Lecture #05 Diencephalon

Question 1: What is the function of the intralaminar thalamic nuclei?

a) Motor relay

b) Corticothalamic relay

c) Association relay

d) Increasing arousal

e) Corticolimbic relay

Lecture #05 Diencephalon

Question 2: Where is the reticular nucleus of the thalamus?

a) In the brainstem tegmentum from medulla to midbrain

b) Spread diffusely throughout the thalamus

c) In the central core region of the specific thalamic relay nuclei

d) Within the internal medullary lamina of the thalamus

e) Overlying the external medullary lamina on the lateral surface of the thalamus

Lecture #05 Diencephalon

Question 3: Thalamic syndrome includes emotional instability, dysesthesia, and what else?

a) Anterograde amnesia

b) Intractable pain

c) Bilateral loss of pain and temperature sensitivity

d) Retrograde amnesia

e) Ipsilateral sensory loss in the body and usually the head

Lecture #05 Diencephalon

Question 4: According to the review article by Janig et al. 2006, what is the proposed order of the four medial to lateral functional zones of the hypothalamus?

a) Medial, intermediate, tuberomammillary, lateral

b) Appetitive, thermoregulatory, osmotic regulatory, reproductive

c) Periventricular, intermediate, tuberomammillary, lateral

d) Neuroendocrine, circadian, visceral motor, behavioral control

e) Periventricular, medial, tuberomammillary, lateral

Lecture #05 Diencephalon

Question 5: Where is the massa intermedia?

a) Under the cerebral aqueduct

b) Between the left and right thalamus

c) Adjacent to the intralaminar nuclei

d) Adjacent to the reticular nucleus

e) Between the diencephalon and mesencephalon

Lecture #05 Diencephalon

Question 6: A lesion restricted to the ventral posterolateral (VPL) thalamic nucleus results initially in loss of sensation from which?

a) Contralateral half of the head and body

b) Contralateral half of the head

c) Ipsilateral half of the body

d) Contralateral half of the body

e) Ipsilateral half of the head and body

Lecture #05 Diencephalon

Question 7: The ventral posterolateral, ventral posteromedial, medial geniculate, and lateral geniculate nuclei of the thalamus are characterized by which?

a) Specific inputs and projecting to sensory areas of cortex

b) Specific inputs and projecting to limbic areas of cortex

c) Switching thalamocortical neurons between tonic and burst modes

d) Integrating different cortical areas

e) Specific inputs and projecting to motor areas of cortex

Lecture #05 Diencephalon

Question 8: Which of the thalamic nuclear groups is related to cingulate cortex?

a) Lateral

b) Preoptic

c) Anterior

d) Medial

e) Supraoptic

Lecture #05 Diencephalon

Question 9: Which of the following describes a feature of the organization of the hypothalamus?

a) It is divided from front to back into four regions of nuclei: preoptic, anterior, middle, and posterior

b) The lateral group of nuclei is divided into dorsal and ventral tiers

c) It is divided into lateral, medial, and anterior nuclei by the internal medullary lamina

d) It contains the pineal gland

e) It contains the subthalamic nucleus

Lecture #05 Diencephalon

Question 10: Which is a major nucleus of the subthalamus?

a) Pineal gland

b) Tuber cinereum

c) Subthalamic nucleus

d) Adenohypophysis

e) Suprachiasmatic nucleus

Lecture #05 Diencephalon

Question 11: Which of the following describes the organization of the hypothalamus?

a) It is divided into lateral, medial, and anterior nuclei by the internal medullary lamina

b) The lateral group of nuclei is divided into dorsal and ventral tiers

c) It contains the subthalamic nucleus

d) It is divided from medial to lateral into periventricular, medial, and lateral zones

e) It consists of the habenular nuclei and pineal gland

Lecture #05 Diencephalon

Question 12: The thalamic syndrome of Dejerine-Roussy (lesion destroying the Ventral Posterior Nucleus of thalamus) results initially in loss of sensation from which?

a) Ipsilateral half of the head only

b) Contralateral half of the body only

c) Ipsilateral half of the head and body

d) Ipsilateral half of the body only

e) Contralateral half of the head and body

Lecture #05 Diencephalon

Question 13: Which of the thalamic nuclear groups is related to prefrontal association cortex?

a) Preoptic

b) Medial

c) Lateral

d) Anterior

e) Supraoptic

Lecture #05 Diencephalon

Question 14: Destruction of which hypothalamic nucleus most directly disrupts sleep cycles?

a) Subthalamic

b) Suprachiasmatic

c) Reticular

d) Supraoptic

e) Tuberomammillary

Lecture #05 Diencephalon

Question 15: The fornix passes through the hypothalamus to synapse where?

a) Amygdala

b) Cingulate gyrus

c) Mammillary body

d) Medial dorsal nucleus (dorsomedial nucleus) of the thalamus

e) Anterior nucleus of the thalamus

Lecture #05 Diencephalon

Question 16: Which describes the ventromedial and lateral nuclei of the hypothalamus?

a) Contain neurons that respond to an increase in blood temperature

b) Control the wake-sleep cycle

c) Are responsible for the regulation of eating behavior

d) Receive their principal input from the postcommissural fibers of the fornix

e) Control water balance

Lecture #05 Diencephalon

Question 17: The sensory relay nuclei of the thalamus that project to primary sensory areas of the cortex are which?

a) Reticular, intralaminar, and midline

b) Anterior and lateral dorsal

c) Ventral anterior and ventral lateral

d) Dorsomedial, lateral posterior, and pulvinar

e) Ventral posterolateral, ventral posteromedial, medial geniculate, and lateral geniculate

Lecture #05 Diencephalon

Question 18: Which hypothalamic structure provides a major input to the anterior thalamic nucleus?

a) Interthalamic adhesion

b) Tuberomammillary

c) Mammillary body

d) Massa intermedia

e) Anterior

Lecture #05 Diencephalon

Question 19: Which hypothalamic region facilitates body heat conservation?

a) Supraoptic

b) Ventromedial

c) Posterior

d) Lateral

e) Tuberomammillary

Lecture #05 Diencephalon

Question 20: Which structures comprise the epithalamus?

a) Suprachiasmatic nucleus, medial geniculate nucleus, lateral geniculate nucleus

b) Ventral posteromedial nucleus, ventral posterolateral nucleus

c) Suprachiasmatic nucleus, pineal gland

d) Habenula, pineal gland

e) Septal nuclei, stria medullaris thalami

Lecture #05 Diencephalon

Question 21: The suprachiasmatic nucleus influences which diencephalic structure?

a) Pineal gland

b) Dejerine-Roussy

c) Substantia nigra pars compacta

d) Lateral geniculate nucleus (LGN)

e) Habenula

Lecture #05 Diencephalon

Question 22: Extending from the ventral surface of the hypothalamus is the tuber cinereum and what?

a) Reticular nucleus

b) Anterior pituitary

c) Massa intermedia

d) Neurohypophysis

e) Tuberomammillary nucleus