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Basic Physiology

BP01 [aqr] [Mar05] [Jul05]

Gap junctions:

A. Maintain cellular polarity
B. Occur at the apices of cells
C. Have corresponding connections between cells
D. Are formed by ridges on adjacent cells
E. Gives cells stability and strength

BP02 [d] Bulk flow:

A. Is related to concentration gradient = diffusion
B. Is related to permeability coefficient = diffusion constant/membrane thickness ∴ diffusion not bulk flow
C. Depends on hydrostatic and oncotic pressure - impt in filtration ∴ bulk flow
D. ?

BP03 [gko] All of the following histamine effects are mediated by H2- receptors EXCEPT:

A. Vasodilatation
B. Bronchoconstriction
C. Gastric acid secretion
D. Tachycardia
E. Increased contractility

H1 effects include increased vascular permeability, peripheral vasodilation, bronchoconstriction**, itch**

H2 effects include increased myocardial contractility and heart rate, increased vascular permeability, peripheral vasodilation, bronchodilation**, and increased H+ secretion by gastric parietal cells**

BP04 [i] The trace element that is an integral component of carbonic anhydrase, lactic dehydrogenase, and several other peptidases:

A. Magnesium
B. Manganese

C. Zinc
D. Cobalt
E. Copper

BP05 [Jul04] [Mar05] [Jul05] An example of autoregulation is:

A. Renin angiotensin aldosterone
B. Tubuloglomerular feedback
C. Baroreceptors
D. ?
E. Increased tissue vascularity
Autoregulation = refers to the capacity of tissues to regulate their own blood flow.

BP06 [Jul04] [JUl05] Which is not essential for pain?

A. Conscious awareness
B. Actual tissue damage
C. *something like* May be modulated over time
D. ?

BP06b [Jul05] An alternative version: Which is not true of pain pathways?

A. Withdrawal pathways are involved
B. Emotional pathways are involved
C. Tissue damage must occur
D. Requires conscious awareness
E. ?

BP07 [Feb06] Tight junctions between cells:

A. impermeable to water and solutes
B. involved in active transport
C. permeable to water and solutes
D. permeability is NOT under hormonal control
E. permeable to large compounds (*or something else wrong*)

BP08 [July-07] Giant Squid Axons are used to study action potentials because:

A. They are large
B. They only contain sodium channels
C. ?

D. ?
E. ?
Alt: In regards to voltage gated Na+ channels:

A. Giant squid axons used to study as they only contain Na+ channels - also K
B. Blocked from the inside by tetrodotoxin - outside

BP09 Which is incorrect regarding the Kreb's cycle:

A. Acetyl-coA is metabolized to CO2 & H+
B. ?
C. Oxaloacetate is recycled
D. 12 ATP is generated
E. Cycle is continous during anaerobic metabolism but at slower rate

BP10 Cytochrome c oxidase catalyses

A. O2 + 2H+ -> H2O
B. ?
C. ?
D. H+ + HCO3- -> H2CO3
E. None of the above
(*Think this may have actually been asking about cytochrome a3*)

BP11 In regards to the Na+/K+ ATPase *new*

A. Three K+ out for every two Na+ pumped in
B. Stimulated by Ouabain
C.3ATP broken down to ADP and P for every 3Na+ pumped in
D.is inhibited by high extracellular concentrations of Na+
E. an electrogenic pump

BP12 [Feb12] Which of the following is not true regarding intracellular organelles:

A. The Endoplasmic reticulum is involved in protein synthesis
B. The Golgi apparatus ..?..
C. ..*Maybe an option about gene transcription..?..*
D. All cells contain a nucleus
E. ..*something true about peroxisome?*