Assignment 11

1. Describe the major processes for the synthesis of norepinephrine from tyrosine.

2. Explain the role of dopamine in the regulation of mood and behavior.

3. Discuss the mechanism of action of a typical antidepressant drug.

4. Outline the steps involved in the synthesis of epinephrine from tyrosine.

5. Describe the role of norepinephrine in cognitive function.

6. Explain the role of dopamine in the regulation of locomotor activity.

7. Discuss the mechanism of action of a typical antipsychotic drug.

8. Outline the steps involved in the synthesis of serotonin from tryptophan.

9. Describe the role of norepinephrine in autonomic function.

10. Explain the role of dopamine in the regulation of appetite.

11. Discuss the mechanism of action of a typical anxiolytic drug.

12. Outline the steps involved in the synthesis of acetylcholine from choline and acetyl-CoA.

13. Describe the role of norepinephrine in the modulation of heart rate.

14. Explain the role of dopamine in the regulation of sleep.

15. Discuss the mechanism of action of a typical mood stabilizer drug.

16. Outline the steps involved in the synthesis of histamine from histidine.

17. Describe the role of norepinephrine in the modulation of blood pressure.

18. Explain the role of dopamine in the regulation of motor coordination.

19. Discuss the mechanism of action of a typical anti-nausea drug.

20. Outline the steps involved in the synthesis of bradykinin from angiotensin.

21. Describe the role of norepinephrine in the modulation of pain perception.

22. Explain the role of dopamine in the regulation of sexual function.

23. Discuss the mechanism of action of a typical anti-inflammatory drug.

24. Outline the steps involved in the synthesis of calcitonin from preprocalcitonin.

25. Describe the role of norepinephrine in the modulation of the immune system.

26. Explain the role of dopamine in the regulation of temperature.

27. Discuss the mechanism of action of a typical anti-convulsant drug.

28. Outline the steps involved in the synthesis of prostaglandins from arachidonic acid.

29. Describe the role of norepinephrine in the modulation of blood flow.

30. Explain the role of dopamine in the regulation of memory consolidation.

31. Discuss the mechanism of action of a typical anti-depressant drug.

32. Outline the steps involved in the synthesis of oxytocin from pro-opiomelanocortin.

33. Describe the role of norepinephrine in the modulation of the cardiovascular system.

34. Explain the role of dopamine in the regulation of the endocrine system.

35. Discuss the mechanism of action of a typical anti-psychotic drug.

36. Outline the steps involved in the synthesis of neurotensin from pre-pro-neurotensin.

37. Describe the role of norepinephrine in the modulation of the autonomic nervous system.

38. Explain the role of dopamine in the regulation of the respiratory system.

39. Discuss the mechanism of action of a typical anti-epileptic drug.

40. Outline the steps involved in the synthesis of enkephalin from pro-opiomelanocortin.

41. Describe the role of norepinephrine in the modulation of the digestive system.

42. Explain the role of dopamine in the regulation of the reproductive system.

43. Discuss the mechanism of action of a typical anti-migraine drug.

44. Outline the steps involved in the synthesis of endorphin from pre-pro-opiomelanocortin.

45. Describe the role of norepinephrine in the modulation of the immune response.

46. Explain the role of dopamine in the regulation of the endocrine-gland function.

47. Discuss the mechanism of action of a typical anti-arthritis drug.

48. Outline the steps involved in the synthesis of corticosteroids from cholesterol.

49. Describe the role of norepinephrine in the modulation of the hypothalamus.

50. Explain the role of dopamine in the regulation of the brain's reward system.

51. Discuss the mechanism of action of a typical anti-anxiety drug.

52. Outline the steps involved in the synthesis of oxytocin from pre-pro-opiomelanocortin.

53. Describe the role of norepinephrine in the modulation of the hypothalamic-pituitary axis.

54. Explain the role of dopamine in the regulation of the brain's motivational system.

55. Discuss the mechanism of action of a typical anti-headache drug.

56. Outline the steps involved in the synthesis of endogenous cannabinoids from arachidonic acid.

57. Describe the role of norepinephrine in the modulation of the brain's stress response.

58. Explain the role of dopamine in the regulation of the brain's sleep-wake cycle.

59. Discuss the mechanism of action of a typical anti-aging drug.

60. Outline the steps involved in the synthesis of melatonin from serotonin.