HETI MCQs Week 3 Nerves

1. Which of the following regarding nerve conduction is true?

Select one:

a. Myelinated fibres can reach up to 300m/s

b. Conduction speed increases with diameter Correct. Ganong 23rd Edition pg 89 table 4-1

c. C fibres can reach up to 30 m/s

d. The speed of proprioceptive fibres is greater than somatic motor nerve fibres

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3. With regard to the action potential of a neuron with an RMP of –70mV

Select one:

a. An increase in extracellular calcium concentration can stabilise the membrane Correct. Ganong 23rd Edition pg 85

b. The overshoot will not extend much past 0mV

c. The absolute refractory period occupies only 10% of repolarisation

d. The firing level is likely to be –30mV

4. Regarding nerve fibres

Select one:

a. Type A alpha unmyelinated fibres conduct impulses concerning proprioception

b. Type A beta unmyelinated fibres conduct impulses concerning light touch

c. Type C myelinated fibres in the dorsal root conduct impulses concerning pain and temperature

d. Type B myelinated fibres are located in preganglionic autonomic region Correct. Ganong 23rd Edition pg 89 table 4-1

5. B nerve fibres transmit impulses of which modality?

Select one:

a. Temperature

b. Proprioception

c. Postganglionic sympathetic

d. Preganglionic autonomic Correct. Ganong 23rd Edition pg 89 table 4-1

6. A decrease in extracellular K+:

Select one:

a. Makes the resting membrane more negative in nerve cells Incorrect. Ganong 23rd Edition pg 85

b. Causes a similar effect in nerve cells as a decrease in extracellular Na+

c. May decrease nerve cell action potential size

d. Causes a similar effect in nerve cells as an increase in extracellular Ca++

(The correct answer is: Causes a similar effect in nerve cells as an increase in extracellular Ca++) – but in Ganon, A is the correct answer!!

7. Saltatory conduction:

Select one:

a. Is unaffected by local anaesthetics

b. Is slower than non saltatory conduction

c. Is directly proportional in rate to the size of the action potential

d. Only occurs in myelinated neurons Correct. Ganong 23rd Edition pg 87

8. Which of the following nerve fibre types is most sensitive to hypoxia?

Select one:

a. B Correct. Ganong 23rd Edition pg 90 table 4-3

b. A-δ

c. A-β

d. A-α

9. Which fibre goes to the muscle spindle?

Select one:

a. B

b. A – β

c. A – α

d. A – γ Correct. Ganong 23rd Edition pg 89 table 4-1

10. With respect to nerve fibre types

Select one:

a. The speed of conduction is inversely proportional to the diameter of the fibre

b. Aδ fibres are concerned primarily with somatic motor function

c. Pain may be relayed by all fibre types

d. C fibres are more susceptible to local anaesthetics than A fibres Correct. Ganong 23rd Edition pg 90 table 4-3