

1. ANS and hormonal system will be actively functioning in response to stress for modulating the adaptive behavior. Please describe this process in detail (from sensory encoding to motor responses). (20%)
2. Explain the following terms (20%)
  - 1) Broca's aphasia
  - 2) anterograde amnesia
  - 3) lateral inhibition
  - 4) large amino acid transporter
3. Describe LTP(Long Term Potentiation) and its underlying mechanism(with a special emphasis on the ion-gated receptors) (20%)
4. Large doses of methamphetamine produced nigrostriatal dopamine toxicity. Lately, ADX (adrenalectomy) was found to protect the central nigrostriatal dopamine system from methamphetamine toxicity. Please design an experiment to explore the protective effects of ADX in this case. (20%)
5. Describe how the inner hair cells can "detect and distinguish" high- and low-pitched (frequencies) tone? (20%)