31. tamoxifen
32. hexoprenaline
33. oxytocin
34. levonorgestrel
35. paracetamol/ASA
36. ibuprofen/diclofenac
37. indometacin
38. nimesulide/meloxicam
39. buprenorphine
40. morphine/naloxone
41. sufentanil
42. tramadol
43. metamizole
44. allopurinol
45. sumatriptan
46. desflurane
47. propofol
48. ketamine
49. procaine/lidocaine
50. suxamethonium
51. prilocaine
52. haloperidol
53. olanzapine
54. aripiprazole
55. levodopa/carbidopa
56. diazepam
57. buspirone
58. piracetam/pyritinol
59. gabapentin/pregabalin
60. carbamazepine
61. valproic acid
62. zolpidem
63. midazolam
64. escitalopram
65. amitriptyline
66. mirtazapine
67. lithium
68. methylphenidate
69. acetylcysteine
70. codeine
71. butamirate
72. ipratropium-bromide
73. bisulepine/cetirizine
74. atorvastatine
75. fenofibrate
76. ezetimibe
77. isosorbid dinitrate/nitroglycerin
78. hydrochlorothiazide/indapamide
79. furosemid
80. spironolactone
81. amlodipine
82. perindopril
83. telmisartan
84. warfarin
85. enoxaparin
86. clopidogrel
87. dabigatran
88. rivaroxaban
89. alteplase
90. digoxin
91. amiodarone
92. verapamil
93. levosimendan
94. doxycycline
95. co-amoxicillin
96. phenoxymethylpenicillin
97. piperacillin
98. meropenem
99. cefuroxim
100. cotrimoxazol
101. clarithromycin
102. azithromycin
103. gentamicin
104. ciprofloxacin
105. vancomycin
106. rifampicin
107. terbinafine
108. caspofungin
109. amphotericin B
110. fluconazole
111. acyclovir
112. zidovudine
113. isotretinoin
114. salicylic acid
115. ondansetron
116. moxastine
117. pantoprazole
118. famotidine
119. lactulose
120. aprepitant
121. metoclopramide
122. loperamide
123. betahistine
124. cinnarizine
125. cyclophosphamide
126. methotrexate
127. 5-fluorouracil
128. paclitaxel
129. doxorubicin
130. cisplatin
131. trastuzumab
132. imatinib
133. interferon alfa
134. nivolumab
135. methadone
136. buprenorphine
137. nalmefene
138. naltrexone
139. finasteride
140. sildenafil
141. ibandronic acid