lecture#:

Medical Committee
The University of Jordan

CNS 2

Third Year

Past Paper

/LajnehMedcom

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Mid - Final - Lab

قرش 130

٦/٤/٢٠١٤

☒ Past Paper

CNS 2 Final 2012-2013

1. All of the following regarding dexmedetomedine is correct EXCEPT:

(a) It stimulates α2-adrenergic receptors.
(b) Can be used to prolong the action of a local anesthetic.
(c) Inhibits the release of substance P.
(d) Blocks calcium channels.
(e) Increases firing of inhibitory neurons.

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2. Tolerance during opioid intake occurs concerning all of the following EXCEPT:

(a) Respiratory depressant effect
(b) Constipating actions
(c) Analgesic actions
(d) Emetic actions
(e) Hypotensive effect

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3. All of the following matches regarding sedative-hypnotics are correct EXCEPT:

(a) Ramelteon only acts as a hypnotic.
(b) Flumazenil is an antidote for sedative-hypnotic drugs.
(c) Thiopental is used for induction of anesthesia.
(d) Midazolam can cause retrograde amnesia.
(e) Phenobarbital has a wide margin of safety.

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4. Resistance to antiepileptic drugs occurs due to:

(a) Reduced bioavailability.
(b) Ineffective dose.
(c) Increased expression of P-glycoprotein gene.
(d) High affinity to plasma proteins.
(e) First order elimination kinetics.

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5. All of the following matches are correct EXCEPT:

(a) Valproic acid inhibits the reuptake of GABA into glial cells and neurones.
(b) Ethosuximide reduces low-threshold calcium currents in the thalamus.
(c) Lamotrigine binds to a specific synaptic vesicular protein.
(d) Primidone acts on GABA receptors of barbiturates.
(e) Topiramate blocks the excitatory effect of NMDA glutamate receptors.

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6. All of the following are correct matches regarding adverse effects EXCEPT:

(a) Ethosuximide → Euphoria
(b) Valproic acid → Hepatic toxicity
(c) Tiagabine → Decreased concentration
(d) Vigabatrin →Aplastic anemia
(e) Phenytoin → Nystagmus

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7. Which of the following statements regarding parkinsonism drugs is CORRECT:

(a) Levodopa's effects can be improved upon administration with a MOA-A inhibitor.
(b) Selegiline has a high D2 receptor affinity.
(c) Tolcapone causes minimal hepatic toxicity.
(d) Amantadine is a good replacement for Levodopa.
(e) Entacapone can be used to aid Levodopa use for users with response fluctuations.

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8. All of the following are correct matches regarding adverse effects EXCEPT:

(a) Bromocriptine → Diarrhea
(b) Levodopa → Arrhythmias
(c) Selegiline → Insomnia
(d) Amantadine →Confusion
(e) Pergolide → Valvular heart disease

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9. Which of the following is not caused by antipsychotics:

(a) Emesis
(b) Amenorrhea
(c) Dystonic reactions
(d) Gynecomastia
(e) Seizures

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10. All of the following regarding antipsychotics is correct EXCEPT:

(a) Chlorpromazine →Sedative and hypotensive actions.
(b) Clozapine → No effect at all on prolactin levels in the body.
(c) Thioridazine →Causes prolongation of QT interval.
(d) Olanzapine → Low extrapyramidal toxicity and medium sedating actions.
(e) Quetiapine → High extrapyramidal toxicity and medium sedating actions.

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11. All of the following are associated with depression EXCEPT:

(a) Decreased levels of BDNF.
(b) Reduced levels of dopamine, norepinephrine and serotonin.
(c) Down regulation of the hypothalamic-pituitary-adrenal axis.
(d) High levels of cortisol in the body.
(e) Thyroid gland dysregulation.

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12. All of the following are correct withdrawal syndrome signs EXCEPT:

(a) Canabinoids → Insomnia
(b) Amphetamine → Tachycardia
(c) MDMA → Aggression
(d) Alcohol → Tremors and vomiting
(e) Nicotine → Irritability

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13. All of the following are correct regarding drugs of abuse EXCEPT:

(a) Canabinoids → Vomiting
(b) LSD → Flashbacks
(c) Phencyclidine → Psychosis
(d) Cocaine → Loss of appetite
(e) MDMA → Hyperthermia

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14. All of the following are true regarding drugs used for glaucoma EXCEPT:

(a) Latanoprost → Increases aqueous humor outflow through the uveoscleral pathway.
(b) Betaxolol → Increases aqueous humor outflow through the Canal of Schlemm.
(c) Apraclonidine → Decreases fluid outflow through the uveoscleral pathway.
(d) Pilocarpine → Decreases aqueous humor production in the ciliary process.
(e) Acetozolamide → Increases fluid outflow through the Canal of Schlemm.

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15. All of the following matches are correct EXCEPT:

(a) Bupropion → Can occupy some dopamine transporters in the brain.
(b) Fluoxetine → Increases serotonin levels at the synapse.
(c) Amitriptyline → Sedative and anti-muscarinic actions.
(d) Fluvoxamine → Not used for chronic pain.
(e) Trazodone → α2 adrenoreceptor antagonist.

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16. All of the following regarding drugs used for migraine is correct EXCEPT:

(a) Propranolol → Used for migraine prevention.
(b) Olcegepant → CGRP receptor antagonist
(c) Sumatriptan → Mixed with coffee to increase its absorption.
(d) Ergotamine → Used in the prodrome phase.
(e) Frovatriptan → Not to be used in vascular disorders.

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17. All of the following are caused by hypertension EXCEPT:

(a) Lacunar infarcts.
(b) Slit hemorrhages.
(c) Lobar hemorrhages.
(d) Acute hypertensive encephalopathy.
(e) Hyaline arteriolar sclerosis.

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18. All of the following is correct regarding subarachnoid hemorrhages EXCEPT:

(a) The most common cause is rupture of a saccular aneurysm.
(b) Is associated with hereditary hemorrhagic telangiectasia.
(c) Mostly occur in the anterior circulation.
(d) Can be multiple.
(e) Rupture usually occurs at the apex of the aneurysm.

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19. The type of arterio-venous malformation that can cause congestive heart failure in infants is:

(a) Capillary telangiectasia
(b) Cavernous hemangiomas
(c) Arteriovenous malformation
(d) Venous angiomas
(e) Cerebral amyloid angiopathy

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20. The most common location of fusiform atherosclerotic aneurysms is:

(a) Basilar artery
(b) Anterior cerebral artery
(c) Vertebral artery
(d) Anterior communicating artery
(e) Posterior communicating artery

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21. Which of the following mutations is associated with oligodendrogliomas:

(a) p53 tumor suppressor gene inactivation
(b) IDH1 gene mutation
(c) RB gene mutation
(d) PI3K gene mutation
(e) 1p and 19q codeletions

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22. All of the following are features of pilocytic astrocytomas EXCEPT:

(a) Relatively benign.
(b) Can affect the optic pathways and tracts.
(c) Is often associated with cyst formation.
(d) Occur in children and young adults.
(e) Most common location is the spinal cord.

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23. All of the following tumor locations are correct EXCEPT:

(a) Myxopapillary ependymoma → Filum terminale
(b) Medulloblastoma → Cerebellum
(c) Dysembryoplastic neuroepithelial tumor → Superficial temporal lobe
(d) Central Neurocytoma → Foramen of Monro
(e) Ependymoma → Spinal cord in children

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24. All of the following are true regarding grade II meningiomas EXCEPT:

(a) Clear variant.
(b) Brain invasion.
(c) Choroid variant.
(d) Small cells, prominent nuclei and necrosis.
(e) More than 19 mitotic figures/10 HPF.

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25. The brain tumor associated with tuberous sclerosis is:

(a) Glioblastoma
(b) Hamartoma
(c) Subependymal giant cell astrocytoma
(d) Grade II astrocytoma
(e) Oligodendroglioma

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26. All of the following regarding contusions is correct EXCEPT:

(a) Occur due to a blunt head trauma.
(b) Pia-arachnoid is not breached.
(c) Red neurones will appear following injury within 24 hours.
(d) The crests of the gyri are mostly affected.
(e) Mostly occur in the occipital lobe.

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27. All of the following regarding subdural hematoma is correct EXCEPT:

(a) Organized hematomas will attach to the above dura.
(b) Chronic subdural hematomas are characterized by recurrent bleeding.
(c) Fibrosis results in the formation of a thin subdural membrane.
(d) Blood following injury extends into the depths of the sulci.
(e) Occurs mostly in infants and elderly.

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28. All of the following regarding Wernicke's encephalopathy is correct EXCEPT:

(a) Abnormalities in eye movement.
(b) Mammillary body hemorrhagic foci.
(c) Ataxia.
(d) Due to thiamine deficiency.
(e) Irreversible disorder.

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29. Which of the following results in the formation of Alzheimer type II cells:

(a) Hypoglycemia
(b) Thiamine deficiency
(c) Hepatic encephalopathy
(d) Ethanol toxicity
(e) Vitamin B_{12} deficiency

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30. All of the following regarding multiple sclerosis is correct EXCEPT:

(a) Manifestations rarely are apparent after age of 50.
(b) Plaques are of the same age.
(c) Relapses and remissions.
(d) Optic nerves can be affected.
(e) CSF shows antibodies with oligoclonal bands.

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31. Neuromyelitis optica is due to:

(a) Antibodies against water channel aquaporin-2.
(b) Reactivation of JC virus in immunosuppressed individuals.
(c) Antibodies against water channel aquaporin-4.
(d) Rapid correction of hypoglycemia.
(e) Viral infection of the neurones of the optic pathways.

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32. All of the following are mutations associated with Alzheimer's disease EXCEPT:

(a) Trisomy of chromosome 21.
(b) Presence of ApoE4.
(c) Mutations in presenilin-3 gene.
(d) Mutations in APP.
(e) Mutations in presenilin-2 gene.

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33. All of the following is correct regarding neurodegenerative disorders EXCEPT:

(a) Neuritic plaques consist of amyloids surrounded by dystrophic neurites.
(b) Neurofibrillary tangles contain tau protein.
(c) Deposition of AL amyloids in the cerebral cortex in the case of Alzheimer's disease.
(d) Intranuclear aggregates containing an expanded polyglutamine tract in HD.
(e) A+ B

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34. All of the following are correct locations for deposition of amyloids in Alzheimer's disease EXCEPT:

(a) Amygdala
(b) Nucleus basalis of Meynert
(c) Entorhinal cortex
(d) Primary motor and sensory cortices
(e) Hippocampus

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35. Pick's disease is due to:

(a) Deposition of synuclein protein.
(b) FTLD-tau protein inclusion bodies.
(c) Huntingtin protein deposition.
(d) FTLD-TDP43 protein inclusion bodies.
(e) Mutations in SOD-1 gene.

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36. All of the following regarding Parkinson's disease is correct EXCEPT:

(a) Lesions usually appear in the medulla and pons before the substantia nigra.
(b) Lewy bodies contain deposits of synuclein protein.
(c) Death usually occurs due to infections or trauma from everyday falls.
(d) Lesions can be found in one of the cranial nerve nuclei causing autonomic disturbances.
(e) When dementia arises within 5 years of the onset of motor symptoms, it is referred to as Lewy body dementia.

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37. All of the following are affected in amyotrophic lateral sclerosis EXCEPT:

(a) Lower motor neurons in the spinal cord supplying the upper limbs.
(b) Upper motor neurons in the brain stem supplying the muscles of speech.
(c) Upper motor neurons in the brain stem supplying the extraocular muscles.
(d) Upper motor neurons in the brain stem supplying the muscles of swallowing.
(e) Lower motor neurons in the spinal cord supplying the lower limbs.

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38. All of the following are correct regarding Duchenne Muscular Dystrophy EXCEPT:

(a) Characterized by myofiber necrosis and regeneration of muscle fibers.
(b) Manifests clinically at the age of 5 years.
(c) Heart failure usually takes place.
(d) More common and severe than Becker's Muscular Dystrophy.
(e) Cognitive function is usually spared and not affected.

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39. All of the following are correct regarding myasthenia gravis EXCEPT:

(a) 70% of the cases are due to thymomas.
(b) Is associated with diplopia and ptosis.
(c) The minority of cases are caused by antibodies against Musk.
(d) Treatment usually involves using immunosuppressants and cholinesterase inhibitors.
(e) Mainly is caused by antibodies against the post-synaptic acetylcholine receptors.

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40. All of the following are associated with PICA (posterior inferior cerebellar artery) syndrome EXCEPT:

(a) Vomiting
(b) Ataxia
(c) Difficulty in swallowing
(d) Dilatation of the pupil
(e) Nasal tone of speech

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41. All of the following matches are correct EXCEPT:

(a) Auditory pathway → Inferior colliculus
(b) Visual reflex → Superior colliculus
(c) Corneal reflex → Primary sensory nuclei of trigeminal
(d) Taste pathway → Vagus nerve
(e) Hypoglossal lesion → Deviation of the tip of the tongue towards the side of the lesion.

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42. All of the following are considered GVE EXCEPT:

(a) Superior salivatory nucleus
(b) Inferior salivatory nucleus
(c) Edinger–Westphal nucleus
(d) Dorsal nucleus of vagus
(e) Solitary nucleus

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43. Which of the following imaging techniques is least likely to be used in assessing brain lesions:

(a) Computed Tomography (CT)
(b) Magnetic Resonance Imaging (MRI)
(c) Contrasted images
(d) Skull X-ray
(e) Positron Emission Tomography (PET)

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44. A patient presented with right-sided hemiplegia and paralysis of the left 3rd cranial nerve. Which of the following is the most likely location of this lesion:

(a) Motor cortex
(b) Corona Radiata
(c) Left Midbrain
(d) Right pons
(e) Left Medulla

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45. A lesion that occurs in the left Meyer's loop will cause which of the following abnormalities in the visual field:

(a) Upper right quadrantanopia
(b) Upper left quadrantanopia
(c) Bilateral hemianopia
(d) Left homonymous hemianopia
(e) Right homonymous hemianopia

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46. All of the following regarding Korsakoff's syndrome is correct EXCEPT:

(a) Due to thiamine deficiency.
(b) Occurs in the setting of chronic alcoholism.
(c) Defect in the mammillary body.
(d) Patient loses long term memory but retains short term memory.
(e) None of the above.

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47. A patient following a cold, lost the ability to taste things temporarily. This could be due to:

(a) The cold damaged the taste pathway fibers, and lead to the loss of taste sensation.
(b) The cold virus damaged the taste buds on the surface of the tongue.
(c) The cold affected the olfactory pathway, which led to loss of taste sensation temporarily.
(d) The cold virus blocked signal transmission along the taste fibers.
(e) The cold irritated the olfactory pathway and this caused increased secretions.

بسم الله الرحمن الرحيم

CNS-2 Mid & Lab 2012

answers MAY NOT be correct.

anatomy theory :

1) all of the following are needed for position test of big toe except:
a- gracile tract
b- gracile nucleus
c- clark nucleus
d- dorsal spinocerebllar

2) which of the following is false related to gate control theory of pain:
>>> stimulation of large fibers opens the gate

3) all of the following true except:
>>> pars interpolaris ; pain and temperature above tentorium cerebelli

4) all of the following is true except:
a- obstruction of middle cerebraller artery result in contralateral hemiplegia
b- obstruction of posterior cerebellar artery result in contralteral homonumous hemianopia
c- obstruction of anterior cerebellar artery result in monoplegia of lower limb
...

5) all true about micturation reflex except:
>>> in voluntary micturation, cortical centers directly signal sacral centers of urinary bladder to allow urination

physio theory:

1- can't see at visual field lower left quadrant... lesion mostly in:
>>> right pariatal visual radiattions

2- early sign of Alzheimer:
>>> bilateral hippocampal atrophy

3- patient confabulate things:
>>> korsakoff's psychosis

4- stroke patient after 2 weeks noted to be unaware of things but can normally move... this mostly means:

a- vegitative state
b- persisent vegitative state
c- locked in syndrome
...

5- patient with retrograde amnesia with visual hallucinations... lesion where
a- temporal lobe
b- temporal lobe and occipital lobe
...

6- conductive aphasia.... lesion in:
>>> arcuate fasciculus

7- all true about brain waves except:
....

8- all true about glasgow coma scale except:
>>> M3 .... decerebrate rigidity

9- patient with aggressive behavior, auditory and visual hallucination ....??
10-- i can't rem all the text but i think it was like this: if u asked the patient to repeat a sentence then he can't...? so the answer : conductive aphasia
11-sth eno el patient can't say any word or even make a sound & v= sth wrong ??!!!!

anatomy lab:

1- (picture of skin receptors).... which of the following is used for light touch and discriminative touch:
>>> tactile disc & meissner's

2- (position test of big toe)...

3- obstruction of the middle cerebellar artery results in:
>>> contralateral hemiplegia, transient hemianesthesia, contralateral paralysis of lower face

4- which of the following can cause the injury shown in the pictures (deviation of jaw to right + inability to adduct right eye in conjugation with left eye)
>>> right MLF + right motor nucleus of trigeminal nerve

5- (image of lower cervical cord lesion) .... injury at which of the following result in the indicated lesions:
>>> lower cervical

6- uvula to right, vocal cord paralysis at left.... at which level this lesion could happen:

>>> vagus nerve (level of upper medulla)

7- picture of face representation in pars caudalis (area 1), picture of trigeminal nucleus parts .... area 1 is controlled by which nucleus of trigeminal;
>>> e (pars caudalis)

8- picture of opened skull at subdural space pointer at branches of superior cerebral vein .... which of the following result from rupture of the indicated vessels:
a- slow rate of development of hematoma
b- paralysis appears first in face then spreads to lower parts
c- lucid interval
d- all of the above
e- none of the above

9- angiogram (names of arteries are points at the figure)... which is false:
a- emboli is more common to go through trunk of anterior cereblar then trunk of middle cereblar <<< answer
b- pericallosal artery supply corpus callosum

physio lab:

1- all of the following are tested at inspection except:
>>> rigidity

2- power level when the patient is able to move his arm against gravity
>>> 2

3- when the person visual acuity is 8/12 on right eye and 6/12 on left eye, which of the following is true:
>>> the person is able with his left eye at 6 meters what a normal person can see at 12 meters

4- all true about color vision except:
a- affect males more than females
b- mother is mostly the carrier of the affected gene
c- the person can't distinguish certain colors
d- the mostly affected gen is off green color
...

5- which of the following is true about uncorrected myopia:
....

6- which of the following is false about corrected hyperopia:

patho lab:

1- which of the following is the most common cause of this (lacunar infarct):
>>> hypertwnsion

2- identify:
>>> ependymoma

3- identify:
>>> meduloblastoma

Pharma

all these drugs are metabolized into active metabolites causing neurotoxicity except :
1- morphine
2- nalxone
3- benzodiazepines

all these drugs have an action over GABA receptor except :
nitrous oxide

lidocaine & ropivacaine share all the following except :
can be used as antiarrythmic

the serum concentration of valproic acid was 250 mg/L , it's free concentration will be :
30
60
90
120 mg/L

benzodiazepines and barbiturates have in common :
-both act on GABA receptors

all the following are adverse effects of opiods except :
1- vomiting & nausea
2- cardiac depression
3- constipation
4-

wrong combination :
- ketamine.....depress heart activity

adverse effect lal opiods jawabha (acute pulmonary edema)

there was a question about the mismatched anticonvulsant & it mechanism of action

kan tiagabine : release of GABA

Physio

1) Lower Quadrantenopia ..... Parietal Tumor

2) Needs Antidepressant: Sleep paralysis.

the patient who is chronic alcoholic and confabulate storys:
korsacoff's psychosis

stroke patient, after 2 weeks she breathes normally, eat but she is disoriented :
vegetative

Patho

1) The wrong statement: Severe Global ischemia leads to SELECTIVE damage.

all of the following is associated with symptoms except:
capillary telangiectasia

he most common cause of intracranial hemorrhage is:
hypertension

all of the following are associated with severe transtentorial herniation except :
pupil dilation
ipsilateral hemiparesis
contralateral hemiparesis
contralateral sensory loss (aw ymken ipsilateral)
duret hemorrhage

وَمَا تَوفِيقِي إِلَّا بِاللهِ عَلَيْهِ تَوَكَّلْتُ وَإِلَيْهِ أُنِيبُ

بسم الله الرحمن الرحيم

CNS-2 Final, 2012

answers MAY NOT be correct ☹

Clinical

1- unnecessary test ---- EEG

2-not pain sensitive >> brain parynchema

3-a woman on oral contarceptive with repeated seizures & headache most propable cause is >> venous thrombi " not sure "

4-the most common type of headache is >> tension headache " maybe"

5- is used in physical examination of head intracranial pressure >> fundpscopy

Physiology

1- Question about a 65 year old patient with Weber's test revealing hearing near the right ear is more than hearing at mastoid,, with localization to the right ear .... answer is Wax filling the acoustic canal
2- doesnt activate a 2nd messenger >> sour
3- the only sensory pathway that doesnt pass through the thalamus >> the lat "old" pathway
4- Hyposmia is caused by all of the following except > seizures
5- False statement → the stapes increases the force of the vibration 15 times.
6- one of the following only is a conduction defect:
   -> osteosclerosis (otosclerosis)

Anatomy

7- Wrong about Atonia and hypertonia of the bladder > both causes destintion of the bladder
8- All of the following manifest Horner syndrome except > deviation of the eye outward downward
9- One can't close his right eye and can't move his right eye to the right , the injury is most probably in > dorsal pons (? not sure)
10- the fiber needs to move muscles of mastication, facial expressions, and swallowing (pharynix, larynx, esophagus) is >>>
    SVE only
11- wrong >>> sterognosis is a protpathic sensations

12- wrong >>> infranuclear unilateral vagus nerve injury result in deviation of uvula to side of lesion

Patho

1- Wrong >> contusions r more common the depth of the cortex than in the crest of gyri
2- Wrong >> subdural hematoma is rare in infants
3- motor neuron disease --- wrong statement: familial is more common than sporadic.
4- Wrong combination : pilocystic astrocytoma in the hypothalamus
5- All present in grade III astrocytoma except : necrosis & microvascular proliferation
6- Antoni A , antoni B and verocay bodies are related to >> schwannoma
7- Wrong >> plexiform neurofibromas have low malignant transformation potential
8- Wrong >> a small post fossa in dany walker malformation
9- Wrong >> a small post fossa in dany walker malformation
10- Wrong >> the large neurons are the most commonly lost in Huntington disease
11- Wrong >> the "majority " of pts with unilat visual impairment will develop the full blown ms
12- Wrong >> wernik enecephalopathy is the chronic form of thiamine deficiency
13- Wrong >> pilocystic astrocytoma of the optic nerve is in tuberous sclerosis
14- korsakoff is reversible wirnickes is not
15- wrong >>> necrotic muscle fibers is the histologic feature to distinguish dystrophy from myopathy
16- wrong>>> diffuse plaques have neeuroses (dystrophic neurites) around a center of amyloid core

Pharma

1- Wrong combination: Entacapone with hepatotoxicity
2- Neurotoxic to SERT & DAT --- Ecstasy MDMA
3- all can be applied as local anasthetics except >>> injection in the major nerve trunk "i guess"
4- All can stop progression of Parkinsonism except : Entocapone
5- wrong about antidepressants >> small volume of distribution
6- Not caused by anti-psychotics : Emesis
   Not followed by Extrapyramidal Syndrome ----- Olanzapine (not sure)
7- the one that does not act on the mesolimbic dopaminergic system ---- LSD
8- The most sedative Antidepressant ------ Not sure i answered fluoxetin but have no idea :/
9- its clomipramine.. a TCA with antihistaminic effect (sedation)
10- wrong about sedative-hypnotics .... doesn't affect learning function
11- replaced Amphetamines in ADHD ---- modafinil
12- True about phenytoin and carbamazepine : they both induce metabolism of other drugs
13- Wrong combination: NO and intracranial pressure
14- Incorrect statement about glaucoma : Prostaglandins decrease the production of humerous fluid.
15- Auditory , visual and tactile hallucinations + Generalized sezuires are associated with alcohol abuse
16- The antipsycotic drug blocking 5 HT receptors is quitiapine

17- Tolerance in relation to opioids could occur to all of the following except: meiosis
18- All of the following drugs are used to treat absence seziures except : Gabapentin
19- Incorrect adverse effect: Ethosuximide causes ataxia

وَمَا تَوْفِيقِي إِلَّا بِاللَّهِ عَلَيْهِ تَوَكَّلْتُ وَإِلَيْهِ أُنِيبُ

Pharmacology - CNS2 2012 /3rd y.

* all of the following are used for absence seizures, except:
a) Ethosuximide.
b) Valproic acid.
c) lamotrigine
d) Clonazepam.
e) Gabapentin ✓

* The wrong Combination:
a) phenytoin → Nystagmus.
b) Ethosuximide → T-type Ca^{++} currents.
c) Vigabitrin → inhibit GABA uptake ✓

* The wrong Combination:
a) pramipipexole → D_3 agonist.
b) Rasagiline → pure D_2 agonist ✓

* all of the following are dopamine receptor agonists, except:
a) Bromocriptin.
b) pergalide.
c) Selegiline ✓

* all of the following are side effects of antidepressants, except:
a) decreased libido
b) postural hypotension.
c) Blurred vision.
d) smth wrong ✓

* one of the following is (SSRI) used as antidepressant:
Fluoxetine ✓

* one of the following is used for (ADHD):
Imipramine ✓

* an antidepressant that has sedative & antimuscarinic effect:

Pharmacalogy - CNS2 2012 / 3rd y.

* all the following are considered of the routes of administratio of local anesthetics, except:

→ injecting directly in the major nerve trunk.

* The most widely used local anesthetic → lidocaine.

* all of the following are systemic effect of opioids, except:

a) analgesia
b) Euphoria.
c) respiratory depression.
d) Miosis.
e) acute pulmonary edema ✓

* all of the following side effects of opioids are blocked by opioid antagonist, except:

→ Miosis

* Balanced anesthesia is a combination of drugs, has all these effects, except:

a) inhibit laryngeal spasm.
b) muscle relaxation.
c) control autonomic responses.
d) inhibit vomiting
e) reduce patient's anxiety

* The wrong combination:

nitrous oxide ⟶ increase intracranial pressure.

* Barbiturates & Benzodiazepam are the same in:

They Both work on GABA receptor.

* The drug of choice for ambulatory surgery:

Propofol.

Pharmacology - CNS2 2012 / 3rd y.

* an antipsychotic that has very low extrapyramidal toxicity:
  Quetiapine ✓

* Antipsychotic that has 5-HT_{2A}-receptor Blockade mechanism:
  Clozapine ✓

* a drug of abuse that doesn't affect mesolimbic dopamine system:
  LSD ✓

* wrong Combination:

a) Cannabinoids → euphoria.
b) Amphetamines → Increase arousal.
c) MDMA → hyperthermia.
d) ... ✓

* wrong Combination:

B-adrenergic → reduce production of aqueous humor.
Latanoprost → reduce " " " " ✓

* One of the glucoma drugs may produce cataract:
  Echothiophate ✓

* 1s line therapy of glucoma:
  prostaglandins ✓

Pathology - CNS2 2012 / 3rd y.

* Subdural hematoma, all the following, Except:
a) common in elderly
b) most common Bilateral.
c) lucid for hours ✓

* pilocytic astrocytoma, all true Except:
a) located in the cerebellum.
b) Rosenthal fibers seen in Gross.
c) considered as grade II astrocytoma ✓

* Ependymoma, all Except:
a) could be in the Spinal Cord.
b) in adults, tumors in this site seen as NF2.
c) True rosettes are seen in grade III ✓

* Charectaristics of grade II meningeoma, Except:
a) Brain invasion, ≥4 MF.
b) hypercellularity
c) clear or chordoid variants.
d) Rhabdoid or papillary variants ✓

* about Alzheimer disease, all are true Except:
a) familial forms shows accumulation of amyloid AB.
b) ApoE4 may help in increasing the risk.
c) Neurofibrallary tangles are Extracellular ✓

* about Parkinson, all are true Except:
a) lewy Bodies in limbic system & neocortex affect cognitive functions.
b) lewy Bodies are Extracellular feture ✓

Pathology - CNS2 **2012 / 3rd y.**

* all of the following have a familial form, **Except**:

a) parkinson disease.
b) Alzheimer "
c) Huntington "
d) diseases of motor neurons.
e) multifocal leukoencephalopathy ✓

* wrong Combination:

a) NF2 is less common than NF1.
b) NF1 gene on chromosome 17 and called neurofibromin.
c) NF1 is a sporadic disorder ✓

* **wrong** Combination About CNS defects:

a) infarcts commonly are intraparenchymal ✓

* **wrong** about muscle diseases:

a) DMD is more common than BDM.
b) weakness begin in pelvic & shoulder muscles.
c) calf muscles weakness is associated with pseudohypotrophy ✓

Pathology lab

* pilocytic astrocytoma, all of the following **Except**:

a) rosenthal fibers.
b) Cystic structure
c) - - - ✓

* Meningioma picture, which grade?

a) II b) III c) IV d) no grades for this tumor.

-physiology - CNS2 2012 /3rdy.

* A diagnostic sign of Alzheimer's disease is a damage in :

a) Amygdala.

b) Hippocampus ✓

* A patient that confabulate things to fill the gaps in memory:
Korsakoff's psychosis ✓

* A patient that is awake But is not conscious after an acoidient 2 weeks ago :

vegetative state ✓

* wrong Combination:

a) delta wave → normally in infants.

b) slow wave sleep → spikes of α waves.

c) REM sleep → delta waves ✓

* A patient that has the following (glasgow coma scale):
GCS= E(3)+V(2)+M(2) =7 , this means all the following, Except :

a) He is deeply comatosed.

b) eyes respond to verbal Command.

c) verbal response is just sounds /no words.

d) decerebrate .

e)... ✓

* wrong Combination:

a) Grand mal epilepsy → high voltage, high frequency EEG .

b) petit mal " → most patients recover at 20s or 30s.

c) Temporal focal epilepsy → spikes & domes EEG ✓

Physiology - CNS2 2012/3rd y.

* wrong Combination:
a) W-ganglion → detect directional movements.
b) ganglion cells → electronic potential ✓
c) X-ganglion → color vision.

* All of the following photoreceptors respond to hyperpolarization, Except:
a) Rods
b) Cons
c) horizontal cells
d) Amacrine cells ✓
e) Bipolar in the on-centre on the periphery
f) " " " off-centre " " centre.

* All of the following contain on-centre/off-centre, Except:
a) lateral geniculate nucleus.
b) layer 4
c) layer 2 ✓

* Right Combination:
angles, zigzags, contours → Hyper complex cells ✓

* wrong Combination:
Salty taste → activate 2nd messenger ✓

* Rinne's test result: the patient hears better at the mastoid of the Right side, the patient may have all of the following, Except:
a) wax accumulation.
b) otosclerosis.
c) damage to hair cells ✓

about SSE (SVE)

(a) no. 4 ~~fib~~ from each side

→ (b) Com control smooth muscle

(c) bw GVA & GVE

(d) second motor importance

(e) have acc. ~~[illegible]~~ cranial

4 (*) hind ~~foot~~ in DCN representation

(a) ~ ~ ~ cuneatus

(b) ventrally gracilus

(c) ~ ~ ~ cuneatus

(d) dorsally gracilus

(e) ~ cuneatus

5 (*) about F. gracillus → choose wrong

(a) recive fiber from primary collateral afferent

→ (b) ~~recive~~ increase in size upward

(c) ~~Fiber~~ ends Topographically

(d) segmental order

6 (*) about Reticular formation

(a) in action - vexy pattern

(b) Cond in animal

→ (c) Cond in cord as lamina VI

(d) unconscious

The most accurate topography

(a) monocellular lamina

→ (b) cutaneous tissue afferent.

) choose incorrect attachment.

(a) RF → maximal & quickest

(b) fiber →

→ (c) spatial discreminition → two stalk

(d) Temporal discreminition → timing

(e) ~~[illegible]~~

) about close medulla section

. (a) hypo glossal nerve pass bw 2 pyramid

) γ motor fiber

→ (a) extra cellular

(b) use Ia

(12) choose ~~wrong~~ incorrect attachment

(a) pre frontal → instylment

(b) arcuate → PL Eglia

(c) post. spinal nerve → ~~[illegible]~~ pseudoparalysis

(d) ant. spinal nerve → flaccidity

→ (e) ambiguous → ~~[illegible]~~ foreground

12

(13) about lamina 8 choose wrong

(a) optimal transmission

(b) reciprocal inhibition

→ (c) NOT appear in all segment

(14) about cervical cord

→ (a) has 3 segments

(b) post. horn are short (Narrowest)

14. final column pathway, ... except

(a) ant. horn

(b) spinal N.

→ (c) post. horn

(d) peripheral N.

Neuro II

~~(D) 3 coccygeal segments~~

~~(D) about lamina choose incorrect statement~~
~~(D) Receptive field at periphery are maximal & quickest~~

* Laminar 8 → ARAS

) about spinocervical pathway choose wrong

→ (a) from upper 7 cervical segment
(b) receive from homolateral INLF
(c) ends at topographical map
(d) has quickest ~~impulse~~ impulse

) about post. ~~spinal~~ spinocerebellar tract
(a) receives fiber from homolateral clark n.
→ (b) carry proprioception & touch
(c) from T_1 to L_2
(d) go to cerebellum throug ICP

Neuro II

...n light reflex → lesion in:

(a) pretectal area
(b) Edinger westphal
(c) oculomotor

...on centre - off centre mechanism found in:

(a) Retina only
(b) Retina & LNG only
(c) LNG only
(d) Retina & LNG & area 8

...about (serotonin) choose wrong
... (d) uptake inhibitor inhibits serotonin

(11) occipital lesion
(A) affects macular

(12) Analgesia

(c)

21) In a CSF sample could Meningitis which confirm aseptic Meningitis ⇒ Minimally elevated protein.

22) All are ✓ ∈ Negri body → rabies except → HSV — Meningitis con.
∈ CMV Inch → ependymal con.
∈ Cow Orgb → temp. lobe vene.
∈ Papovirus → oligodend. con

? All are seen in P. brain tumor except ⇒ Glioma in B.S do better than glioma Cerebellum

24) All the follow CNS Infect predominate in Aids pt except → spongiform encephalopathy

? which is X about cerebrovascular disease ⇒ the commonest site of primary intracranial hemorrhage caused by HTN is subarachnoid space.

? Compensatory hydrocephalus in → A+B (old infract + alzhimer.)

) Most common cause of subarachnoid hemorrhage → Berry aneurism.

) Systemic HTN → Intral cerebral microaneurism.

) Not true (X) viral infection → HSV, is the only virus that doesn't cause inclusion formation.

) X about bacterial infection ⇒ Clear CSF / Normal protein.
X " viral encephalitis → Decrease in intra cranial pressure.
X " Astrocytoma ⇒ Necrosis seen in well differentiation.
which tumor peak in Adult hood → الكبار oligo ependy
Not true of Meningioma → potential Malignancy.
" " of MS → Male Mostly.
Not true of MG → ↑ actually of Ach.
" " " DMD → ♀ Mostly.
" " → Rhabdomyosarcoma → is an aggr tumor.
Not " → Meningomyelocele Mostly seen in upper lumbar region
" " of Neurofibroma → encapsulated Mostly.
Not " of CNS tumor → Mostly of Neonatal injury.
" " " demenitia → ↑ edema in brain.

Neuro II

CNS II patho-:

* water shed brain infracts uf → shock.

* stretch of 3rd cranial nerve lead to fixed dilated pupil occur consequence to uncal herniation

? * Regarding NTD one is true ⇒ spina bifida [redacted]

" " " false ⇒ ∈ anencephaly

∈ negligable risk occur in preg.

∈ encephalocoeele is incompatible with life

(1) * perinatal injury that occur in premature infant ⇒ germinal matrix hemorrhage.

(3) * the cell responsible for repair → Astrocyte.

(6) * all the following are true abs. ∈ HSV → non of temporal lobe ✓ [redacted]

∈ CMV → ependymal cell.

∈ Poliomyelitis → anterior horn cell.

∈ papovavirus → oligodendrocyte glial cell.

(4) * the common way of entry of the virus organ → CNS is by → Arterial hematogenous route.

(8) * ↑ protein + ↓ glucose + ↓ cell count + ↑ lymphocyte → hypothesis is chronic

(9) * The presence of multiple brain abscess in HIV +ve pt is → toxoplasma infect.

(10) * All are ✓ about MS → except → Interferon del in myelin product.

(11) * All " Neurodegenerative disorder except → progressive multifocal leukoencephalopathy.

(12) * all combine are ✓ ∈ amyloid + Alzheimer except → hirano bodies → mitochondria

∈ persistent demyelinating plaque → MS.

∈ Lewy bodies → Parkinson disease.

∈ Neurofibrillary tangles → Alzheimer.

(13) ∈ the most common 1° CNS tumor in Adult is → Astrocytoma.

(14) * All are features of CNS tumor except → —

(15) * tumor exclusively occur infratentorial ⇒ Medulloblastoma.

(16) * ~~Regarding~~ Rod cell → Microglial cell.

(17) * Cingulate herniation one of the following will be compressed → Anterior cerebral

(18) * which of the following causes communicating hydrocephalus → subarachnoid hemorrhage.

(19) * Contusions are typically located → frontal poles.

(20) * NTD ? ✓ → spina bifida cystica complicated by Meningi

Neuro II

1) The following are keywords along the parasym. ~~or~~ pathway to the Ant. segment of the eye, except?

- The lacrimal branch of trigeminal n.

2) The following are related to trochlear n. except?

- involved in the medial alternating hemiplegia.

3) The pathway of para sym. order to the lacrimal gland is related to all of the following except?

- Mother cells found in the Inf. salivary Nucleus.

4) The spinal accessory n. differs from the cranial XI by all of the following except?

- The foramen used to exit from the skull.

5) the ~~last~~ first lamniscus to depart is?

- lateral lemniscus

6) Regarding the Ant. spino cerebellar tract all true except?

- completed rostrally by the cuneocerebellar tract.

7) the following are more disastrous than their opposite except.

(يعني كان لازم اختر من الثاني ماكدا ؟).

-

8) the following are related to stereovision except?

- the two temporal visual field.

9) Regarding trigeminal syst. all are true except?

- The aboral part is always lateral except in the chief N.

10) one of the following is as speedy as motorneuron?

- Ia fibers.

11) Cunencerebellar tract. is Related to all except?
- SCP

12) Choose the inappropriate item?
- the Basilar membrane of the cochlear duct is wider at the Base.

13) inappropriate item.
- lateral Gaze Center - CTT (Central tegmental trac

14) About Anatomy of ~~Heat~~ Heat all true except?
- fast adapting nature

15) about audition - - - except?
- ascend mainly at the Ipsilateral lateral lemniscus.

Neuro II

Pharma:- CNS II

① Anesthic used IT anathesia → Propofol.

② Most Common local analgesic → Lidocaine.

③ which form a Metabolite that accumulate in Renal dysfunction Causing seizure → Meperidine

④ Not true of Imipramine → α Adrenergic activity.

⑤ Common to both BDZ + barbiturate → effect on Gaba.

⑥ Not true → tolerance develop to lamotrigine effect.

⑦ " " Combination → Chloropromazine → ↑ bid pr.

⑧ one is SSRI → Fluoxitine.

⑨ A drug used for Abscence seizure and has peculiar action of → Etho suxamide.

⑩ Not common to both phenytoin + Carbamazepine → both are metabolized in a dose depend way.

⑪ Not true Combination :- Bromo Cripine Cause hyper prolactemia.

⑫ Doesn't Cause addiction nor dependence → LSD.

⑬ L-DOPA not true → Causes Miosis

⑭ Not central effect of opoid → Mydriasis

⑮ ✓ about drugs that used in glucoma → pilocarpine → Muscarinic

⑯ pathway used in Antipsychotic action → Mesolimbic - Mesocortical

⑰ Anxiolytic → Buspirone

⑱ Not true Combination → bupropion → significant Activity to M Receptor

⑲ " " About glucoma drug → Cholinergic drug Affect product a outflow of aqueous humor.

⑳ A drug not used in manic depression illness → Dantrolene.

~~Clinical questions~~ ⇒ these questions are about convulsions (only material is about headache)

⊖ Not true of essential tremor → Can be easily distinguished by Rec.

⊖ " " about epidural hemorrage → Venous blood.

⊖ tremor is → cyclical moves by Recep. Quiescent Muscle.

⊖ loss of Arm swing a characteristic of → PD.

⊖ +ve Romberg sign → sensory Ataxia.

⊖ true about Con Cussion → transient loss of Consciousness.

Neuro II

Anatomy:

- A lesion in W. area leads to:
  can't comprehend written or spoken words
- A (rt) lesion in facial n. prox. to geniculate ganglion leads to all Except:
  paralysis of tongue on rt. half of tongue.

Physio

- which doesn't use 2nd messenger:
  Hearing ↑ pitch sounds.
- One causes sensorineural deafness:
  damage to tympanic membr.
- Right about localisation of sound
  lat. sup. olivary nucl. for intensity difference b/n sounds coming from both ears.
- Nerves involved in taste:
  Glossoph., Vagus, facial.
- ~~Primary function of ossicles → amplify sound stimuli~~

~~Clinical~~:

- not true of essential tremor:
  can be distinguished easily by frequency
- Not true about epidural hemorrhage:
  Venous blood.

- Tremor is:
  Cyclical moves by reciprocally innervated muscles.
- Loss of arm swing is a character of:
  PD.
- +ve Romberg sign:
  Sensory ataxia.
- True about concussion:
  transiant loss of consciousness -

Patho:

- Compensatory hydrocephalus in:
  A+B ⇒ old infarct + alzheimer.
- Most common cause of Subarachn. hage:
  Berry aneurysm.
- Systemic HTN often leads to:
  intracerebral microaneurysms.
- not true about viral infections:
  HSV I is the only vir. that doesn't cause inclusion formation
- not true of bact. infections:
  clear CSF, normal protein.
- not true of viral Encephalitis:
  Decrease in intracranial pressure

- Not true about Astrocytoma:
  necrosis seen in well differentiated.
- Which tumors peak in adulthood
  [NOT SURE]
  Choices: ⊙ oligodendroglioma
  ⊙ Ependymoma
  ⊙ medulloblastoma.
  ⊙ 2 of the above
  ⊙ all..

not sure of answer

- not true of meningioma:
  potential malignancy.
- not true of MS ⇒ males mostly
- not true of MG ⇒ ↑ activity of Ach
- not true of Duschene dystrophy:
  ♀ mostly
- not true:
  Rhabdomyosarcoma is an arm tumor.
- not true:
  meningomyelocele mostly in
  upper lumbar region.
- not true of neurofibroma..
  encapsulated mostly
- Not true of CNS tumors:
  mostly neuronal origin.
- Not true of dementia → ↑ edema in brain.

pharma:

- Anesthetic used in induction of anesthesia:
  propofol.
- most common local anesthetic:
  lidocaine
- Which forms a metabolite that accumulates in renal dysfunxn causing seizures:
  Mepiridine.
- Not true of imipramine:
  α adrenergic activity
- Common to both BDZ + barbiturates:
  effect on GABA
- Not true:
  Tolerance develops to Lamotrigine effects
- Not true combination:
  chloropromazine → ↑ bld pr.
- One is a SSRI:
  fluoxetine.
- A drug used for abstinence seizures and has a peculiar action of...
  Ethosuxamide.
- Not common to both phenytoin + Carbamazepine
  Both are metabolised in a dose dependent way

- Not true combination:
  Bromocriptine → causes hyperprolactinemia
- Doesn't cause addixn nor dependence:
  LSD.
- L-DOPA, not true:
  causes miosis.
- Not a central effect of opioids:
  mydriasis.
- True of drugs that r used in glaucoma:
  pilocarpine → muscarinic agonist
- The pathway used in antipsychotic action ↑:
  mesolimbic - mesocortical
- Anxiolytic is:
  Buspirone.
- Not true combination:
  Bupropion → significant affinity for μ-receptors.
- Not true about glaucoma drugs:
  cholinergic drugs affect production and outflow of aqueous humor.
- A drug not used in manic depressive illness:
  Dantrolene.

Pathology Neuro II

6

9

CNS

UNIVERSITY OF JORDAN
FACULTY OF MEDICINE
FINAL PATHOLOGY II EXAM. FOR MEDICAL STUDENT
SECOND SEMESTER 2003/2004

DATE: June 5, 2004. Name:-
TIME: 9:00 – 11:00 Univ. No.:

Choose the single best answer for all of the following questions.

1. The most common artery occluded in brain and producing CVA is:
   a. Anterior cerebral artery
   b. Anterior communicating artery
   c. Middle cerebral artery
   d. Posterior communicating artery
   e. Posterior cerebral artery

2. All of the following cells share the "selective vulnerability," in relation to ischemia in brain EXCEPT:
   a. neurons in the thalamus
   b. Neurons in hippocampus
   c. Neurons in globus pallidus
   d. Purkinjie cells in cerebellum
   e. 3rd layer of cortical neurons

3. Water shed brain infarcts and are seen in :
   a. Shock
   b. Hypertension
   c. Septicemia
   d. Fat-embolism
   e. Diabetes mellitus

4. Stretching of the 3rd cranial nerve, leading to fixed dilated pupils occurs as a consequence to :
   a. Tonsillar herniation
   b. Uncal herniation
   c. Cingulate herniation
   d. Subfalcine herniation
   e. All of the above

5. Regarding neural tube defects, one of the following is TRUE:
   a. Neural tube defects are inherited conditions with recognizable chromosomal abnormalities
   b. Negligible risk of recurrence in subsequent pregnancies
   c. Encephalocele is incompatible with life
   d. spina bifida cystica occurs mainly at lumbosacral area.
   e. Neurological deficits are common in spina bifida occulta.

6. One of the following cerebral perinatal injuries occurs especially in premature infants :
   a. Necrosis of the basal ganglia
   b. Periventricular leukomalacia
   c. Ischemic necrosis of the brain stem nuclei
   d. Germinal matrix hemorrhage
   e. Anencephaly

7. The cells responsible for " repair" in the CNS are :
   a. Astrocytes
   b. Microglial cells.
   c. Meningiothelial cells
   d. Oligodendrocytes.
   e. ependymal cells.

8. In relation to " tropism " all of the following combinations are true EXCEPT:
   a. HIV-1 virus → neurons in cortex
   b. Herpes Simplex virus -1- → neurons in temporal lobe
   c. cytomegalic virus → ependymal cells
   d. poliomyelitis virus → anterior horn cells.
   e. Papovavirus → oligodendroglial cells.

9. The most common route of entry of microorganisms to the CNS is:
   a. Peripheral nerves
   b. Local extension from adjacent infected focus
   c. Direct implantation after trauma
   d. Venous hematogenous route
   e. Arterial hematogenous route

10. If CSF findings were as follows:
    Elevated protein levels, low glucose, and cell count→ numerous lymphocytes, this Conforms with which type of meningitis
    a. Acute bacterial meningitis
    b. Chronic bacterial meningitis
    c. Acute viral meningitis
    d. Chemical meningitis
    e. carcinomatous meningitis

11. The presence of multiple brain neoplasm in an HIV-1+ve patient is most likely due to:
    a. CMV infection
    b. Toxoplasma infection
    c. Herpes simplex infection
    d. Cryptococcal infection
    e. HIV-1 virus encephalitis

12. All of the following are true about multiple sclerosis EXCEPT:
   a. An inherited deficiency in myelin production
   b. A disease primarily affecting the white matter
   c. Mainly seen in European countries
   d. Periventricular white matter is the main target
   e. waxing and waning course

13. All of the following are neurodegenerative disorder EXCEPT:
   a. [illegible]
   b. Amyotrophic lateral sclerosis (ALS)
   c. Alzheimer disease
   d. Progressive multifocal leukoencephalopathy
   e. Paralysis agitans

14. From the following combinations, one is NOT true
   a. amyloid plaques → Alzheimer disease
   b. Periventricular demyelinating plaques → multiple sclerosis
   c. Lewy bodies → Parkinson disease
   d. Hirano bodies → Huntington disease
   e. Neurofibrillay tangles → Alzheimer disease

15. The most common primary CNS tumor in adults is:
   a. Astrocytoma
   b. Oligodendroglioma
   c. Ependymoma
   d. Meningioma
   e. Medulloblastoma

16. All of the following are features of primary CNS tumors EXCEPT:
   a. Metastasis are more common than primary CNS
   b. Frequently form multiple masses
   c. Affect young adults
   d. Poor response to adjuvant therapy
   e. Don't metastasize outside the CNS

17. The tumor that exclusively occurs infratentorialy is
   a. Astrocytoma
   b. Medulloblastoma
   c. Oligodendroglioma
   d. Ependymoma
   e. Meningioma

Neuro I:

Micro:

- Not true about cysticercosis:
  Hydatid cyst
- Human can acquire toxoplasmosis by:
  oocyte + cyst
- True about toxoplasmosis:
  1° host is canine.
- Not caused by EBV:
  Retinal detachment
- Not true about WNV:
  There could be premorbidities before infection
- Syncytium and necrotising vasculitis by Nipah virus.
- Not in post polio syndrome:
  Spastic paralysis recrudescence.
- Not true about Rabies:
  Transmission only by lick or bite of animal.
- Not true about Prions:
  accumulate in same place in different diseases.
- Not true about polio:
  Paralytic in areas of poor hygiene.

Anatomy:

- Not true about Chorea and (Both) Diseases in striatum.
- Pain and tempt. are lost in both sides at T_4-T_8 / what's the lesion?
  Destruction of T_4-T_8 centrally in the SC
- what happens if a lesion occurs b/n ant. + lat. columns of white matter?
  loss of pain and tempt. at first
- * At a high post. col. lesion, proprioception is lost only in UL.
- * Gracile nucleus doesn't include position sense unlike cuneate nucleus.
- → Only 1st statement is correct.
- Not true about bladder.
  PD + MS cause urge incontinence because of the facilitation of Bladder funxn by frontal cortex and Basalganglia
- Striatum NT that causes facilitation of thalamus:
  Inhibitory GABAergic.
- Hypotonia and dysmetria on rt arm:
  rt. Cl' lesion

- lt. 3rd cranial n. damage and rt. hemiplegia:
  lt. mesencephalon lesion.
- Most involved in prox. and axial tone.
  Pontine reticulospinal tract
- Not involved in axial m.s. or posture:
  Rubrospinal.
- Not true combination:
  Steppage gait → sensory ataxia.
- Dorsal col. is different than anterolat. in:
  more localization
- UMNL:
  weakness, spasticity, abn. reflexes, hyperreflexia
- Not true combination:
  Protopathic sensation → ↑threshold.
- Lesion that causes atrophy of LL + incontinence and flaccid paralysis:
  Lumbosacral.

Biochem:

- True about vision:
  cGMP increases when transducin activated
  Cones:
  for color vision.
- not true about Huntington dis → AR.
- In familial alzheimer → Presinilin 1+2

Pharma:

The reason for chemotherapy failure:
Drug resistance the tumor develops.

- Not true:
  - Taxol is more toxic than vincristine
  - About side effects, which is not true
    none of the above.
- Not true:
  HER-2 inhibited by cetuximab.
- Drug that revolutionized ovarian and testicular cancer ++:
  Cisplatin.
- True: Deregulation of apoptosis by tumor
- True: G_0 cells are resistant to all types of anticancer drugs.
- True: Ribonucleotide reductase is inhibited by Thioguanine.

Physio

- Not an explanation why tone is caused by rigidity → clasp knife.
- Best to study brain stem funxns: Anencephaly
- Lat. part of C1 doesn't affect: spine, hip...
- If a lesion in ventral corticosp. tract:
  Axial ms's affected

- of 1st lesions in alzheimer:
  Hippocampus -
- Not of amygdala funxns:
  Memory storage
- Not true:
  Periventricular hippocampus associated with pleasure.
- A test for inverse myotatic reflex:
  Clonus.
- Not caused by CI' lesion:
  Dysphagia.
- Not funxn of premotor cortex:
  facial recognition.
- Chorea:
  moves are flicking ...
- Vertigo, nystagmus, cr. n., hemiparesis/lesion in?
  Brain stem.
  Acute lesion of UMNL, which is not true
  tone increased.
- The only inhibitory of tone:
  Medullary reticulosp.

PNS final exam notes \ Khulood shkokani

These are nt the qs literally , was soo hard to remember the QS and the exact answers , "el exam kan 3aj2a" soo just I wrote the main points that mentioned in the exams ... study them well and best of luck J

Biochem :

- **Not a couse for xanthochromia : conjugated bilirubin .**
- **Chinace rsturant sysndrome**
- **The (5-Hydroxytryptamine) à GIT**
- **Lyzing arrow poison**
- **Neurotoxin inhibt the degradation of Ach**

Micro :

- **Abt rabies virous "nt a meningitis "**
- **One of these incorrect : infection with virous decrese with age**

Anatomy :

- **Abt the crossing of the tracts "so imp , 4 qs maybe**

- **2- The function of each tract**
- **Regarding the ant surface of medulla oblengate : the pyramids taper inf and give rise to the decussation of the pyramids**
- **Reagrdng the transverse section in the caudal part of pons : the pontine nuclei lie between the transverse fibers**
- **lack the presentation in the brain " Later zone in the cerbullem"**
- **regarding thalamus : the largest part of the diencephalon and serves as a relay station for all main sensory tracts excelpt olfactory**
- **regarding basal ganglia : the corpus striatum is concerned with muscular movement**
- **regarding functional localization of the cortex :**
  - **occipital à visual**
  - **parital : somesthetic**
  - **temporal àauditory , wernicke**
  - **frontal à motor and motor speech**
- **the function of the limbic system : hippocampud z concerened with resent memory**
- **basa ganglia -à the activites of the globus precede the activites of motor cortex concerned with discrete movement of hands and feet**
- **Cranial nerves à thr nasal field of the right eye is projected to the temporal retina of the r8 eye**
- **Thalamic nucleus à the projection of the VPL nucleus ascend to postcentral gyrus through the post limb of the internal capsule**
- **The meninges of the brain and SC :**
  - **Eza sar thrombi fi el cavernous sinuses which of these wont affected : fascial nerve**

- The subarachnois space : between the arachnoid and pia matter
- Reagarding the bld supply to the brain : the circle of willis is formed by "e7fzoohm

Pharma :

- Lidocaine (1943) is the most widely used local anesthetic.
- bupivacaine, ropivacaine) can cause lethal arrhythmias in high concentrations.
- Vasoconstrictor substances such as epinephrine reduce the systemic absorption of the local anesthetic from the injection site
- Epinephrine, when used in spinal anesthesia, stimulates α_2-adrenoceptors which inhibit release of substance P (neurokinin-1) and reduce sensory neuron firing à enhancing and prolonging local anesthesia.
- Vasoconstrictors are less effective in prolonging anesthetic action of the more lipid soluble, long acting drugs
- At low concentration, all local anesthetics are able to produce sleepiness, dizziness, visual and auditory disturbances and restlessness.
- Cocaine cardiovascular toxicity – hypertension, arrhythmias and myocardial failure
- prilocaine during regional anesthesia may lead to accumulation of the metabolite o-toluidine, an oxidizing agent capable of converting hemoglobin to methemoglobin.
    - Adregonic antagonist :
- Tachycardia is more marked with nonselective α-blockers (α_1, α_2)
- Heart failure (??): Three β-antagonists have been proved to be useful in chronic heart failure (metoprolol, bisoprolol & carvedilol).
- The Adverse Effects:
    - Cholinergic Drugs
- One of these an Organophosphates
- The Adverse effects:
        - No urinary retention
    - Cholinoceptor-Blocking Drugs
- Quaternary ammonium for use in asthma: Ipratropium.
- In all the drugs "kol el lectures" lazm t3rfi meen be3mal bronchodilation meen el 3aks o meen tachycardia o meen bradycardia "imp"

Physio :

- The function of the cerbullum
- THE UNTRAFUSAL fiber -à the middle part lack of contractile protein
- Causing the sleep à suprachiasmtic nucleous in the hypothalamus
- Activating system -à in thr reticular formation "nt sure"
- Medullay and pontine tracts
- The pontine àantigravity muscle
- The pontine works by an excitory form the vistbular tracts

    - "fi students 7ako bas 1 sa7 , 3shan hea bt2dr tsht3'al outo soo?"
- If we have a Lesion on the wreincle area , sho el mshakl elli btseer ??
- Lesion on it causes ataxia : corpus startium "nt sure"
- The subarachnois space : between the arachnoid and pia matter
- El obstruction 3end kol opening ween momkin ytjmma3 el CSF
- Nociceptive
    - detect pain and are activated by any factor that damages tissue
- Extracranial Headache
- The causes of reflex form which part of CNS ??

Patho :

- *Hydrocephalus overproduction more common*
- Herniation : very imp ymkin eja 3aleeh aktar men 5 5yarat
- *Subfalcine (cingulate) herniation : compression of branches of the anterior cerebral artery*
- *Transtentorial (uncinate : Duret hemorrhages*
- Tonsillar herniation : fatal
- The territory of distribution of the middle cerebral artery-the direct extension of the internal carotid artery-is most frequently affected by embolic infarction
- By 48 hours of nonhemorrhagic ifract the tissue becomes pale, soft, & swollen, & the corticomedullary junction becomes indistinct.
- Hemorrhages associated with the dura (in either subdural or epidural spaces) make up a pattern associated with trauma.
- Subarachnoid hemorrhage : the subarachnoid space, & individuals are stricken with sudden, <u>excruciating headache</u> (classically described as "the worst headache I've

- The concussion and contusion
- The dura is normally fused with the skull periosteum. BV that run in the dura, most importantly the middle meningeal artery, are vulnerable to injury, particularly with skull fractures
- The <u>rapid movement of the brain</u> that occurs in trauma can <u>tear the bridging veins</u> that extend from the cerebral hemispheres through the subarachnoid & subdural space to empty into dural sinuses
- Poliovirus

Sry for any mistakes J

1. When a normally innervated skeletal muscle is stretched, the initial response is contraction, with increase in stretch, sudden relaxation occurs because of:

a. ↓ in gamma efferent discharge
b. inhibition of discharge from annulospiral endings of afferent fibers
c. decreased activity of afferent nerve fibers from golgi tendon.
d. increased activity of afferent fibers from golgi tendon.

The answer is (d)

2. Premotor area is:

a. area of motor cortex responsible for voluntary movements
b. area anterior to the primary motor cortex causing complex movements like speech & eye movement.
c. area in temporal cortex
d. an area of cerebellum.

The answer is (b)

3. Functions of limbic system are all except:

a. control of endocrine system
b. reactions of fear & anger
c. emotions of sexual behavior
d. gustation

The answer is (d)

4. Cell bodies of sympathetic preganglionic neurons are in:

a. dorsal horn of SC gray matter
b. sympathetic chain ganglia
c. lateral horn of SC gray matter
d. collateral ganglia
e. ventral horn of SC gray matter

The answer is (c).

5. Given these characters:
1- called thoracolumbar system
2- preganglionic cell bodies are located in S2-S4 of SC
3- preganglionic neurons release Ach.
4- preganglionic neurons projects to chain ganglia
5- postganglionic neurons release Ach or norepinephrine
choose the characters that apply to sympathetic system:
a. 1, 2, 3, 4
b. 1, 3, 4, 5
c. 2, 3, 4, 5
d. 2, 3, 4
e. 3, 4
The answer is (b)

6. The effect of sympathetic stimulation on the urinary bladder wall and sphincter is:
a. contraction, contraction
b. contraction, relaxation
c. relaxation, contraction
d. relaxation, relaxation.
The answer is (c)

7. The effect of parasympathetic stim. on the eye's ciliary muscle & pupil is:
a. contract, constrict
b. contract, dilate
c. relax, constrict
d. relax, dilate
The answer is (a) (due to the contraction of circular muscle)

8. Which of these functions is NOT affected by parasym.:
a. secretion of tears
b. secretion of sweat
c. secretion of insulin from pancreas
d. secretion of saliva
e. secretion of digestive glands.
The answer is (b)

9. Given these parts of autonomic reflex, choose correct order:

1- afferent neuron
2- association neuron
3- effector cell
4- efferent neuron
5- sensory receptor

a. 1, 2, 3, 4, 5
b. 1, 5, 2, 4, 3
c. 2, 1, 3, 4, 5
d. 4, 1, 2, 5, 3
e. 5, 1, 2, 4, 3

The answer is (e)

10. In autonomic reflex that regulate blood pressure, the receptor is:

a. chemoreceptor
b. nociceptor
c. thermoreceptor
d. mechanoreceptor

The answer is (d) (which are the baroreceptors, aortic & carotid)

11. Which of these is innervated almost entirely by sympathetic:

a. heart
b. GIT
c. urinary bladder
d. Blood vessels

The answer is (d)

12. The parasympathetic system:

a. decrease blood flow to the skin
b. mediates many reflexes of GIT, urinary & reproductive system
c. responsible for fight & flight response
d. ↑ the metabolism
e. all of the above.

The answer is (b).

13. In ANS, preganglionic neurons synapse with postganglionic in:

a. autonomic ganglia
b. brain stem
c. spinal cord
d. dorsal root ganglia

The answer is (a)

14. Sympathetic nerves innervate :
a. Smooth muscles in esophagus & lung
b. Sweat glands in skin
c. S.m in BV, salivary gland, eye
d. Sm. in wall of pancreas
e. all of the above
The answer is (e)

15. Which of these is not a part of forebrain :
a. limbic system.
b. basal ganglia
c. cerebral cortex
d. cerebellum
The answer is (d)

16. Which of the followings is not a part of basal ganglia :
a. caudate nucleus
b. red nucleus
c. Subthalamic nucleus
d. Putamen
e. substantia nigra
The answer is (b)

17. The Intrafusal fibers of muscle spindles are innervated by :
a. α motor neuron
b. mossy cell
c. γ motor neuron
d. Ia inhibitory interneuron
The answer is (c)

18. The thalamic nucleus is most associated with visual system is :
a. MGN
b. LGN
c. VL nucleus
d. VA nucleus
e. VPL nucleus
The answer is (b)

19. Damage to the subthalamic nucleus leads to:
a. Parkinson's disease
b. Hemiballismus
c. Alzheimer
d. Korsakoff's psychosis.
The answer is (b)

20. Normal blood flow to the brain:
a. greatly modified by vasomotor control
b. about 150 ml/min
c. about 750 ml/min
d. increased during exercise
The answer is (c)

21. Interruption of motor pathways in the internal capsule on one side causes:
a. spastic paralysis on the same side
b. spastic paralysis on the opposite side
c. flaccid paralysis on the same side
d. flaccid paralysis on the opposite side
The answer is (b)

22. Parasympathetic system:
a. has short preganglionic fibers
b. secretes dopamine
c. controls most of movements & secretions of Gut
d. ↑ heart rate during exercise
The answer is (c)

23. The visceral pain:
a. shows rapid adaptation
b. mediated by beta fibers and dorsal root of spinal nerves.
c. can sometimes be relieved by applying irritant to the skin
d. can be produced by prolonged stimulation of touch receptor
The answer is (c)

24) Renshaw cells:
a. receive recurrent collaterals from motor neurons & inhibit other motor neurons in the vicinity
b. is the inhibitory system of cerebellum
c. major component of muscle spindle.
d. are present in the retina.
The answer is (a)

25) loss of fear & emotion is due to lesion in:
a. septal nucleus
b. thalamus
c. amygdaloid nucleus
d. sensory cortex.
The answer is (c)

26) all are true for dopamine except:
a. it is related to Parkinsonism
b. found in cells uninhibited by Ach in basal ganglia
c. is one of endogenous opiates from CNS
d. can't be replaced in CNS from dietary dopamine
The answer is (c)

27) All are true about Broca's area except:
a. responsible for speech
b. in frontal lobe.
c. near to respiratory cortex
d. damage to it lead to loss of vocalization
The answer is (d)

28) all of the followings are exitatory neurotransmitters except:
1. Ach
2. Adrenaline
3. GABA
4. Dopamine

The answer is (4)

29) All of the following are true except:
a. The anterior corticospinal tract decussate in Pons
b. The oculomotor nerve runs in close proximity to the posterior communicating artery
c. The superior colliculus is found in midbrain
d. The spinal cord ends at the level of L1
The answer is (a)

30) Which of the following is a feature of meningitis:
a. fever
b. Photophobia
c. headache
d. (+) Kernig's sign
e. all of the above
The answer is (e)

31) Normal CSF pressure is:
a. 15-30 mm
b. 30-80 mm
c. 50-180 mm
d. 100-200 mm
The answer is (c)

32) Hydrocephalus may follow which of the following:
a. meningitis
b. SAH
c. sagittal sinus thrombosis
d. all of above
The answer is (d)

33) The following is a symptom of Parkinson's disease:
a. resting tremor
b. bradykinesia
c. gait disturbance
d. expressionless face.
e. all of the above
The answer is (d)

34) The cerebral hemispheres develops from
a. diencephalon
b. mesencephalon
c. ependymal cells
d. telencephalon
The answer is (d)

35) communication between opposite sides of brain is through:
a. nuclei
b. projection fibers
c. association fibers
d. commissural fibers
The answer is (d)

36) The determination of location of voice or noise is by:
a. superior colliculi
b. inferior colliculi
c. tegmentum
d. reticular nuclei
The answer is (b)

37) How are impulses transmitted between thalamus & cerebral cortex:
a. by the choroid plexus
b. by corona radiata
c. by corpus callosum
d. by internal capsule
The answer is (b)

38) Loss of long term memory is due to lesion in:
a. hippocampus
b. amygdaloid
c. parahippocampus
d. mamillary body
The answer is (a)

39) The cranial nerve responsible for eyeball movement:
a. optic
b. occulomotor
c. trochlear
d. opthalamic branch of trigeminal
The answer is (c)
40) Paralysis of which nerve lead to squint of eye:
a. optic
b. abducent
c. trochlear
d. occulomotor
The answer is (b)
41) all of the followings are afferent connections of striatum except:
a. Thalamostriate
b. Reticulostriatal
c. Nigrostriatal
d. rubrostriatal
e. corticostriatal
The answer is (d)

42) The area of cortex responsible for reading, understanding and saying a sentense is:
a. 1° auditory area
b. Broca's area
c. Wernicke area
d. 2° auditory area
e. vestibular area
The answer is (c)
43) if u r holding an object in ur hand, you can recognize it without the help of vision, this is acheived by:
a. somatosensory area 1 (Primary)
b. somatosensory area 2 (secondary)
c. somatosensory association area
d. premotor area
The answer is (c)

*Pathology notes:

1- Most cases of hydrocephalus are caused by "Excess formation of CSF": False.

2- Sequence of events in cerebral herniation:

1- hernia
2- interruption of blood supply
3- infarction
4- edema
5- ↑ ICP

3- Most common cause of primary brain hemorrhage is:

Hypertension.

4. Aqueduct stenosis causes:
a. non communicating hydrocephalus
b. communicating hydrocephalus
c. dilated fourth ventricle
d. dilated lateral ventricles

5. Complications of transtentorial hernia:
1. blown pupil (epsilateral)
2. ischemia
3. Kernohan's notch
4). hmrg

6. Remember: 30 cm^3 hmrg from PONS is fatal.

7. The type of hernia that may occur after lumbar puncture is:
Tonsillar.

8. Diffuse axonal injury مهم جداً ..

سبب الـ injury إن الـ axons بتكون مثبتة في الـ SC من الأسفل لكنها free في الدماغ، لذا أي حركة مفاجئة (قوية) لليمين أو اليسار تؤدي إلى قطع الـ axons كلها دفعة واحدة (الدكتور حكا بتتكسر زي المكرونة!!) وهذا النوع من الـ lesions يحدث عند الملاكمين أو رواد الفضاء.

(وشرح عن نقار الخشب، انه خلال الحركة السريعة أثناء نقر الخشب يكون رأسه على نفس المستوى، أي إزاحة مفاجئة ولو (اعلم) ← death).

* When axons are cut → bollus swelling
so if we take a section in these patients we will find bollus (as a cadaver! because this lesion lead to immediate death).

9. Lucid:

الفترة الخادعة، يتجمع فيها الـ Blood إلى أن يصل حجم معين تبدأ معه الـ symptoms. في هذه الحالة يجب إجراء craniotomy to drain the hmrg (emergency case).

The End

NEUROANATOMY

1. The following statements concerning the thalamus are correct *except*:

a) It is the largest part of the diencephalons and serves as a relay station to all the main sensory tracts (except the olfactory pathway)

b) It is separated from the lentiform nucleus by the internal capsule

c) It forms the anterior boundary of the interventricular foramen

d) It may be joined to the thalamus on the opposite side

e) The gray matter of the thalamus is divided by a vertical sheet of white matter called the internal medullary lamina

2. Which of the following statement is (are) correct concerning the third cranial nerve nuclei?

a) The oculomotor nucleus is situated in the central gray matter

b) The parasympathetic part of the oculomotor nucleus is called the Edinger-Westphal nucleus

c) The fibers from the oculomotor nucleus pass through the red nucleus

d) The oculomotor nucleus lies just posterior to the medial longitudinal fasciculus

e) All of the above

3. Which of the following statement is incorrect concerning the internal structure of the midbrain?

a) The tectum is the part posterior to the cerebral aqueduct

b) The crus cerebri on each side lies anterior to the substantia nigra

c) The tegmentum lies posterior to the substantia nigra

d) The central gray matter encircles the red nuclei

4. Which of the following does not match between an artery and its branch?

a) Internal carotid/ posterior communicating

b) Basilar/ posterior inferior cerebellar

c) Vertebral/ anterior spinal

d) Anterior cerebral/ anterior communicating

e) Ophthalmic/ anterior ethmoidal

5. The _____ of the spinal nerve contains both motor and sensory fibers:

a) Anterior ramus

b) Posterior ramus

c) Main trunk

d) All of the above

e) None of the above

6. Concerning the middle cerebral artery:

a) It supplies the auditory area

b) One of its branches is called the artery of cerebral haemorrhage

c) Supplies the motor and sensory areas of the whole body

d) All of the above

e) A and B only

7. Concerning the central sulcus of the cerebral hemisphere, select the incorrect statement:

a) It is one of the two major sulci found on the lateral surface

b) It is also called the fissure of Sylvius

c) It separated the motor from the sensory area

d) It runs from the centre of the upper border to a point above the lateral fissure

e) It usually extends for some distance on the medial surface

8. The motor area for speech usually lies in which gyrus?

a) Inferior temporal gyrus of the left hemisphere

b) Superior frontal gyrus of the right hemisphere

c) Inferior frontal gyrus of the right hemisphere

d) Superior frontal gyrus of the left hemisphere

e) Inferior frontal gyrus of the left hemisphere

9. Select the incorrect statement:

a) When the fetus is three months old the length of the spinal cord is equal to

the length of the vertebral canal

b) At birth the spinal cord reaches the level of the third lumbar vertebra

c) The dura mater end in the second lumbar vertebra

d) As development proceeds the vertebral column grows faster than the spinal cord

e) The spinal pia mater extends as the filum terminale

10. An epidural hermatoma would most likely result from:

a) A tear in the middle meningeal artery due to a fractured parietal bone

b) A tear in a cerebral vein passing from the subarachnoid space into the superior sagittal sinus

c) An aneurism of the middle cerebral artery

d) An aneurism of the middle cerebral vein

e) A tear in the basilar artery

11. Which of the following is NOT gray matter of the brain:

a) Corpus callosum

b) Cerebellar cortex

c) Basal ganglia

d) Thalamus

e) Mammillary body

12. Which of the following vessels run in the lateral fissure:

a) Middle cerebral artery

b) Anterior cerebral artery
c) Superior cerebellar artery
d) Great cerebral vein of Galen
e) Sterocleidomastoid artery

13. Which of the following is white matter of the brain:

a) Cerebral cortex
b) Cerebellar cortex
c) Corpus callosum
d) Thalamus
e) Lentiform muscles

14. The following are parts of the hypothalamus *except*:

a) Supraoptic nucleus
b) Suprachiasmatic nucleus
c) Araventricular nucleus
d) Mamillary body
e) Pineal body

15. Arachnoid villi:

a) Are situated in the spinal cord
b) Are an integral part of the sigmoid sinus
c) Produce cerebrospinal fluid
d) Pass cerebrospinal fluid to the venous system
e) Are part of the true dura

16. Which statement about tracts and fibers in the brain is false:

a) The pyramidal tracts carry fibers from the precentral gyri
b) The somatic sensory tracts synapse in the

thalamus

c) Primary and secondary cortical areas are connected by association fibers

d) The optic tracts synapse in the lateral geniculate nuclei

e) The anterior commissure connect the two halves of the mesencephalon

17. The following statements concerning the subarachnoid space are true *except*:

a) It is filled with cerebrospinal fluid

b) It extends inferiorly as far as the second sacral vertebra

c) It contains the cerebral arteries and veins

d) The cranial nerves lie outside the subarachnoid space in sheaths derived from the dura

e) The arachnoid villi project into the venous sinuses as minute outpuchings of the subarachnoid space

18. Which of the following statements is incorrect concerning the lateral geniculate body:

a) The lateral geniculate body receives most of the fibers of the optic tract

b) Each lateral geniculate body receives visual information from the opposite field of vision

c) The lateral geniculate body has a nucleus made up of six layers of nerve cells

d) The lateral geniculate body is part of the midbrain at the level of the red nucleus

19. Which of the following regions of white matter would NOT contain corticospinal fibers?

a) Pyramid of medulla ablongata
b) Lateral white column of spinal cord
c) Cerebra peduncle of midbrain
d) Anterior limb of internal capsule

20. Which of the following concerning the basal nuclei (ganglia) is correct?

a) The amygdaloid nucleus is connected to the caudate nucleus
b) The claustrum does not form part of the basal nuclei
c) The corpus striatum lies medial to the thalamus
d) The lentiform nucleus is completely divided by the external capsule into the globus pallidus and the putamen

21. Which of the following statements is (are) correct concerning the internal capsule?

a) It has an anterior limb, a genu, and a posterior limb
b) The genu and the anterior part of the posterior limb contain the corticobulbar and corticospinal fibers
c) It is related laterally to the lentiform nucleus
d) It is continuous above with the corona radiate

e) All of the above

22. Which of the following statement is true?

a) Thyrocervical trunk comes off the second part of the subclavian artery

b) Costocervical trunk comes off the second part of the subclavian artery

c) Superior thyroid artery is a branch of the thyrocervical

d) Suprascapular artery is often a branch of the costocervical trunk

e) Internal thoracic artery is a branch of the third part of the subclavian artery

23. The Cerebrospinal fluid is present in:

a) Subarachnoid and subdural spaces

b) Subarachnoid space and ventricles of the brain

c) Subdural space but not in the suubarachnoid space

d) Subdural space and ventricles of the brain

e) None of the above

24. The cerebrospinal fluid is produced in:

a) 3rd ventricle

b) 4th ventricle

c) Lateral ventricle

d) Arachnoid villi

e) The cortex

25. Which of the following statements is correct?

a) The otic ganglion receives parasympathetic fibers

from the facial nerve
(VII)

b) The auriculotemporal nerve, a branch of the mandibular division of
trigeminal (V3), supplies sensory fiber to the external ear and to the
temporal region

c) Both the inferior alveolar nerve and the nerve to the mylohoid pass through
the mandibular canal

d) The chorda tympani carries postsynaptic sympathetic fibers

e) The pterygopalatine ganglion receives parasympathetic fibers from the
glossopharyngeal nerve (IX)

26. Which part of the brain is found in the middle cranial fossa:

a) Frontal lobe
b) Parietal lobe
c) Temporal lobe
d) Occipital lobe
e) Cerebellum

27. Regarding the meninges, which of the following is false?

a) The dura mater is sensitive to pain

b) Rupture of an aneurysm of a cerebral artery leads to subarachnoid hemorrhage

c) A torn middle meningeal artery bleeds into the space between the endosteal dura and the bones of the cranium

d) The cerebellomedullary cistern is a subarachnoid space between the medulla and the cerebellum

e) The diaphragma (tentorium) sellae is a double layer of arachnoid mater

28. A 24-year-old man received a gunshot that damaged his postcentral gyrus. This most probably will lead to:

a) Loss of ability to hear

b) Loss of ability to smell

c) Agraphia

d) All of the above

29. A 55-year-old woman received a severe head injury after which she is unable to recognize movement of an object (movement agnosia). Most probably this is due to damage of the:

a) Frontal lobe

b) Temporal lobe

c) Occipital lobe

d) Parietal lobe

30. Select the correct statement regarding the medial lemniscus:

a) It begins in the spinal cord
b) It is formed of the lateral and anterior spinothalamic tracts
c) It is concerned with proprioception (muscle-joint sense)
d) It ends in the sensory area of the cortex
e) It lies lateral to the spinal lemniscus

31. Concerning the medulla oblongata:
a) The abducent nerve emerges between its pyramid and pons
b) Rootlets of hypoglossal nerve emerges between the pyramid and olive
c) Damage to the anterior spinal artery leads to the medial medullary syndrome
d) Its closed part is at its lower end
e) All of the above

32. The basilar artery ends by dividing into:
a) Two middle cerebral arteries
b) Two anterior cerebral arteries
c) Two posterior cerebral arteries
d) Posterior communicating and anterior choroid
e) None of the above

33. The _____ wind around the lateral surface of the midbrain
a) Trochlear nerve
b) Optic tract
c) Posterior cerebral artery

d) All of the above
e) None of the above

34. The lateral surface of the cerebral hemisphere consists of the:

a) Tegmentum in front
b) Tectum in the middle
c) Basis pedunculi behind
d) All of the above
e) None of the above

35. The superior brachium connects the superior colliculus with the:

a) Hypothalamus
b) Uncus
c) Mamillary body
d) Lateral geniculate body

36. Select the wrong statement concerning the sulci of the cerebral hemisphere:

a) The parieto-occipital sulcus lies mainly on the medial surface of the cerebral hemisphere
b) The lateral sulcus divides into 3 branches
c) The central sulcus is called the fissure of Rolando
d) The parieto-occipital sulcus is called the fissure of sylvius
e) There are two major sulci on the lateral surface which help to divide the hemisphere into lobes

37. The visual area is found around the _____ sulcus:

a) Parieto-occipital
b) Callosal
c) Collateral
d) Calcarine
e) None of the above

38. The main sensory area of the cerebral hemisphere:

a) Lies in the frontal lobe
b) Lies in the postcentral gyrus
c) Receives pain, temperature, touch and proprioception
d) All of the above
e) Both B and C

39. The basal ganglia are all the following, *except*:

a) Amygdaloid nucleus
b) Claustrum
c) Uncus
d) Caudate nucleus
e) Lentiform nucleus

40. Select the wrong statement:

a) The pia mater is closely adherent to the spinal cord
b) The denticulate ligaments are thickening of the dura mater
c) The arachnoid mater lines the inner surface of the dura mater
d) The pia mater continues below as the film terminale

e) The dura mater ends at the level of the second sacral vertebra

41. Which match between the structure and part of the brain is false:

a) Thalamus- diencephalons
b) Cerebellum- rhombencephalons
c) Corpus callosum- telencephalon
d) Pons- mesencephalon
e) Tectum- mesencephalon

42. The medial medullary syndrome includes:

a) Contralateral hemiplegia
b) Ipsilateral paralysis of the tongue
c) Contralateral loss of the deep sensations
d) All of the above
e) None of the above

43. Select the correct pairing:

a) Stylopharyngeus- pharyngeal plexus
b) Stylophyoid- vagus nerve
c) Levator palate- glossopharyngeal nerve
d) Palatopharyngeus- pharyngeal plexus
e) Palatoglossus- hypoglossal nerve

44. Superior orbital fissure syndrome shows the

following signs *except*:

a) Loss of corneal reflex
b) Ptosis
c) Loss of blinking
d) Loss of pupil light reflex
e) Failure of accomodation

45. A subdural hermatoma can result from:

a) The rupture of a cerebral vein entering the superior sagittal sinus
b) The rupture of a vessel in the brain
c) The rupture of the middle meningeal artery
d) The rupture of one of the vessels forming the circle of Willis
e) The rupture of an aneurysm below the arachnoid

46. The corpus striatum is referred to as:

a) Caudate nucleus and putamen
b) Caudate nucleus and globus pallidus
c) Caudate nucleus and lentiform nucleus
d) Amygdaloid body and lentiform nucleus
e) Amygdaloid body and putamen

47. One of the following gyri is not-visible on the medial surface of the cerebral hemisphere:

a) Parahippocampal
b) Cingulate
c) Uncus
d) Angular
e) Lingular

48. One of the following arteries does not contribute to the sides of the circle of Willis:

a) Vertebral
b) Anterior communicating
c) Anterior cerebral
d) Posterior communicating
e) Posterior cerebral

49. The ophthalmic artery is a branch of one of the following arteries:

a) Internal carotid
b) Anterior cerebral
c) Middle cerebral
d) Anterior communicating
e) Anterior choroidal

50. Damage of the calcarine branches of the posterior cerebral artery of one side results in:

a) Alexia
b) Apraxia
c) Agnosia
d) Agraphia
e) Homonymous hemianopia (disturbance of vision)

51. All the following sulci are visible on the lateral surface of the cerebral hemisphere *except*:

a) Central
b) Lateral

c) Parieto-occipital
d) Calcarine

52. One of the following sulci is between the parietal lobe and the frontal lobe:

a) Lateral
b) Cingulated
c) Central
d) Collateral

53. Orbital gyri are part of the:

a) Frontal lobe
b) Occipital lobe
c) Parietal lobe
d) Temporal lobe

54. Corpus callosum is:

a) Commissural fibers
b) Association fibers
c) Projection fibers
d) Gray matter

55. Injury of the frontal lobe can lead to all of the following *except*:

a) Mood changes
b) Changes in social behaviour
c) Changes in personality
d) Loss of vision
e) Broca's aphasia

56. Prosopagnosia (difficulty in recognizing faces) is due

to injury of:

a) Parietal lobe
b) Occipital lobe
c) Temporal lobe
d) Frontal lobe

57. Concerning the mid brain:

a) It lies below the diencephalon
b) It occupies the notch (hiatus) of the tentorium cerebelli
c) It has roots of nerves concerned with innervation of the eye muscles
d) All of the above is correct
e) None of the above is correct

58. Concerning the cerebellum:

a) It is the largest part of the hind brain
b) It occupies the posterior cranial fossa
c) It is related laterally to the superior sagittal sinus
d) All of the above
e) A & B only

59. Concerning the lentiform nucleus:

a) Its lateral part is called putamen
b) Its medial part is called the globus pallidus
c) The putamen is darker than the globus pallidus in dissection
d) All of the above
e) A & B only

60. Select the incorrect statement:

a) The crossed pyramidal tract lies in the lateral white matter of the spinal cord

b) The fibers of the uncrosses pyramidal tract lie in the anterior white matter of the spinal cord

c) The cortico-spinal tract lies in the anterior limb of the internal capsule

d) The uncrossed pyramidal tract constitutes about 10-20% of the fibers of the original pyramidal tract when it lies in the pyramid

e) The pyramidal decussation lies in the lower part of the medulla

61. The ..... cranial nerve does not contain parasympathetic nuclei:

a) 3rd
b) 7th
c) 9th
d) 10th
e) 11th

62. The ..... of the spinal nerve contains both motor and sensory fibers:

a) Anterior ramus
b) Posterior ramus
c) Main trunk
d) All of the above
e) None of the above

63. The lobes of the cerebrum are:

a) Frontal, temporal, parietal, occipital

b) Frontal, temporal, parietal, pineal

c) Frontal, temporal, parietal, occipital, petrosal

d) Frontal, temporal, parietal, parieto-occipital, occipital

e) Frontal, temporal, parietal, olfactory, occipital

64. Which statement about synapses in the brain is false?

a) The motor tracts start at the precentral cortex

b) The conscious sensory function is transmitted by three order neurons

c) The somatic sensory tracts synapse in the thalamus

d) The pyramidal tracts synapse in the basal ganglia

e) The corticospinal tract decussates in the medulla oblongata

65. The following nuclei are contained in the medulla oblongata *except*:

a) Spinal nucleus of the trigeminal nerve

b) Dorsal vagus

c) Inferior olivary

d) Substantia glatinosa

e) Hypoglossal

66. Regarding the types of fibers found in spinal nerves and their components, which of the following is false?

a) White rami communicantes contain preganglionic sympathetic axons and visceral sensory fibers

b) Ventral rami contain somatic sensory, somatic motor, sympathetic and visceral sensory fibers

c) Dorsal roots contain visceral sensory and somatic sensory fibers

d) Gray rami communicantes contain postganglionic parasympathetic fibers that are destined for the body wall

e) A spinal nerve contains somatic motor and somatic sensory fibers, visceral sensory and visceral motor fibers

67. Regarding the spinal cord, which of the following is false?

a) Cell bodies of sympathetic neurons lie in the lateral horn of the spinal gray matter from T1-L2

b) In the typical adult the terminal end of the spinal cord lies within the vertebral canal at the level of vertebrae L1/L2

c) Denticulate ligaments are lateral extensions of the arachnoid mater

d) There are 31 segments of the spinal cord

e) Dorsal root ganglia are outside the spinal cord

68. Which of the following statements is true?

a) Cerebrospinal fluid (CSF) is found in the subdural space

b) From superficial to deep, the order of the meningeal layers is: dura mater, pia mater and arachnoid mater

c) The cauda equina is composed of ventral roots only

d) Cerebospinal fluid can be drawn from the sacral hiatus because the dural sac extends all the way down the coccyx

e) Ventral and dorsal roots come together in the intervertebral foramina to form the spinal nerves which then subsequently branch into ventral and dorsal rami

69. Which statement about the spinal cord is false?

a) The cervical spinal cord has 8 segments

b) The lumbosacral enlargement of the spinal cord is called the conus medullaris

c) Cell bodies of somatic motor nerves are located in the ventral horn

d) There are 5 pairs of sacral spinal nerves

e) The filum terminale attaches the inferior end of the spinal cord to the coccyx

70. The posterior horn of the spinal cord contains the following nuclei *except*:

a) Nucleus dorsalis

b) Gracicle

c) Proporius
d) Substantia glatinosa
e) Afferent visceral

71. The antereolateral sulcus of the medulla between pyramid & olive transmit:

a) Hypoglossal nerve
b) Spinal accessory nerve
c) 9th, 10th and 11th cranial nerves
d) All of the above
e) None of the above

72. The medial lemniscus:

a) Is a motor tract
b) Formed in the spinal cord
c) Does not cross to the opposite thalamus
d) Formed by gracile cuneate tracts
e) Ends in the medulla oblongata

73. The part of the rhomboid fossa in the medulla shows the following *except*:

a) Facial colliculus
b) Hypoglossal trigone
c) Vagal trigone
d) Vestibular area
e) Striae medullaris

74. Choose the true statement:

a) The arachnoid mater ends at S2
b) The spinal cord has a cervical enlargement and a lumbosacral enlargement

c) Cerebrospinal fluid (CSF) is found between the dura mater and arachnoid mater

d) The bundle of spinal nerve roots in the subarachnoid space caudal to the termination of the spinal cord is called conus medullaris

e) The spinal cord in the children ends at the level of L3

75. The following cranial nerves have parasympathetic functions *except*:

a) X
b) IX
c) VII
d) V
e) III

76. The spinal cord is supplied by the following arteries *except*:

a) Feeding
b) Anterior spinal
c) Posterior intercostal
d) Posterior spinal
e) Internal carotid

77. The dorsal root ganglion:

a) Contains somatic motor cell bodies
b) Contains parasympathetic cell bodies
c) Is also called the lateral horn

d) Contains visceral sensory and somatic sensory cell bodies

e) Is attached to whit and gray rami communicantes

Q1: Damage of the L1 vertebra will destroy:
<C> L1 – L2 spinal segments.
<C> L3 – L5 spinal segments.
<C+> Sacral spinal segments.
<C> T10 – T11 spinal segments.
<C> T10 – T12 spinal segments.

Q2: One of the following structures is important to recognize the position of the lower limbs:
<C> the medial lemniscus.
<C> the dorsal spinocerebellar tract.
<C> the spinothalamic tract.
<C> the ventral spinocerebellar tract.
<C+> the gracile tract.

Q3: the dorsolateral tract of Lissaure carries:
<C+> pain and temperature.
<C> Simple touch.
<C> Discriminative touch.
<C> Conscious proprioception.
<C> Unconscious proprioception.

Q4: the principle trigeminal nucleus receives:
<C> the pain fibers of the trigeminal nerve.
<C> the temperature fibers of the trigeminal nerve.
<C> the taste fibers of the facial nerve.
<C+> the discriminative touch fibers of the trigeminal nerve.
<C> the proprioceptive fibers of the trigeminal nerve.

Q5: the fibers of the arcuate bundle arise from:
<C> the motor cortex.
<C> the motor speech area.
<C> the supramarginal gyrus.
<C+> the sensory speech area.
<C> the thalamus.

Q6: Lesion in the tegmentum of the pons may damage the following, EXCEPT the:
<C+> corticopontine fibers.
<C> Spinal lemniscus.
<C> Trigeminal lemniscus.
<C> Medial lemniscus.
<C> Facial motor nucleus.

Q7: most of the fibers of the lateral lemniscus arise from the:
<C> inferior colliculus.
<C+> cochlear nuclei.
<C> solitary nucleus.
<C> vestibular nuclei.
<C> spinal trigeminal nucleus.

Q8: the Angular gyrus correspond to Brodmann's area #:
<C+> 39
<C> 44
<C> 43
<C> 40

Q9: most of the corticothalamic fibers are axons of the:
<C> granule neurons.
<C> cells of Martinotti.
<C+> fusiform neurons.
<C> small and medium pyramidal neurons.
<C> large pyramidal neurons.

Q10: the medial medullary syndrome is caused by damage of the:
<C> corticospinal, corticobulbar and corticopontine fibers.
<C> corticospinal tract and oculomotor nerve.
<C+> corticospinal tract, medial lemniscus and hypoglossal nerve.
<C> corticospinal tract and abducens nerve.
<C> crus cerebri and oculomotor nerve.

Q11: Paralysis of the right upper and lower limbs with paralysis of the left lateral rectus muscle suggest lesion in the:
<C> right medulla.
<C> left medulla.
<C> right pons.
<C+> left pons.
<C> right crus cerebri.

Q12: the posterior lobe of the pituitary gland developed from the:
<C> prosencephalon.
<C+> diencephalon.
<C> myelencephalon.
<C> rhombencephalon.
<C> neural crest.

Q13: the neural crest gives the:
<C> neculei.
<C> retina of the eye.
<C> medulla.
<C> pons and cerebellum.
<C+> ganglia.

Q14: one of the following neurons in the cerebellar cortex is excitatory:
<C> Purkinje cells.
<C> basket cells.
<C> stellate cells.
<C> Golgi-Type II neurons.
<C+> granule cells.

Q15: the cerebellum receives direct input from all of the followings, EXCEPT the:
<C> vestibular neuclei.
<C> reticular formation.
<C> spinal cord.
<C> pontine nuclei.
<C+> cerebral cortex.

Q16: A patient suffered a stroke and he sustained a speech pathology in terms of inability to understand what people are saying to him, most likely the stroke is due to blockade of:

<C> anterior cerebral artery.
<C> central branches of middle cerebral artery.
<C+> cortical branches of middle cerebral artery.
<C> central branches of posterior cerebral artery.
<C> cortical branches of posterior cerebral artery.

Q17: destroying the external segment of globus pallidus will be:
<C> excitatory to thalamus.
<C> inhibitory to subthalamic nucleus.
<C> it will not have an effect on thalamus.
<C+> inhibitory to thalamus.
<C> it will lead to Chorea-like symptoms.

Q18: all of the followings are true about the output of the basal nuclei EXCEPT:
<C> lenticular fasciculus represents the output which passes through internal capsule from internal segment of Globus pallidus to thalamus.
<C> Thalamic fasciculus results from union of lenticular fasciculus and ansa lenticularis.
<C+> subthalamic fasciculus represents the output from internal segment of globus pallidus to subthalamic nuceus.
<C> the output to the thalamus goes to the ventro-lateral and ventral anterior nuclei.
<C> the internal segment of globus pallidus sends output to the midbrain.

Q19: regarding the corticospinal tracts, All of the followings are true, EXCEPT:
<C> lesion within the right pyramid in rostral medulla affect contralateral muscles.
<C> lesion within the right cerebral peduncle of midbrain affect contralateral muscles.
<C+> the corticospinal tracts originate exclusively from the motor areas of the cerebral cortex.
<C> the lateral corticospinal tract descends through lateral funiculus of the spinal cord.
<C> the ventral corticospinal tract extends only to upper thoracic segments of the spinal cord.

Q20: which of the following tracts controls reflex movement of the head in response to visual stimuli?
<C> Vestibulospinal tract.
<C> Rubrospinal tract.
<C> Reticulospinal tract.
<C> Olivospinal tract.
<C+> Tectospinal tract.

Q21: the internal arcuate fibers arise from the:
<C+> gracile and cuneate nuclei.
<C> solitary nucleus.
<C> accessory cuneate nucleus.
<C> nucleus dorsalis of Clarke.
<C> spinal trigeminal nucleus.

Q22: widening of the anterior horn of the lateral ventricle may indicate to:
<C> hemipallismus.
<C> Parkinson disease.
<C+> chorea.
<C> athetosis.
<C> weber's syndrome.

Q23: Increased intracranial pressure must be treated aggressively to prevent:
<C> Hydrocephalus.
<C+> Brain herniation.
<C> Brain infarction.
<C> Dementia.
<C> Demyelination.

Q24: Diffuse axonal injury is identified in which of the following cases:
<C> A 70 year-old female dying two days after falling from the top of a tall building.
<C> A newborn with germinal matrix hemorrhage.
<C> A 60 year-old male dying one week after failed cardiopulmonary resuscitation.
<C> A hypertensive female with severe atherosclerosis in common carotid artery.
<C+> A 20 year-old comatose male dying two weeks after a car crash.

Q25: alpha-fetoprotein is useful for the pre-natal diagnosis of which one of the following conditions?
<C> Agenesis of the corpus callosum.
<C> Cerebellar cyst.
<C> Polymicrogyri.
<C+> Meningomyelocele.
<C> Holoprosencephaly.

Q26: In a patient who died of respiratory failure, the anterior spinal nerve roots of the cervical region are atrophic and cervical spinal cord anterior horns show neuronal loss with gliosis. Which of the following is the most likely diagnosis?
<C> Cytomegalovirus.
<C+> Poliomyelitis.
<C> Rabies infection.
<C> Herpes Zoster infection.
<C> Herpes Simplex viral infection.

Q27: A child sustained a linear skull fracture of the temporoparietal region & was brought to hospital in a conscious state but rapidly became unconscious. Which of the following is the most likely diagnosis?
<C> Acute subdural hematoma.
<C+> Epidural hematoma.
<C> Ruptured berry aneurysm.
<C> Cerebral edema with uncal herniation.
<C> Contusion of frontal lobes.

Q28: A patient developed a stroke, producing right sided hemiparesis which gradually improved in the next three months. Brain MR imaging now shows a 4 cm cystic area in the left parietal lobe. Which of the following is the most likely initiating vascular event?
<C> Embolism from a deep femoral vein.
<C> Thrombosis of the sagittal sinus.
<C+> Thrombosis of the left middle cerebral artery.
<C> Vasculitis of the left external carotid artery.
<C> Hematoma formation following trauma.

Q29: Cerebral artery thrombosis is usually associated with which of the following lesions?
<C> Hemorrhagic infarct.
<C+> Pale infarct.
<C> Intra-cerebral hemorrhage.

<C> Subdural hemorrhage.
<C> Subarachnoid hemorrhage.

Q30: Gliosis refers to:
<C> A malignant proliferation of astrocytes.
<C> Phagocytosis by microglia.
<C> The process of production and maintenance of CNS myelin.
<C+> The proliferation of astrocytes in the process of repair and scar formation resulting from injury.
<C> Expansion of the brain with resultant herniation.

Q31: Gamma amino butyric acid is derived from:
<C> glutamine.
<C> glycine.
<C> asparagines.
<C+> glutamic acid.
<C> tryptophane.

Q32: which of the followings belongs to catecholamines?
<C> Glutamic acid.
<C+> Dopamine.
<C> Gamma amino butyric acid.
<C> Acetylcholine.
<C> Melatonin.

Q33: which of the following is the most reliable laboratory method of neurotransmitters?
<C> Saliva.
<C> Serum.
<C> Plamsa.
<C> CSF.
<C+> Urine.

Q34: Select the correct pairing of a centrally acting drug with its therapeutic indication:
<C+> Selegiline ----- Parkinson's disease.
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<C> Bromocriptine.
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<C> Promethazine ----- vomiting.
<C+> Non of the listed.

Q48: Which of the following is a correct match between a drug and its indication?
<C> Zolpidem ----- mania.
<C> Thioridazine ----- induction of general anesthesia.
<C> Phenelzine ----- Alzheimer's dementia.
<C+> Clozapine ----- schizophrenia.
<C> All of the listed.

Q49: Each of the following is considered a neurotransmitter except:
<C> epinephrine.
<C> glycine.
<C> histamine.
<C> serotonin.
<C+> vasoactive intestinal polypeptide (VIP).

Q50: All of the following are parts of the limbic system, EXCEPT:
<C+> claustrum.
<C> hippocampus.
<C> fornix.
<C> mamillary body.
<C> cingulated gyrus.

Q51: stimulation of amygdala may mediate learned responses such as:
<C> rage.
<C> avoidance.

<C> punishment.
<C> reward.
<C+> fear and panic.

Q52: an impairment in the ability to perform certain types of learned, complex movements (referred to as apraxia) usually results from a lesion of the:
<C> precentral gyrus.
<C> postcentral gyrus.
<C+> premotor cortex.
<C> prefrontal gyrus.
<C> cingulated gyrus.

Q53: which of the following statements regarding the role of brainstem in control of motor function is true?
<C> Pontine reticulospinal tract excites limb muscles.
<C> Pontine reticulospinal tract inhibits axial muscles.
<C> Vestibulospinal tract inhibits antigravity muscles.
<C+> Medullary reticulospinal tract inhibits pontine reticulospinal tract.
<C> Pontine reticulospinal tract is located in the lateral column of the sp inal cord.

Q54: regarding seizures and epilepsy, all of the following are true EXCEPT:
<C> Seizures can occur in normal brain.
<C> Focal seizures may generalize.
<C+> Any person who has a seizure has epilepsy.
<C> Normal brain may be converted to epileptic brain.
<C> Seizures may occur with or without loss of consciousness.

Q55: which of the following mechanisms results in epileptogenesis:
<C> Action potential generalization.
<C+> Hyperexcitability.
<C> increased inhibitory neurotransmitters.
<C> decreased synchronization.
<C> hyperpolarizing conductances.

Q56: Fat pain is characterized by all the following except:
<C> transmitted by a delta fiber pathway.
<C> well localized.
<C> 1st order neuron terminate in lamina I.
<C+> 2nd order neuron goes to lamina V.
<C> not felt in most deep tissue.

Q57: All the followings can cause significant visceral pain except:
<C> ischemia.
<C> spasm of a hollow viscus.
<C> overdistension of a hollow viscus.
<C> chemical stimuli.
<C+> highly localized damage to the viscera.

Q58: Among all microorganisms causing meningitis, which of the following is isolated the most in most age groups?
<C+> Streptococcus pneumonia.
<C> E. coli.
<C> Neisseria meningitides.
<C> Hemophilus influenza.
<C> Staphylococcus aureus.

Q59: All of the following are microbiological properties of Neisseria meningitides EXCEPT:
<C> oxidase positive.
<C+> glucose non fermenter.
<C> bacteria grows on chocolate and cheep blood agar.
<C> does not require CO2 for growth.
<C> it does have Pili used for attachment.

Q60: Which of the following structure of Neisseria meningitides resembles the structure of sphingolipids in our brain tissue?
<C+> capsular polysaccharide type B.
<C> outer membrane proteins.
<C> Lipopolysaccharides of outer membrane.
<C> Lipo-oligosaccharides of outer membrane.
<C> capsular polysaccharide type C.

Pharmacology ::

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<C> Promethazine —— vomiting.
<C+> Non of the listed.

Q48: Which of the following is a correct match between a drug and its indication?
<C> Zolpidem —— mania.
<C> Thioridazine —— induction of general anesthesia.
<C> Phenelzine —— Alzheimer's dementia.
<C+> Clozapine —— schizophrenia.
<C> All of the listed.

Pharma :
- Lidocaine (1943) is the most widely used local anesthetic.
- bupivacaine, ropivacaine) can cause lethal arrhythmias in high concentrations.
- Vasoconstrictor substances such as epinephrine reduce the systemic absorption of the local anesthetic from the injection site
- Epinephrine, when used in spinal anesthesia, stimulates α_2-adrenoceptors which inhibit release of substance P (neurokinin-1) and reduce sensory neuron firing à enhancing and prolonging local anesthesia.
- Vasoconstrictors are less effective in prolonging anesthetic action of the more lipid soluble, long acting drugs
- At low concentration, all local anesthetics are able to produce sleepiness, dizziness, visual and auditory disturbances and restlessness.
- Cocaine cardiovascular toxicity – hypertension, arrhythmias and myocardial failure
- prilocaine during regional anesthesia may lead to accumulation of the metabolite o-toluidine, an oxidizing agent capable of converting hemoglobin to methemoglobin.

Adregonic antagonist :

- Tachycardia is more marked with nonselective α-blockers (α_1, α_2)

- Heart failure (??): Three β-antagonists have been proved to be useful in chronic heart failure (metoprolol, bisoprolol & carvedilol).

- Quaternary ammonium for use in asthma: Ipratropium.

- In all the drugs "kol el lectures" lazm t3rfi meen be3mal bronchodilation meen el 3aks o meen tachycardia o meen bradycardia "imp"

HOMEWORK: THE NORMAL DISTRIBUTION

PROBLEM 1:
Suppose that New York State high school average scores, for students who graduate, are normally distributed with a population mean of 70 and a population standard deviation of 13.

a) The "middle" 95% of all NYS high school students have average scores between _____ and _____?
b) What proportion of NYS high school students have average scores between 60 and 75?
c) Calculate the 14th percentile.
d) Calculate the 92nd percentile.

PROBLEM 2 :
Suppose CUNY professors have an average life, normally distributed, of 80 years with a population standard deviation of 9 years.

a)What percent of CUNY professors will live more than 96 years?
b) What percent of CUNY professors will not make it past the age of 60?
c) Calculate the 96th percentile.
d) Calculate the 2nd percentile.
e) What proportion of CUNY professors will live between 70 and 85 years?

PROBLEM 3:
Suppose the lifetimes of Hoover vacuum cleaners are normally distributed with an average life (μ) of 12 years and a population standard deviation (σ) of 1.4 years.

a) What proportion of Hoover vacuum cleaners will last 14 years or more?
b) What proportion of Hoover vacuum cleaners will last 9 years or less?
c) What proportion of Hoover vacuum cleaners will last between 11 and 13 years?
d) Calculate the 80th percentile.
e) Calculate the 7th percentile.

PROBLEM 4:
Scores of high school seniors taking the English Regents examination in New York State are normally distributed with a mean of 70 and a standard deviation of 10. Find the probability that a randomly selected high school senior will have a score between 70 and 75?

PROBLEM 5:
Science scores for high school seniors in the United States are normally distributed with a mean of 60 and a standard deviation of 15. Students scoring in the top 3% are eligible for a special prize consisting of a laptop and $5,000. What is the approximate cutoff score a student must get in order to receive the prize?