Psychological Disorders: General

1. What are psychological disorders?
2. What was the main treatment for some psychological disorders prior to the 1950’s?
3. What was the name of the Australian psychiatrist who first observed the effects of lithium in manic patients?
4. What is a diagnosis?
5. What are the three (3) goals of a diagnosis?
6. What is the main distinction used to separate psychological well-being from illness?
7. What is the DSM-III (or most recently, the DSM-IV)?
8. True or False. Diagnosis of a psychological disorder usually requires a single symptom.
9. True or False. Psychological disorders are primarily psychological in nature.
10. What is the argument given to conclude that drug treatment may violate patients’ legal rights?
11. Is drug therapy or psychotherapy better in the treatment of psychological disorders?
12. Are the side-effects of drugs unique to the treatment of psychological disorders?

Schizophrenia

1. What does the word "schizophrenia" literally mean?
2. What was the name of the German psychiatrist who first put together the major symptoms of schizophrenia?
3. What is meant by an active phase, a prodromal phase, and a residual phase of schizophrenia?
4. What are the five (5) hallmark symptoms of schizophrenia?
5. What are some examples of delusions?
6. Describe the following symptoms: thought broadcasting, thought insertion, thought withdrawal, control, paranoid delusions, delusions of grandeur, somatic delusions, loose associations, flat affect, catatonia, stereotypy?
7. What are some exclusion criteria associated with the diagnosis of schizophrenia?
8. What are some examples of prodromal and residual symptoms?
9. Which sensory modality is most frequently reported during a schizophrenic hallucination?
10. What is the age range when symptoms of schizophrenia usually first appear?
11. What is the approximate incidence of schizophrenia in the U.S. population?
12. Are men or women more likely to have a later onset of schizophrenia?
13. What are the 3 main types of evidence supporting a biological basis for schizophrenia?
14. What is the evidence for a genetic basis for schizophrenia (e.g. results from concordance studies)?
15. What is meant by the term "monozygotic twins that are mirror images" (monochorionic)?
16. How does the concordance rate for schizophrenia among monozygotic twins differ depending on whether the twins are monochorionic or dichorionic?
17. What are some evidence for a viral or nutritional contribution to the etiology of schizophrenia (hint: pregnancy)?
18. On the average, how does ventricular size compare between individuals with and without a history of schizophrenia?
19. What abnormalities have been found (during autopsy) in the hippocampus of individuals who had a history of schizophrenia (hint: pyramidal cells)?
20. On the average, how does neural activity in the prefrontal cortex compare between individuals with and without a history of schizophrenia?
21. How may alterations in prefrontal cortical activity in individuals with schizophrenia explain some of the symptoms associated with schizophrenia?
22. What are positive and negative symptoms of schizophrenia?
23. What is the dopamine hypothesis of schizophrenia?

24. What are two different ways in which there can be an overactivity of dopaminergic influence in the brain (hint: neurotransmitters or their receptors)?

25. What are the clues that led to the dopamine hypothesis of schizophrenia?

26. What are 3 different dopamine pathways of the brain originating with dopamine-containing cell bodies in the midbrain? Describe the part of the midbrain in which the cell bodies are located, their target (location of axon terminals) and the name of the pathway.

27. Describe a dopamine pathway that is contained within the hypothalamus.

28. What is a neuroleptic?

29. What are 2 of the most common traditionally prescribed antipsychotic drugs?

30. What are the trade names and chemical families associated with chlorpromazine and haloperidol?

31. Review the components of dopaminergic synaptic transmission (e.g. transport of precursor, neurotransmitter synthesis, transport into vesicles, influx of calcium, exocytosis, re-uptake, and degradation).

32. What is the direct synaptic mechanism of action of the drugs chlorpromazine and haloperidol (e.g. are they receptor agonists, receptor antagonists, uptake blockers, enzyme blockers, etc)?

33. What subclass of dopamine receptors does haloperidol bind to? Is it an agonist or antagonist?

34. What other subtypes of dopamine receptors have been identified?

35. Distinguish between an ionotropic receptor and a metabotropic receptor.

36. Where in the brain are the highest concentrations of D1, D2, D3, D4, and D5 receptors located?

37. Which other DA receptor subtype(s) is/are related to the D1 receptor?

38. Which other DA receptor subtype(s) is/are related to the D2 receptor?

39. What are autoreceptors?

40. What subtypes of dopamine receptors are believed to be both autoreceptors and post-synaptic receptors?

41. What effect does blocking an autoreceptor located on the presynaptic membrane of an axon terminal have on dopaminergic transmission?

42. How long after the onset of antipsychotic drug treatment does one typically see substantial improvement in the patient?

43. What long-term effects (after 1-2 weeks) do neuroleptics seem to have on dopaminergic transmission?

44. What is "depolarization block"?

45. Compare and contrast the tendency of phenothiazines and butyrophenones to produce Parkinson-like vs. anticholinergic side effects.

46. What are some examples of anticholinergic symptoms?

47. What is tardive dyskinesia?

48. What may be a mechanism causing the development of tardive dyskinesia after long-term neuroleptic treatment?

49. Is there a good way to treat tardive dyskinesia?

50. Distinguish between "receptor upregulation" and "receptor downregulation".

51. What is galactorrhea?

52. Why is milk production and secretion a side effect of many neuroleptics?

53. How does clozapine (Clozaril) differ in synaptic action and induced side effects from the traditional neuroleptics?

54. What is agranulocytosis?

55. What is neuroleptic malignant syndrome?

56. Compare the effectiveness of drug treatment vs. psychotherapy in treating the active phase of schizophrenia.

57. Compare the effectiveness of drug treatment vs. psychotherapy vs. drug treatment combined with psychotherapy in delaying the relapse of active schizophrenic symptoms.
Mood Disorders

1. What are moods?
2. What are two main types of mood disorders?
3. What is the difference between unipolar and bipolar disorder?
4. What is the difference between endogenous depression vs. reactive depression?
5. What is melancholic depression?
6. What are the 7 manic episode symptoms?
7. What are the 9 major depressive episode symptoms?
8. What is hypomania?
9. What is dysthymia?
10. What is cyclothymia?
11. How do bipolar and unipolar disorders differ in terms of the average age of onset, incidence (is there a gender difference?), and recurrence (relapse) rate?
12. What percent of individuals with major depressive disorder commit suicide?
13. What is the difference between a retrospective and a prospective study?
14. Is there a genetic contribution to Mood Disorders?
15. Which has a higher concordance rate: monozygotic twins for unipolar disorder or monozygotic twins for bipolar disorder?
16. Discuss the relationship between stress and depression.
17. What is the monoamine (or norepinephrine-serotonin) hypothesis of depression?
18. What is reserpine’s mechanism of action?
19. What is iproniazid’s mechanism of action?
20. What is imipramine’s mechanism of action?
21. What is the role of neurotransmitter uptake in the monoamine system?
22. What are two important noradrenergic and serotonergic nuclei within the brain?
23. Where do noradrenergic and serotonergic nuclei project to?
24. What is MHPG?
25. What is 5-HIAA?
26. Why are breakdown products for norepinephrine and serotonin measured from the cerebrospinal fluid?
27. What is a major problem of the monoamine hypothesis of depression?
28. What is a neuroendocrine abnormality that is frequently present in individuals with major depression?
29. What are the main components of the HPA axis?
30. Stress activates neurons containing what “factor” in the hypothalamus?
31. What is the hormone released by the anterior pituitary that is involved in the release of glucocorticoids?
32. What is the major glucocorticoid in humans released by the adrenal cortex?
33. What are two environmental factors that contribute to cortisol secretion?
34. At what time during the day is cortisol higher in most people?
35. Does increased cortisol levels cause depression?
36. True or False. Cerebrospinal fluid CRH levels are elevated in a subpopulation of depressed patients.
37. What sleep disturbances are associated with depression?
38. What is the association between cortisol levels and suicide?
39. What is dexamethasone?
40. What is the dexamethasone suppression test?
41. What changes in REM sleep onset are evident in many depressed individuals?
42. True or False. Sleep deprivation temporarily relieves depression.
43. What is the stress-diathesis hypothesis of depression?
44. What are 2 types of animal studies showing that early traumatic life events can produce depressive-like symptoms in adulthood?
45. What are 2 classes of drugs that are considered "typical" antidepressants?
46. What are monoamine oxidase inhibitors (MAOIs)?
47. According to the monoamine hypothesis of depression, why may MAOIs be beneficial in treating depression?
48. What are tricyclic antidepressants?
49. According to the monoamine hypothesis of depression, why may tricyclics be beneficial in treating depression?
50. Are transporters for serotonin (5HT), norepinephrine and dopamine identical? (Do all re-uptake inhibitors equally block all monoamine transporter molecules?)
51. What is the drug name and Trade name of 3 SSRIs?
52. Why are SSRIs now more widely prescribed than "typical antidepressants"?
53. How long after the onset of antidepressant drug treatment does one typically see improvement in the patient?
54. What proportion of depressed patients get better on antidepressant drug therapy?
55. Do drug therapy provide a cure for depression? Explain.
56. A new drug treatment strategy that is being explored for treating depression has combined treatment with an SSRI (e.g. paroxetine) and a 5HT1A antagonist (e.g. pindolol). a) What is the rationale for this new drug treatment? and, b) What is the result of preliminary studies with this new treatment?
57. What are 5 types of side effects of tricyclic antidepressants?
58. Which of these side effects can be life threatening with tricyclic overdose?
59. What is tyramine, and what are some examples of food sources of tyramine?
60. Why do individuals taking MAOIs have to limit their tyramine intake?
61. True or False. Tricyclics are more effective than MAOIs in treating depression.
62. True or False. SSRIs are more effective than "typical" tricyclics in treating depression.
63. What effect do antidepressants have on non-depressed individuals?
64. What are some side effects of SSRIs?
65. What is electroconvulsive therapy (ECT)?
66. What are the advantages of ECT?
67. What is the clearest side-effect of ECT?
68. What are 3 psychotherapeutic methods for treating depression?
69. True or False. Psychotherapy is as effective as drug therapy in preventing depressive relapse.
70. What traditionally has been the most effective drug treatment for bipolar disorder?
71. What effect can tricyclics have on individuals with bipolar disorder?
72. Does lithium treatment prevent or delay recurrence of depressive episodes and/or manic episodes?
73. What is the mechanism of lithium's action?
74. What are some side effects of lithium treatment?
75. What other class of drugs has recently been discovered to be beneficial in treating bipolar disorder?
76. What is believed to be a principal mechanism of action of carbamazepine and valproate?
77. Which responds better to psychotherapy, unipolar or bipolar disorder?
Anxiety Disorders

1. Distinguish between a) social phobia, b) simple (specific) phobia, c) post traumatic stress disorder (PTSD), d) panic disorder, e) agoraphobia, f) obsessive compulsive disorder, and g) generalized anxiety disorder.
2. What are the defining symptoms (13) associated with a panic attack (disorder)?
3. In general, what is the age of onset and prevalence for anxiety disorders?
4. What are the gender differences in the prevalence of anxiety disorders?
5. What are the defining symptoms (18) associated with generalized anxiety disorder?
6. What is the evidence for a genetic basis to anxiety disorders?
7. Which type of anxiety disorder does not appear to have a genetic component?
8. In what ways are anxiety disorders related to depression (e.g. symptoms, co-expression within individuals, co-expression within families, effective treatments)?
9. What are anxiolytics?
10. What are benzodiazepines?
11. What are 2 common benzodiazepines?
12. Describe the molecular features of a GABA_A receptor.
13. What is the mechanism of action of benzodiazepines?
14. What is the mechanism of action of barbiturates?
15. True or False. Alcohol is an anxiolytic.
16. How long after the onset of benzodiazepine treatment does one begin to see anxiolytic effects?
17. What are some side effects of benzodiazepines?
18. What is the most effective drug treatment for obsessive-compulsive disorder?
19. How does buspirone differ from benzodiazepines in terms of effectiveness in treating anxiety disorders, mechanism of action, the treatment time required for effectiveness to "kick in", and sedative side effects?
20. What brain structures (3) have been associated with anxiety disorders?
21. Are some of these structures more or less active than in normal individuals?
22. What receptor abnormality has been detected in some anxious patients?