1. Which of the following is an exocrine example?
   1. **Sweat glands**
   2. Pituitary glands
   3. Insulin secretion
   4. Neurohypophysial secretion
   5. All of the above
2. Which hornone is the result of direct neurosecretion?
   1. **Vasopressin**
   2. GH
   3. TSH
   4. Cortisol
   5. Insulin
3. What chemical type is adrenaline?
   1. Peptide Hormone
   2. Protein Hormone
   3. Steroid Hormone
   4. **Biogenic Amine**
   5. None of the above
4. A pancreatic beta cell has insulin receptors which result in more insulin transcription. This is an example of:
   1. Paracrine Signaling and Negative Feedback
   2. Paracrine Signaling and Positive Feedback
   3. Autocrine Signaling and Negative Feedback
   4. **Autocrine Signaling and Positive Feedback**
5. How are cortisol levels induced?
   1. CRH receptors on the adrenal stimulate synthesis of cortisol
   2. CRH receptors on the adrenal stimulate secretion of cortisol
   3. **ACTH receptors on the adrenal stimulate synthesis of cortisol**
   4. ACTH receptors on the adrenal stimulate secretion of cortisol
   5. None of the above
6. Which hormone causes slower, but longer lasting changes in metabolism?
   1. Adrenaline
   2. Angiotensin II
   3. Insulin
   4. **Cortisol**
   5. Glucagon
7. Disruption of the infundibulum would affect the secretion of which hormone?
   1. Adrenaline
   2. **Oxytocin**
   3. Cortisol
   4. Insulin
   5. All of the above
8. Which hormone is **not** released from the anterior pituitary
   1. **GHRH**
   2. TSH
   3. ACTH
   4. Prolactin
   5. Growth Hormone
9. How does oxytocin modulate lactation?
   1. Promotes the synthesis of milk in the mammary glands
   2. Inhibits the synthesis of milk in the mammary glands
   3. **Promotes the vasoconstriction of mammary gland blood vessels**
   4. Inhibits the vasoconstriction of mammary gland blood vessels
   5. All of the above
10. A patient that has mutations in the IGF-1 receptor would be expected to have which phenotype?
    1. **Increased lipolysis**
    2. Reduced GH levels
    3. Reduced IGF-1
    4. Accelerated muscle growth
    5. All of the above
11. GH levels are highest at what time?
    1. Daytime, in young people
    2. **Nighttime, in young people**
    3. Daytime, in older people
    4. Nighttime, in older people
    5. Growth hormone levels do not change with age or time of day
12. Where is aldosterone synthesized?
    1. Juxtaglomerular cells
    2. Adrenal medulla
    3. **Adrenal cortex**
    4. Liver
    5. Collecting ducts of the kidney
13. What is the functional purpose of glucocorticoid-induced muscle degeneration?
    1. To improve muscle strength
    2. **To provide substrates for hepatic gluconeogenesis**
    3. To provide amino acids to the brain
    4. To utilize glucose in the muscle
    5. All of the above
14. In what ways are adrenaline and cortisol similar?
    1. Both promote glucose utilization in muscle
    2. **Both induce gluconeogenesis in the liver**
    3. Both cause peripheral insulin resistance
    4. Both are released from the adrenal medulla
    5. Both are steroid hormones
15. Pheochromocytomas would do what to insulin release
    1. Increase it, due to increased synthesis of cortisol
    2. Decrease it, due to increased synthesis of cortisol
    3. Increase it, due to increased release of adrenaline
    4. **Decrease it, due to increased release of adrenaline**
    5. A pheochromocytoma would have no effects on insulin release
16. Which hormone would be a useful potential therapy for an anorexic patient?
    1. Leptin
    2. Insulin
    3. Aldosterone
    4. **Ghrelin**
    5. PYY
17. If AgRP neuronal firing is inhibited what would happen?
    1. Appetite would be increased
    2. **Appetite would be decreased**
    3. Appetite would be unaffected
    4. All of the above
    5. None of a-c
18. How would a leptin mutant patient be treated differently than a “normal” obese patient?
    1. **Leptin would be effective, in contrast to most obese patients**
    2. Leptin would be effective, consistent with most obese patients
    3. Insulin would be effective, in contrast to most obese patients
    4. Insulin would be effective, consistent with most obese patients
    5. They would respond to treatment identically
19. When glucose enters a liver, adipose or muscle cell what is the mechanism?
    1. Active transport
    2. **Passive transport**
    3. Co-transport
    4. Antiporters
    5. Neurosecretion
20. What is the primary protein kinase that mediates insulin action?
    1. **Akt**
    2. PKA
    3. Glucagon
    4. GRK
    5. ACTH
21. During an oral glucose tolerance test, at peak glucose what is happening?
    1. Insulin levels are low, glucagon levels are low
    2. Insulin levels are low, glucagon levels are high
    3. **Insulin levels are high, glucagon levels are low**
    4. Insulin levels are high, glucagon levels are high
    5. Insulin levels are high, glucagon levels are unchanged
22. The induction of glucose production in the liver by epinephrine and glucagon…
    1. Uses the same receptors and the same downstream signaling mechanisms
    2. **Uses different receptors but the same downstream signaling mechanisms**
    3. Uses the same receptors but different downstream signaling mechanisms
    4. Uses different receptors and different downstream signaling mechanisms
    5. Glucose production is not regulated by epinephrine and glucagon
23. Why is insulin an ineffective therapy for type II diabetics?
    1. **It will alleviate hyperglycemia but not obesity**
    2. It will alleviate obesity but not hyperglycemia
    3. It will cause hyperglycemia
    4. It will reduce weight gain
    5. It will cause increased appetite
24. Which hormone responds fastest to hypoglycemia?
    1. Insulin
    2. Thyroid hormone
    3. Cortisol
    4. **Glucagon**
    5. Growth hormone
25. What type of hormone is vasopressin
26. Biogenic Amine
27. Protein
28. **Peptide**
29. Steroid
30. Vasopressin regulates blood volume via
31. Active transport of salts
32. Passive transport of salts
33. Active transport of water
34. **Passive transport of water**
35. The primary site of hormonal and neural interaction is which part of the brain?
    1. Prefrontal cortex
    2. Anterior pituitary
    3. Posterior pituitary
    4. **Hypothalamus**
    5. Adrenal gland
36. Cortisol is released from which part of the adrenal gland?
    1. Adrenal medulla
    2. **Zona Fasciculata**
    3. Zona Glomerulosa
    4. L-Cells
    5. Beta Cells