

1. Please describe the neuronal and muscular component involved in the crossed-extensor reflex. (10%)
2. Please describe the similarities and differences of blood flow to the brain and skin. (10%)
3. Please describe how dopamine is synthesis and secretion in a neuron in the substantia nigra. (10 %)
4. Describe the following terms briefly
  - a. Synaptic integration (3%)
  - b. Referred pain (3%)
  - c. Somatesthetic (3%)
  - d. Genetic recombination (3%)
  - e. Endogenous opioid (2%)
  - f. Second messenger (2%)
  - g. Apoptosis (2%)
  - h. Hyperplasia (2%)
5. Based on your knowledge on female reproductive system, when you should have sex to avoid the pregnancy and when you should have sex to get pregnancy? Please correlate to the ovarian cycle and describe in detail! (10%)
6. Why do you have less urine when you stay in the dessert for one week without any supply of water? Please tell me the physiological mechanism! (10%)
7. How will your pancreas know to secret enzymes after your eating? Please tell me the physiological mechanism! (10%)
8. How does CPR (cardiopulmonary resuscitation) do for your life during emergency? (10%)
9. How do cells see hormone(s) and react? (10%)