

Animal Physiology (動物生理學)

1. Define the term "hormones". Explain the mechanism of actions of (a) insulin and (b) glucagon in the lipid metabolism of the liver organ and adipose tissues. (hint: growth factor and protein hormone; 15%)
2. Identify the major source of leptin and neuropeptide Y and explain how leptin and neuropeptide Y help to regulate the body weight. (20%)
3. Define the term "hypertension". Explain how stress and a high-salt diet can contribute to hypertension and how captopril, an angiotensin-converting enzyme (ACE) inhibitor, is selected an antihypertensive drug. (20%)
4. Define the term "cancer". Explain why interleukin-2 can be used as an immunotherapeutical drug for cancer and explain the possible relationship between stress and susceptibility to cancer (hint: stress hormone). (15%)
5. Define the term "edema". Explain why hospitals use 5% dextrose and normal saline as intravenous infusions. Explain how antidiuretic hormone helps to regulate plasma osmolality and blood pressure. (20%)
6. Explain how contraceptive pills prevent ovulation and why all pregnancy tests assay for the presence of human chorionic gonadotropin (hCG) in blood or urine for the first 10 weeks. (10%)