Test on the topic:
DRUGS ACTING ON THE CNS

A. Questions:

1. Hypnotics. Classification according to structure and duration of action. Mechanism of action. Effects on sleep. Indications, contraindications, and adverse reactions. Pharmacokinetics. Acute overdose and its management.
2. Broad-spectrum antiepileptics (symptomatic drugs). Classification.
3. Ethanol. Peculiarities of pharmacokinetics (with respect to its absorption, distribution, and elimination). Specific effects on the CNS, ANS, as well as on the GI tract. Applications in the medical field. Acute ethanol intoxication and its management. Chronic alcohol consumption and pharmacologic approaches for its management.
4. Antipsychotics (Neuroleptics). Classification. Mechanism and spectrum of action. Pharmacodynamics and pharmacokinetics. Indications, contraindication, and adverse reactions.
5. Anxiolytics (Tranquilizers). Classification. Mechanism and spectrum of action. Indications, contraindication, and adverse reactions. pharmacokinetics.
6. Nootropics. Mechanism of action. Pharmacodynamics and pharmacokinetics. Indications, contraindication, and adverse reactions.
7. Opioid analgesics. Classification. Mechanism of action. Effects on the CNS and internal organs (the respiratory system, ANS, and the GI tract). Indications, contraindication, and adverse reactions. pharmacokinetics.
8. Analgesics with a mixed type of action. Mechanism of action. Indications and adverse reactions.
9. Acute morphine intoxication and its management. Opioid receptor agonists and their mechanism of action. Drug dependence and abuse liability.
10. Centrally acting non-opioid analgesics. Classification. Mechanism of action. Pharmacodynamics. Indications, contraindication, and adverse reactions.
11. Paraaminophenol derivatives. Mechanism of action. Pharmacodynamics. Indications and adverse reactions.
12. Peripherally acting non-opioid analgesics. Classification. Mechanism of action. Pharmacodynamics. Indications and adverse reactions.
13. Antidepressants. Classification. Mechanism and spectrum of action. Pharmacodynamics and pharmacokinetics. Indications, contraindication, and adverse reactions.
14. Psychostimulants. Classification. Mechanism and spectrum of action. Pharmacodynamics and pharmacokinetics. Indications, contraindication, and adverse reactions.
15. Tonisants and adaptogens. Classification. Mechanism of action. Pharmacodynamics. Indications, contraindication, and adverse reactions.
16. General anesthetics. Classification.
17. Inhaled anesthetics. Classification. Mechanism of action. Effects on the different

stages and levels (depth) of general anesthesia. Indications, contraindication, and adverse reactions. Pharmacokinetics.

18. General intravenous anesthetics. Classification. The mechanism of action. Influence on the phases and levels of general anesthesia. The indications. Contraindications. Adverse reactions. Pharmacokinetics.
19. Sedatives. Classification. Mechanism of action. Pharmacodynamics. Indications, contraindication, and adverse reactions.
20. Antiepileptics. Classification. Mechanism of action. Pharmacodynamics and pharmacokinetics. Indications, contraindication, and adverse reactions.
21. Antiparkinson drugs. Classification. Mechanism of action. Pharmacodynamics and pharmacokinetics. Indications, contraindication, and adverse reactions.
22. Mood stabilizers (normothymics). Classification. Mechanism of action. Pharmacodynamics and pharmacokinetics. Indications, contraindication, and adverse reactions.

B. Prescription-writing exercises

1. Please prescribe the following drugs in all their clinically approved dosage forms: 1. Phenobarbital. 2. Diazepam. 3. Nitrazepam. 4. Phenytoin. 5. Levodopa. 6. Phenazepam. 7. Morfine. 8. Trimeperidine. 9. Ketorolac. 10. Acetilsalicylic acid. 11. Baralgin. 12. Chlorpromazine. 13. Droperidol. 14. Piracetam. 15. Amitriptyline. 16. Caffeine. 17. Sodium thiopental. 18. Ketamine. 19. Sodium oxybate. 20. Imipramine. 21. Moclobemide. 22. Fluoxetine. 23. Ginseng. 24. Nikethamide. 25. Pyritinol. 26. Tolperisone. 27. Propanidid. 28. Oxazepam 29. Flumazenil. 30. Sodium valproate. 31. Carbamazepine. 32. Zopiclone. 33. Ethosuximide. 34. Amantadine. 35. Trihexyphenidyl. 36. Lamotrigine. 37. Selegiline. 38. Clozapine. 39. Levomepromazine. 40. Perphenazine. 41. Bromocriptine. 42. Sulpiride. 43. Buspirone. 44. Lithium carbonate. 45. Sodium bromide. 46. Fentanyl. 47. Tramadol. 48. Tilidine. 49. Paracetamol. 50. Naloxone. 51. Naltrexone. 52. Phenelzine. 53. Disulfiram. 54. Pentazocine.

2. Please select the appropriate pharmacologic strategies for the following cases: Superficial sleep, middle-of-the-night insomnia (MOTN), convulsions (using broad-spectrum antiepileptics), febrile states, potentiation of general anesthesia, reduced mental and physical performance, headaches, biliary colic, opioid overdose, miocardial infarction, dysmenorrhea, terminal stage cancer, neurotic behavior accompanied by an anxiety attack, manic episodes, status epilepticus, alcohol withdrawal syndrome, emesis, depression, parkinson disease, schizophrenia, oligophrenia, difficulty falling asleep at night, reduced overall duration of sleep, alcoholism, hypnotic overdose, spasticity.

3. **Question sets** (for more information see „guidlines for laboratory work").
4. **Clinical cases** (for more information see „guidlines for laboratory work").
5. **Simulations** (for more information see „guidlines for laboratory work").
6. **Tables** (to revise and test one's knowledge).

Table 1

Antiparkinson drugs and their key features

Drug	Phamacologic effect	Mechanism of action	Dosages and their forms
	Restores normal DA levels		**Tablets 0,25; 0,5**
		Blocks COMT	**200 mg adjunct to Levodopa**
	Increases the bioavailability of L-DOPA		**25 mg or 50 mg as a component of SINEMENT®**
	Glutamate antagonist; Increases the release of DA and blocks its reuptake		**Tablets and capsules 100 mg; Phials 1%-5ml (as a solution for injection)**
	Centrally acting muscarinic blocker		
		Selectively inhibits MAO-B isoform	

Tabelul 2

Efficacy of drugs A-D when used in the different subtypes of epilepsy following PO tablet administration (ethosuximide, phenytoin, lithium carbonate, phenobarbital)

drug	Generalized seizures	Partial seizures	Manic episode
A	+++	–	–
B	+++	–	++
C	–	–	+++
D	–	+++	–

7.) Case study

During the surgical intervention, signs of respiratory inhibition appeared in a patient anesthetized with barbiturates.

What drug can be used in order to restore normal respiratory function in that patient?