Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 1: What is the primary origin of the medial descending system?

a) Cerebellum

b) Basal ganglia

c) Brainstem

d) Motor cortex

e) Limbic system

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 2: What is the corticobulbar path?

a) Axons from sensory cortical areas that project to the olfactory bulb

b) Axons from motor cortical areas that project reciprocally to sensory cortical areas

c) Axons from motor cortical areas that project to the basal pontine nuclei bulb

d) Axons from sensory cortical areas that project to the limbic bulb

e) Axons from motor cortical areas that project to premotor and motor brainstem nuclei

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 3: Which are the output neurons from primary motor cortex?

a) Layer V neurons that project to lower motor neurons

b) Layer V neurons that project to secondary motor cortex

c) Layer V neurons that project to upper motor neurons

d) Layer V neurons that project to premotor cortex

e) Layer IV neurons that project to secondary motor cortex

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 4: What is the function of the hypothalamospinal tract?

a) Limb control

b) Axial control

c) Control of the emetic reflex

d) Control of distal musculature during locomotion

e) Autonomic control

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 5: The olivary pretectal nucleus receives primarily which input?

a) Melanopsin containing retinal ganglion cells

b) Lateral geniculate nucleus

c) Medial geniculate nucleus

d) Foveal cone receptors

e) Cochlear nuclei bilaterally

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 6: Which cerebral lobe, if any, does not have association areas?

a) Temporal

b) Occipital

c) Parietal

d) None of the listed lobes lack association areas; all have association areas

e) Frontal

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 7: Which is NOT a visual projection of axons from the retina?

a) Olivary pretectal nucleus

b) Inferior colliculus

c) Accessory optic nuclei

d) Suprachiasmatic nucleus

e) Lateral geniculate nucleus (LGN)

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 8: Melanopsin-containing retinal ganglion cells project to primarily to which two areas?

a) Lateral geniculate nucleus lamina 1 and 2

b) Superior colliculus and lateral geniculate nucleus

c) Inferior colliculus and medial geniculate nucleus

d) Lateral geniculate nucleus lamina 5 and 6

e) Pretectal area and hypothalamus

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 9: The suprachiasmatic nucleus receives primarily which input?

a) Melanopsin containing retinal ganglion cells

b) Cochlear nuclei bilaterally

c) Medial geniculate nucleus

d) Lateral geniculate nucleus

e) Foveal cone receptors

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 10: What is the primary stabilizing function of the medial vestibulospinal tract?

a) Bilateral control of the head

b) Ipsilateral control of the head

c) Ipsilateral control of the legs

d) Bilateral control of the legs

e) Contralateral control of the legs

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 11: What do the lateral descending pathways most directly control?

a) The trunk

b) The four spinocerebellar tracts

c) Locomotion

d) Axial musculature

e) The limbs

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 12: Which is responsible for your eyes automatically tracking the outside scene when you are in a traveling vehicle?

a) Suprachiasmatic nucleus

b) Accessory optic nuclei

c) Olivary pretectal areas

d) Medial superior olive

e) Lateral superior olive

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 13: To which does the corticotectal path contribute?

a) Recognition of faces

b) Control of the pharynx

c) Autonomic nervous system

d) Middle cerebellar peduncle

e) Body orientation and eye movements

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 14: Optic (visual) ataxia is best described as which?

a) Postural instability with eyes closed, but stable posture with eyes open

b) Postural instability due to ocular instability (involuntary eye movements)

c) Postural instability with eyes open, but stable posture with eyes closed

d) An inability to orient held objects to match the orientation of a seen object

e) Postural instability seen in the Romberg test, a positive Romberg sign

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 15: Cortical reflexes such as foot placement are mediated by which pathway?

a) Areas 3,1,2 to area 4

b) Area 17 to the ventral stream

c) Area 18 to V4a

d) Area 17 to area 18

e) Area 17 to the dorsal stream

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 16: Parietal lobe lesions often result in which deficit?

a) Akinesia or bradykinesia

b) Apraxia

c) Tremor

d) Ataxia of the trunk

e) Prosopagnosia

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 17: Which is NOT a feature of the medial corticospinal projection?

a) Controls axial musculature

b) Terminates bilaterally in the spinal cord

c) Decussates at the decussation of the pyramids

d) Controls trunk musculature

e) Originates largely from Brodmann's area 4

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 18: Which structure(s) is (are) believed to mediate optokinetic reflexes?

a) Medial superior olive

b) Accessory optic nuclei

c) Olivary pretectal areas

d) Suprachiasmatic nucleus

e) Lateral superior olive

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 19: Which is the destination of axons from the pretectal area?

a) Intermediolateral cell column

b) Lateral horn of spinal cord

c) Retina

d) Edinger-Westphal preganglionic parasympathetic nucleus

e) Tectum

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 20: Which is NOT a major neocortical efferent pathway?

a) Corticonigral

b) Corticothalamic

c) Corticospinal

d) Corticopontine

e) Corticostriate

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 21: What is the distinguishing feature of responses of melanopsin-containing retinal ganglion cells?

a) They are sent to the superior colliculus and lateral geniculate nucleus

b) They sense visual stimuli exclusively at the fovea

c) They persist for hours instead of adapting

d) They are sent to the inferior colliculus and medial geniculate nucleus

e) They are exclusively OFF type responses (decreased activity to light)

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 22: What do the medial descending pathways control?

a) The trunk

b) The upper limbs

c) Skilled hand movements

d) The dorsal and cuneo spinocerebellar tracts

e) The lower limbs