Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 1: Which is NOT a feature of the medial corticospinal projection?

a) Controls axial musculature

b) Controls trunk musculature

c) Originates largely from Brodmann's area 4

d) Decussates at the decussation of the pyramids

e) Terminates bilaterally in the spinal cord

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 2: What is the primary stabilizing function of the medial vestibulospinal tract?

a) Contralateral control of the legs

b) Bilateral control of the legs

c) Ipsilateral control of the legs

d) Ipsilateral control of the head

e) Bilateral control of the head

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 3: What is the distinguishing feature of responses of melanopsin-containing retinal ganglion cells?

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

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

c) They persist for hours instead of adapting

d) They sense visual stimuli exclusively at the fovea

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

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 4: Which is NOT a visual projection of axons from the retina?

a) Inferior colliculus

b) Suprachiasmatic nucleus

c) Lateral geniculate nucleus (LGN)

d) Accessory optic nuclei

e) Olivary pretectal nucleus

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 5: Melanopsin-containing retinal ganglion cells project to primarily to which two areas?

a) Pretectal area and hypothalamus

b) Inferior colliculus and medial geniculate nucleus

c) Superior colliculus and lateral geniculate nucleus

d) Lateral geniculate nucleus lamina 5 and 6

e) Lateral geniculate nucleus lamina 1 and 2

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 6: To which does the corticotectal path contribute?

a) Recognition of faces

b) Body orientation and eye movements

c) Control of the pharynx

d) Middle cerebellar peduncle

e) Autonomic nervous system

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 7: Which are the output neurons from primary motor cortex?

a) Layer V neurons that project to upper motor neurons

b) Layer V neurons that project to premotor cortex

c) Layer V neurons that project to secondary motor cortex

d) Layer V neurons that project to lower motor neurons

e) Layer IV neurons that project to secondary motor cortex

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 8: The olivary pretectal nucleus receives primarily which input?

a) Medial geniculate nucleus

b) Foveal cone receptors

c) Melanopsin containing retinal ganglion cells

d) Cochlear nuclei bilaterally

e) Lateral geniculate nucleus

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 9: Which is responsible for your eyes automatically tracking the outside scene when you are in a traveling vehicle?

a) Olivary pretectal areas

b) Suprachiasmatic nucleus

c) Medial superior olive

d) Lateral superior olive

e) Accessory optic nuclei

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 10: What do the lateral descending pathways most directly control?

a) Axial musculature

b) The limbs

c) The four spinocerebellar tracts

d) The trunk

e) Locomotion

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 11: What is the corticobulbar path?

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

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

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

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

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

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 12: Optic (visual) ataxia is best described as which?

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

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

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

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

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

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 13: What do the medial descending pathways control?

a) The trunk

b) The lower limbs

c) Skilled hand movements

d) The dorsal and cuneo spinocerebellar tracts

e) The upper limbs

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 14: Parietal lobe lesions often result in which deficit?

a) Akinesia or bradykinesia

b) Apraxia

c) Prosopagnosia

d) Tremor

e) Ataxia of the trunk

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 15: Which cerebral lobe, if any, does not have association areas?

a) Occipital

b) Temporal

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

d) Parietal

e) Frontal

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 16: The suprachiasmatic nucleus receives primarily which input?

a) Melanopsin containing retinal ganglion cells

b) Lateral geniculate nucleus

c) Medial geniculate nucleus

d) Cochlear nuclei bilaterally

e) Foveal cone receptors

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 17: Cortical reflexes such as foot placement are mediated by which pathway?

a) Area 17 to the dorsal stream

b) Area 17 to area 18

c) Area 17 to the ventral stream

d) Area 18 to V4a

e) Areas 3,1,2 to area 4

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 18: What is the function of the hypothalamospinal tract?

a) Limb control

b) Autonomic control

c) Control of distal musculature during locomotion

d) Axial control

e) Control of the emetic reflex

Lecture #09 Cerebral Cortex Vision, Motor Systems

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

a) Edinger-Westphal preganglionic parasympathetic nucleus

b) Retina

c) Intermediolateral cell column

d) Lateral horn of spinal cord

e) Tectum

Lecture #09 Cerebral Cortex Vision, Motor Systems

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

a) Corticospinal

b) Corticonigral

c) Corticothalamic

d) Corticopontine

e) Corticostriate

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 21: Which structure(s) is (are) believed to mediate optokinetic reflexes?

a) Lateral superior olive

b) Medial superior olive

c) Olivary pretectal areas

d) Accessory optic nuclei

e) Suprachiasmatic nucleus

Lecture #09 Cerebral Cortex Vision, Motor Systems

Question 22: What is the primary origin of the medial descending system?

a) Cerebellum

b) Basal ganglia

c) Limbic system

d) Motor cortex

e) Brainstem