LEGENDS

CNS- FINAL -TESTBANK

WEEK 6 /7

PREPARED BY

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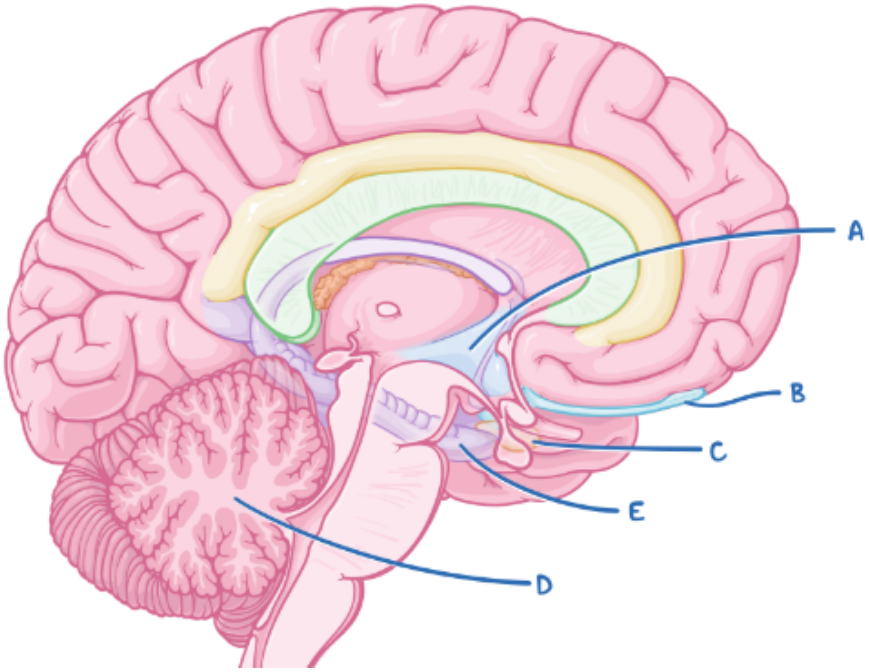
anatomy : limbic system

A 47-year-old woman sustains a brain injury after a motor vehicle accident. The patient cannot form memories of events taking place after the accident, including her hospital stay and subsequent time spent recovering at home. However, she can recall events that occurred before the accident.

Which of the following brain structures was most likely injured in this patient?



In the context of an experimental study the perforant pathway in mice is examined. This pathway connects the entorhinal cortex with the dentate gyrus. Where is the dentate gyrus located?

A Thalamus

B Cerebellum

C Medulla oblongata

D Hippocampus

E Cerebral cortex

E , D

Which bundle of fibers connects the amygdala to the hypothalamus?

A Spinoolivary tract

B Medial olfactory stria

C Stria medullaris of thalamus

D Terminal stria

E Tectospinal tract

Which structure extends between the corpus callosum and the fornix of the brain?

A Choroid plexus of lateral ventricle

B Septum pellucidum

C Mammillary body

D Amygdaloid body

E Superior medullary velum

Scientists believe, that the brain stores information in the long-term memory during sleep. Which part of the brain plays an important role in this process?

A Globus pallidus

B Hippocampus

C Sensory cortex of head

D Habenula

E Cingulate gyrus

D ,B , B

embryology

An investigator is studying the development of the nervous system in a human embryo. Which of the following embryological structures are primarily responsible for the formation of the schwann cells?

Elimination tool

A Neural crest

B Neural tube

C Mesoderm

D Surface ectoderm

E Endoderm

Which germ layer forms the initial developing embryo?

A Endoderm

B Neural crest

C Mesoderm

D Ectoderm

A , D

What is the name of the layer that forms the white matter of the spinal cord?

A	B	C	D
Neural crest	Outer Marginal Layer	Inner ependymal layer	Middle Mantle Layer

What is the name of the layer that forms the grey matter of the spinal cord?

A	B	C	D
Neural crest	Outer Marginal Layer	Middle Mantle Layer	Inner ependymal layer

Which part of the neural tube expands to form the dorsal (sensory) horn?

A	B	C	D
Neural crest	Sulcus Limitans	Basal Plate	Alar Plate

Which brain vesicle later forms the pons and cerebellum?

A	B	C	D
Mesencephalon	Prosencephalon	Metencephalon	Myelencephalon

B ,C ,D ,C

What is the name of the congenital malformation where the meninges herniate through the spina bifida to form a subcutaneous sac filled with CSF?

A Meningocele

B Myelocele

C Meningomyelocele

D Rachischisis

What is formed by the fusion of rhombic lips in the development of the pons and cerebellum?

A Cerebellar Plate

B Medulla Oblongata

C Crus Cerebri

D Tectum

What does the basal plate of the midbrain form?

A Motor Nuclei

B Tectum

C Crus Cerebri

D Sensory Nuclei

Which part of the forebrain forms the choroid plexus of the 3rd ventricle?

A Alar Plate

B Basal Plate

C Roof Plate

D Floor Plate

B , A , A , C

Which congenital malformation is due to the failure of closure of the anterior neuropore?

A	B	C	D
Hydrocephalus	Exencephaly	Menigocele	Holoprosencephaly

Which congenital malformation results from the fusion of lateral ventricles, orbital, and nasal cavities?

A	B	C	D
Microcephaly	Holoprosencephaly	Meningo-hydro-enecephalocele	Menigocele

What is the condition frequently associated with mental retardation due to poor growth of the brain?

A	B	C	D
Microcephaly	Menigocele	Hydrocephalus	Exencephaly

B , B ,A

pharma

Antidepressants

1. What is the FOURTH most significant cause of suffering and disability worldwide according to the World Health Organization?
A. depression
B. Anxiety
C. Diabetes
D. Cancer

2. Which neurotransmitter is associated with attention, pleasure, emotions, reward, motivation, and movement?
A. Dopamine
B. Serotonin
C. Norepinephrine
D. Acetylcholine

3. Which neurotransmitter is linked to alertness, observance, daydreaming, heart/BP rates, and stress?
A. Norepinephrine
B. Dopamine
C. Serotonin
D. Endorphins

4. What is a common cognitive symptom of depression?
A. Thoughts of hopelessness
B. Feeling sad
C. Decreased libido
D. Sleep changes

5. Which type of therapy has the most evidence for efficacy in treating depression?
A. Cognitive behavioral therapy
B. Psychoanalysis
C. Group therapy
D. Exposure therapy

A , A ,A ,A ,A

6. According to the monoamine hypothesis of depression, what deficiency is related to depression?
A. Cortical and limbic serotonin, norepinephrine, and dopamine
B. Acetylcholine and GABA
C. Glutamate and endorphins
D. Oxytocin and vasopressin

7. What effect does chronic activation of monoamine receptors by antidepressants have on BDNF transcription?
A. Increases
B. Decreases
C. Has no effect
D. Varies

8. What is one weakness of the monoamine hypothesis of depression regarding the effects of antidepressants?
A. Immediate increase in amine levels but delayed beneficial effects
B. Immediate decrease in amine levels with immediate benefits
C. No change in amine levels with delayed benefits
D. Gradual increase in amine levels with immediate benefits

9. What has been proposed as an explanation for the delay in the maximum beneficial effects of antidepressants according to the monoamine hypothesis?
A. Time required to synthesize neurotrophic factors
B. Immediate neurotransmitter release
C. Genetic predisposition
D. Dietary factors

10. What is thought to exert influence on neuronal survival and growth effects by activating the tyrosine kinase receptor B in both neurons and glia?
A. BDNF
B. Serotonin
C. Dopamine
D. Norepinephrine

11. Which receptors are blocked by Tricycle antidepressants (TCAs) resulting in side effects like dry mouth and constipation?
A. Muscarinic acetylcholine receptors
B. Alpha-adrenoceptors
C. Histamine (H1) receptors
D. Serotonin receptors

A ,A ,A ,A ,A ,A

14. What is a common side effect of SSRIs that affects over 30% of individuals taking them?
A. Sexual dysfunction
B. Blurred vision
C. Dry mouth
D. Constipation

15. Which neurotransmitters do Tricycle antidepressants (TCAs) inhibit reuptake of, resulting in increased activity?
A. Serotonin, norepinephrine, dopamine
B. Dopamine, serotonin, acetylcholine
C. Norepinephrine, acetylcholine, histamine
D. Histamine, serotonin, dopamine

16. What is the primary effect of a drop in brain-derived neurotrophic factor (BDNF) levels associated with depression?
A. Loss of neurotrophic support
B. Increased neuronal growth
C. Enhanced cognitive function
D. Reduced stress levels

17. Which side effect is NOT commonly associated with Tricycle antidepressants (TCAs)?
A. Blurred vision
B. Orthostatic hypotension
C. Dry mouth
D. Constipation

18. What is the approximate incidence of SSRI/SNRI discontinuation syndrome in adults who have been treated for at least 6 weeks?
A. 20 - 40%
B. 10 - 20%
C. 50 - 60%
D. 5 - 10%

19. Which property of Paroxetine makes it suitable for offering initial relief from anxiety and insomnia?
A. Sedating properties (dose at night)
B. Stimulating properties (dose in the morning)
C. Fast-acting properties
D. Long-lasting effects

20. What is a common clinical use of Mirtazapine in patients with depression?
A. Improving appetite
B. Enhancing memory
C. Treating insomnia
D. Reducing anxiety

A ,A ,A , A , A ,A , C

22. What is a common side effect associated with MAO inhibitors?
A. Weight loss
B. Hypotension
C. Insomnia
D. Edema

24. How long is the typical therapeutic lag after initiating antidepressant drug treatment?
A. 1-2 weeks
B. 3-4 weeks
C. 5-6 weeks
D. 7-8 weeks

25. When is it advisable to give an antidepressant life-long to a patient?
A. After one episode of major depression
B. After experiencing anxiety symptoms
C. After two episodes of major depression
D. After insomnia persists for a month

26. What is a notable characteristic of Buproprion compared to other antidepressants?
A. Causes weight gain
B. Induces mania
C. Treats anxiety effectively
D. Does not cause sedation

27. Which MAO inhibitor is a reversible and selective inhibitor of MAO-A?
A. Phenelzine
B. Moclobemide
C. Selegiline
D. Mirtazapine

28. What is a common use of low doses of trazodone?
A. Treating hypertension
B. Managing insomnia
C. Reducing cholesterol levels
D. Improving memory

D , B ,C , D ,B ,B

Schizophrenia

13. Which anti-psychotic is more anti-depressant than anti-psychotic?
A. Clozapine
B. Risperidone
C. Olanzapine
D. Aripiprazole

19. Which atypical anti-psychotic is approved for short-term use in acute mania?
A. Clozapine
B. Risperidone
C. Olanzapine
D. Aripiprazole

20. What is a potential serious side effect associated with Clozapine?
A. GI upset
B. Sedation
C. Ataxia
D. Not readily used due to potential serious side effects

21. What are common symptoms of withdrawal-like syndrome?
A. Nausea and vomiting
B. Insomnia and headache
C. Nausea, vomiting, insomnia, and headache
D. Headache and insomnia

22. Which category of antipsychotic drugs includes haloperidol and droperidol?
A. Phenothiazines
B. Thioxanthenes
C. Butyrophenones
D. Atypical antipsychotics

23. How long may symptoms persist in withdrawal-like syndrome?
A. Up to 1 week
B. Up to 2 weeks
C. Up to 3 weeks
D. Up to 4 weeks

B , C, D ,C , C , B

24. What is a distinguishing factor between 'typical' and 'atypical' antipsychotic drugs?
A. Incidence of extrapyramidal side-effects
B. Efficacy in treatment-resistant patients
C. Efficacy against positive symptoms
D. Incidence of sedation

25. Which antipsychotic drug is known for potentially fatal agranulocytosis as a side effect?
A. Risperidone
B. Olanzapine
C. Clozapine
D. Sulpiride

26. What is a common motor effect associated with antipsychotic drugs?
A. Bradykinesia
B. Tremors
C. Seizures
D. Anxiety

27. Which antipsychotic drug is described as having very low extrapyramidal side effects?
A. Risperidone
B. Clozapine
C. Olanzapine
D. Sulpiride

28. What is a potential endocrine effect associated with risperidone?
A. Galactorrhea
B. Weight loss
C. Increased libido
D. Early menopause

29. How are symptoms of acute dystonia treated?
A. Antiparkinsonian agents
B. Antidepressants
C. Antianxiety medications
D. Antipsychotic drugs

A ,C , A, B , A ,A

30. Which antipsychotic drug is one of the most prescribed in Jordan?
A. Clozapine
B. Olanzapine
C. Risperidone
D. Aripiprazole

31. Which antipsychotic is argued not to cause weight gain based on the provided information?
A. Clozapine
B. Risperidone
C. Olanzapine
D. Ziprasidone

33. Which antipsychotic is described as a partial agonist at the D2 receptor?
A. Clozapine
B. Risperidone
C. Aripiprazole
D. Quetiapine

34. Which antipsychotic has the lowest mean change in body weight at 10 weeks?
A. Clozapine
B. Risperidone
C. Olanzapine
D. Ziprasidone

35. According to the information, which antipsychotic has affinity for muscarinic, α1-adrenergic, serotonin, and histamine receptors?
A. Clozapine
B. Risperidone
C. Aripiprazole
D. Quetiapine

C , D , C , D , C

36. Which antipsychotic is associated with feeling dizzy and weight gain?
A. Clozapine
B. Risperidone
C. Olanzapine
D. Aripiprazole

37. Based on the data, which antipsychotic has the highest mean change in body weight at 10 weeks?
A. Clozapine
B. Risperidone
C. Olanzapine
D. Quetiapine

38. Which antipsychotic is mentioned to have few extrapyramidal side effects?
A. Clozapine
B. Risperidone
C. Olanzapine
D. Aripiprazole

39. According to the provided information, which antipsychotic has the highest weight gain per month?
A. Clozapine
B. Risperidone
C. Olanzapine
D. Ziprasidone

D , A , D , A

Bipolar Disease

1. What is one of the potential effects of lithium on nerve membranes and intracellular systems?
A. Stabilizing neurons with associated multiple gene expression changes
B. Causing muscle spasms
C. Increasing blood pressure
D. Enhancing vision

What is one of the symptoms of lithium toxicity?
A. Enlarged thyroid
B. Decreased heart rate
C. Improved memory
D. Reduced appetite

6. What is a reason why taking lithium during pregnancy is not advised?
A. It affects fetal heart development
B. It improves fetal brain development
C. It reduces the risk of birth defects
D. It enhances maternal health

9. What can higher concentrations of lithium in the blood lead to?
A. Serious or fatal effects
B. Improved cognitive function
C. Reduced anxiety
D. Enhanced physical performance

10. Why might alternative agents for treatment need to be considered if lithium doesn't work?
A. 40% of Bipolars are resistant to lithium or experience side effects
B. Lithium is always effective
C. Lithium has no side effects
D. Lithium works for everyone

11. Which medication is best for rapid-cycling and acute mania?
A. Valproic Acid
B. Carbamazepine
C. Lamotrigine
D. Atypical Anti-psychotics

A , A , A ,A , A ,A

What is the main function of Lamotrigine?
A. Inhibits neuronal excitability and modifies synaptic plasticity
B. Augments the post-synaptic action of GABA
C. Increases synthesis and release of GABA
D. Acts as an anti-psychotic

14. What is the therapeutic blood level range for Valproic Acid?
A. 5-10 Mg/L
B. 10-20 Mg/L
C. 20-30 Mg/L
D. 50-100 Mg/L

15. Which medication is regarded as a second-line treatment for mania, superior to lithium for rapid-cycling?
A. Valproic Acid
B. Carbamazepine
C. Lamotrigine
D. Atypical Anti-psychotics

16. What is a common side effect of Carbamazepine?
A. Dizziness
B. Tremor
C. Ataxia
D. rash

17. Which medication is effective for the treatment of acute manic episodes of bipolar disorder in adults?
A. Valproic Acid
B. Carbamazepine
C. Lamotrigine
D. Aripiprazole

18. What is NOT a reported side effect of Lamotrigine?
A. Sedation
B. Tremor
C. Headache
D. Rash

A , D ,B ,C , D , A

micro

PNS

What is the most common peripheral nervous system (PNS) complication in patients with HIV?

A Guillain-Barré syndrome

B Distal symmetric polyneuropathy (DSP)

C Progressive multifocal leukoencephalopathy

D Bell's palsy

Which of the following is a characteristic of primary infection with VZV in childhood?

A It is asymptomatic and not contagious.

B It is characterized by a skin rash that starts flat, blisters, and eventually scabs over.

C It leads to the development of new CNS disease neuropathology.

D It is treated with combination antiretroviral therapy.

Which disease is caused by Borrelia burgdorferi and is transmitted by tick bites?

A Poliomyelitis

B Herpes zoster

C Lyme disease

D Mycobacterium leprae

Early treatment of VZV infection is recommended with which antiviral agents?

A Acyclovir, valacyclovir, and famciclovir for 7 days

B Acyclovir, amoxicillin, and ceftriaxone for 10 days

C Valacyclovir, penicillin, and doxycycline for 5 days

D Famciclovir, erythromycin, and azithromycin for 7 days

B , B , C , A

Which of the following is a recommended approach to managing a patient with suspected botulism?

A	B	C	D
Administration of high-dose corticosteroids	Immediate administration of antitoxin	Oral rehydration therapy	Supportive care only, without antitoxin

Which organism is known to cause botulism?

A	B	C	D
Human immunodeficiency virus	Poliovirus	Clostridium botulinum	Mycobacterium leprae

What is the primary pathological effect of tetanus toxin?

A	B	C	D
Inhibition of neurotransmitter release	Destruction of nerve cells	Blockage of synaptic vesicle release	Muscle relaxation

Which of the following is a neurotropic virus?

A	B	C	D
Herpesviridae	Borrelia burgdorferi	Clostridium difficile	Campylobacter jejuni

What is the main mode of action of neurotoxins like tetanus and botulinum toxins?

A	B	C	D
They cause inflammation of the brain tissue.	They promote neurotransmitter release.	They interfere with neurotransmitter release.	They destroy the myelin sheath of neurons.

B , C , A , A , C

Encephalitis

1. What is the main difference between encephalitis and meningitis?
A. Encephalitis affects the brain parenchyma while meningitis affects the meninges.
B. Encephalitis is caused by bacteria while meningitis is caused by viruses.
C. Encephalitis is more common than meningitis.
D. Encephalitis is asymptomatic while meningitis presents with severe symptoms.

2. Which cells in the CNS play a crucial role in controlling virus spread shortly after CNS infection?
A. Microglia
B. Astrocytes
C. Neurons
D. Oligodendrocytes

3. What is a common symptom seen in patients with encephalitis?
A. Altered level of consciousness
B. Joint pain
C. Skin rash
D. Chest congestion

6. Which viruses are commonly identified as causing sporadic cases of acute encephalitis in immunocompetent adults?
A. Herpesviruses (HSV, VZV, EBV)
B. Influenza viruses
C. Hepatitis viruses
D. Retroviruses

7. What is a characteristic symptom of encephalitis that distinguishes it from meningitis?
A. Focal or generalized seizures
B. Altered level of consciousness
C. Joint stiffness
D. Skin rash

A , A , A , A , B

9. Which part of the CNS does encephalitis primarily affect?
A. Brain parenchyma
B. Spinal cord
C. Cerebellum
D. Optic nerve

10. What is a common neurological sign seen in patients with encephalitis?
A. Ataxia
B. Hypertension
C. Hearing loss
D. Digestive issues

11. What is the primary approach to managing viral meningitis?
A. Antibiotics
B. Surgery
C. Symptomatic treatment
D. Chemotherapy

12. What is the prognosis for full recovery from viral meningitis in adults?
A. Poor
B. Excellent
C. Moderate
D. Unknown

13. What is a brain abscess characterized by?
A. A cavity filled with bacteria and white blood cells
B. A solid mass in the brain
C. A vascularized capsule
D. A lesion with no capsule

A , A , C , B , A

meningitis

15. Which organism is commonly associated with sinusitis and otitis media?
A. Streptococcus pneumoniae
B. Escherichia coli
C. Mycobacterium tuberculosis
D. Salmonella enterica

16. What are common symptoms of brain abscesses?
A. Back pain and joint stiffness
B. Headache, fever, seizures
C. Nausea and dizziness
D. Chest pain and shortness of breath

17. What is the initial empiric therapy for suspected brain abscess?
A. Antifungal medication
B. High dose parenteral antibiotics
C. Ster
D. Antiviral drugs

18. When is a lumbar puncture contrainicated in suspected brain abscess cases?
A. Always necessary
B. If there are focal symptoms or signs
C. In the absence of fever
D. For all patients

A , B , B , B

What is the most common etiology of viral meningitis in adults and children?

A	B	C	D
Enteroviruses	Mumps virus	Herpes simplex virus	HIV

Which of the following is NOT a typical presentation of viral meningitis?

A	B	C	D
Headache	Photophobia	Rash	Fever

Which imaging modality is preferred for the diagnosis of brain abscesses?

A	B	C	D
X-ray	MRI	CT scan	Ultrasound

What is the most common cause of intracranial suppuration?

A	B	C	D
Traumatic brain injury	Congenital heart disease	Paranasal sinus infection	Dental infection

A , C , B , C

BioChem

Which symptoms are characteristic of Parkinson's disease ?
A. Memory loss and confusion
B. Muscle weakness and fatigue
C. Rigidity, hypokinesia, tremor, and postural instability
D. Visual disturbances and hearing loss

What is a proof of principle mentioned in the context of stem cell therapies for Parkinson's disease?
A. Clinical trials with intrastriatal transplantation of human embryonic mesencephalic tissue
B. Clinical trials with intravenous injection of stem cells
C. Clinical trials with oral administration of stem cell extracts
D. Clinical trials with topical application of stem cell creams

What is a potential con mentioned in the content regarding stem cell therapies for Parkinson's disease?
A. Restoration of striatal DA release
B. Functionally integrated neurons
C. Symptomatic relief in some patients
D. Presence of Lewy bodies in a fraction of neurons

What contributes to spontaneous recovery in stroke patients?
A. Neuronal plasticity
B. Persistent impairments
C. Motor deficits
D. Sensory impairments

What type of stroke is caused by occlusion of a cerebral artery?
A. Ischemic stroke
B. Hemorrhagic stroke
C. Transient ischemic attack
D. Cryptogenic stroke

C , A , D , A , A

What is a key process involved in stem cell-based therapies for spinal cord injuries?
A. Remyelination
B. Scar formation
C. Inflammation
D. Neurotransmission

What is the purpose of stem cell division?
A. To create identical daughter cells
B. To generate progenitor cells
C. To stop cell renewal
D. To decrease cell potency

What is a stem cell niche?
A. A specialized environment supporting stem cell self-renewal
B. A type of stem cell division
C. A stem cell lineage
D. A stem cell receptor

What is the differentiation potential of pluripotent stem cells?
A. Limited to a single cell type
B. Able to differentiate into all specialized embryonic tissues
C. Unable to differentiate
D. Can only repair damaged cells

What is the main role of adult stem cells in the body?
A. To differentiate into all cell types
B. To act as a repair system for damaged cells
C. To remain undifferentiated
D. To cause cell mutations

Which type of stem cells are hematopoietic in nature?
A. Bone marrow stem cells
B. Neural stem cells
C. Adipose stem cells
D. Umbilical cord stem cells

A , B , A , B , B , A

physio

lec1

1. What is the function of the premotor area in motor control?
a. Develops motor images for muscle movements
b. Sends signals directly to the spinal cord
c. Controls eye movements
d. Coordinates speech production

2. Which area is responsible for controlling bilateral body movements and attitudinal movements?
a. Primary motor cortex
b. Supplementary area
c. Voluntary eye movement area
d. Hand skills area

3. What happens when there is damage to Broca's area?
a. Inability to move the eyes voluntarily
b. Uncoordinated hand movements
c. Difficulty in speaking whole words
d. Loss of sensation in the limbs

4. Which type of neurons fire rapidly at the beginning of a muscle contraction to develop force quickly?
a. Dynamic neurons
b. Mirror neurons
c. Static neurons
d. Sensory neurons

5. Where do the corticospinal tracts descend after passing through the internal capsule of the cerebrum?
a. Brain stem
b. Spinal cord
c. Basal ganglia
d. Cerebellum

A
B
C
A
B

lec2

1. What is one of the principal roles of the basal ganglia in motor control?
a. Functioning independently of the corticospinal system
b. Controlling simple, single muscle movements
c. Functioning in association with the corticospinal system to control complex patterns of motor activity
d. Receiving inputs mainly from the primary motor cortex

2. Which pathway has the net effect of exciting thalamic neurons in the basal ganglia?
a. Direct pathway
b. Indirect pathway
c. Nigrostriatal projection
d. Putamen circuit

3. What effect does excitation of the indirect pathway in the basal ganglia have on thalamic neurons?
a. Excites thalamic neurons
b. Inhibits thalamic neurons
c. No effect on thalamic neurons
d. Activates the substantia nigra

4. Lesions in which structure lead to the common and severe disease of rigidity, akinesia, and tremors known as Parkinson's disease?
a. Globus pallidus
b. Substantia nigra
c. Putamen
d. Subthalamus

5. What is a key sign of Huntington���s disease?
a. Athetosis
b. Hemiballismus
c. Chorea
d. Dystonia

C
A
B
B
C

lec3

1. What types of signals are mainly transmitted in the dorsal spinocerebellar tracts?
a. Signals from the brain through the corticospinal and rubrospinal tracts
b. Signals from the internal motor pattern generators in the spinal cord
c. Signals mainly from muscle spindles and other somatic receptors
d. Signals exclusively from joint receptors

2. Which of the following do the ventral spinocerebellar tracts receive less information from?
a. Motor signals arriving in the anterior horns of the spinal cord
b. Peripheral receptors
c. Deep sensory afferent tracts
d. Cerebellar cortex

3. What is the function of climbing fibers in the cerebellum?
a. To excite the deep nuclear cells
b. To send inhibitory signals to Purkinje cells
c. To modulate output activity of deep nuclear cells
d. To learn the timing and execution of muscle contractions

4. What is the role of basket and stellate cells in the cerebellar cortex?
a. Sharpening the signal by lateral inhibition of adjacent Purkinje cells
b. Exciting the Purkinje cells
c. Inhibiting deep nuclear cells
d. Sending signals to the cerebellar cortex

5. Which neural circuit does the functional unit in the cerebellum center on?
a. Deep nuclear cell only
b. Purkinje cell only
c. Both the Purkinje cell and deep nuclear cell
d. Mossy fibers

C
A
D
A
C

lec4

1. What is the main function of the Vestibulocerebellum?
a. Coordination of hand movements
b. Control of balance during rapid body position changes
c. Regulation of heart rate
d. Processing of visual information

2. Which part of the cerebellum is primarily responsible for coordinating muscle contractions in the limbs?
a. Flocculonodular lobes
b. Vermis
c. Intermediate zones
d. Cerebellar hemispheres

3. What is the role of the Cerebrocerebellum in motor control?
a. Initiating reflex actions
b. Planning sequential voluntary movements
c. Controlling involuntary muscle contractions
d. Regulating body temperature

4. What function does the Red Nucleus serve in the brain stem?
a. Control of visual processing
b. Regulation of sleep patterns
c. Coordination of muscle movements
d. Processing of taste sensations

5. How do the Vestibular Signals contribute to maintaining equilibrium?
a. By controlling breathing rate
b. Through coordination of hand-eye movements
c. By adjusting muscle contractions in response to signals from the vestibular apparatus
d. By regulating body temperature

B
C
B
C
C

lec5

1. What is the main function of the reticular facilitory area in the brain stem?
a. Inhibit nerve signals to the cerebrum
b. Decrease activity in the cerebral cortex
c. Activates neurohormonal systems in the brain
d. Stimulate wide areas of the brain with neuronal activity

2. How does the reticular inhibitory area affect brain activity?
a. Increases activity in the superior portions of the brain
b. Inhibits the reticular facilitory area
c. Releases excitatory neurotransmitters in the brain
d. Stimulates pain signals

3. Which area of the brain connects almost every area of the cerebral cortex with its own specific region?
a. Thalamus
b. Hippocampus
c. Amygdala
d. Hypothalamus

4. What emotional behavior patterns occur when the reward centers are stimulated?
a. Fear and punishment
b. Rage and punishment
c. Placidity and tameness
d. Satisfaction and aversion

5. How does repetition of a sensory stimulus that elicits neither reward nor punishment affect the cerebral cortical response?
a. Enhances the response intensity
b. Leads to habituation and ignoring of the stimulus
c. Causes reinforcement of the response
d. Triggers memory consolidation

D
B
A
D
B

lec6

1. What is the main function of memory traces in the brain?
a. Store sensory information indefinitely
b. Inhibit the synaptic pathways for important information
c. Enhance and store memory traces for important information
d. Facilitate communication between neurons

2. Which type of memory includes memories that last for seconds or minutes at most?
a. Intermediate long-term memory
b. Short-term memory
c. Long-term memory
d. Working memory

3. What structural changes in the brain are believed to result in long-term memory?
a. Decrease in vesicle release sites
b. Decrease in presynaptic terminals
c. Increase in transmitter vesicles released
d. Decrease in number of neuronal connections

4. In memory consolidation, what accelerates the transfer of short-term memory into long-term memory?
a. Forgetting the information
b. Physical changes in the brain
c. Lack of repetition
d. Increase in short-term memory

5. Which brain area is most important for language comprehension and intellectual functions?
a. Angular gyrus area
b. Parieto-occipito-temporal association area
c. Wernicke’s area
d. Prefrontal association area

C
B
C
B
D

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1. Which type of sleep is associated with dreaming and increased brain activity?
a. Slow wave sleep
b. Delta waves
c. REM sleep
d. Theta waves

2. During which type of sleep are muscle tone and muscle movements most depressed?
a. REM sleep
b. Slow wave sleep
c. Alpha waves
d. Beta waves

3. What characterizes delta waves in the brain waves recording?
a. High frequency waves
b. Deep sleep waves
c. Occur during emotional stress
d. Found in EEGs of awake adults

4. What is the main characteristic of generalized tonic-clonic seizures?
a. Short duration of a few seconds
b. Involvement of one cerebral hemisphere
c. Sudden loss of consciousness with extreme brain discharges
d. Limited to a specific area of the brain

5. Which type of seizure involves unconsciousness or diminished consciousness followed by twitch-like muscle contractions?
a. Absence seizures
b. Simple partial seizures
c. Complex partial seizures
d. Focal seizures

C
A
B
C
C