**1.** A

[1

**2.** D

[1]

**3.** (a) I: presynaptic neuron / (pre)synaptic knob;  
II: binding site / (post synaptic) receptor for (neurotransmitter); 2

(b) (i) (Ca2+) diffuses into presynaptic neuron;  
causes vesicles to migrate / move to (presynaptic) membrane;  
causes vesicles to fuse with (presynaptic) membrane;  
causes / leading to exocytosis / release of neurotransmitter / named  
example; 2 max

[4

**4.** nerve impulse travels to end of presynaptic neuron;  
triggers influx of Ca2+;  
causes synaptic vesicles to fuse with membrane;  
release neurotransmitter molecules into synaptic cleft;  
(neurotransmitter) crosses / diffuses across channel;  
(neurotransmitter) binds to receptors on next / postsynaptic neuron;  
causes ion channels to open on neuron;  
*eg* Na+ diffuse into postsynaptic neuron;  
can inhibit / excite;  
by depolarizing;  
neurotransmitter broken down by enzymes;

[8]