

Answer a total of 5 out of the following 8 questions
(each 20 %):

1. Please describe how sensory receptors convey environmental signals to central nervous system in terms of receptor characteristics and impulse generation.
2. If all the neural connections between the hypothalamus and pituitary were severed, how do the pituitary hormones affected by the surgery influence physiological functions?
3. When the nerves from all the arterial baroreceptors are cut in an experimental animal, what would happen to its mean arterial pressure and explain why it happens.
4. A young man who has suffered a head injury seems to have recovered but is thirsty all the time, please explain what you think might be the cause.
5. There is disorder of the adrenal cortex in which excessive amount of androgens is produced. If this occurs in a woman, what will happen to her menstrual cycles?
6. List the changes (up or down) that occur during exercise for all relevant cardiovascular variables. What are the specific efferent mechanisms that bring about these changes?
7. A young woman suffered bile duct spasm which interferes the flow of bile juice to gastrointestinal tracts. In this case, what happen to her gastrointestinal functions?
8. What is the mechanism of water reabsorption in kidney, and how are the other ions or molecules coupled to it?