(2 points) Give 2 reasons why it is important for psychological disorders to be accurately diagnosed.

______ (1 point) True or False. The DSM-IV describes the symptoms of acute intoxication with cannabis.

______ (1 point) True or False. According to the materialistic perspective on brain-mind relationships, psychotherapy is not an effective way to treat psychological disorders because psychotherapy cannot alter brain activity/function.

______ (1 point) A prodromal phase of schizophrenia

A. has psychotic symptoms
B. has more severe symptoms than the residual phase
C. frequently follows the active phase
D. all of the above are true
E. none of the above are true

(3 points) Match the following symptoms on the left with the general type of symptoms on the right. Note that more than 1 type of symptom may apply—indicate all types that do apply.

_____ delusions A. positive symptom
_____ prominent hallucinations B. negative symptom
_____ incoherence of thoughts C. psychotic symptom
_____ catatonia D. disorganized symptom
_____ flat affect
_____ avolition
(1 point) Describe what is meant by a delusion of reference.

______(1 point) Which of the following is not likely to be a symptom of a residual phase of schizophrenia?

A. marked social isolation
B. markedly peculiar behavior
C. inflated self-esteem or grandiosity
D. odd beliefs or magical thinking
E. all of the above are residual symptoms

(2.5 points) Compare and contrast schizophrenia, unipolar disorder and bipolar disorder in terms of:

A. age of onset
B. incidence or prevalence in the U.S.
C. incidence among females vs. males
D. genetic contribution to its etiology
E. relapse rate

(2 points) Describe a piece of evidence that suggests that viral/bacterial infection could be an etiological factor for schizophrenia.

______(1 point) Which of the following has been associated with schizophrenia?

A. reduced ventricular size
B. reduced activity in the prefrontal cortex
C. increased size of the hippocampus
D. disorganized position of neurons in the striatum
E. E. none of the above

(2 points) How may alterations in prefrontal cortical activity in individuals with schizophrenia explain some of the symptoms associated with schizophrenia?

(2 points) What is the dopamine hypothesis of schizophrenia?
(1 point) There may be overactivity of dopaminergic activity in the brain because

A. dopamine neurons fire action potentials more frequently than normal
B. dopamine neurons have more autoreceptors than normal
C. dopamine neurons have more monoamine oxidase than normal
D. target neurons for dopamine have fewer dopamine receptors than normal
E. all of the above

(1 point) What is a symptom of schizophrenia that may be associated with overactivity of the nigral-striatal pathway?

(1 point) What is a symptom of schizophrenia that may be associated with overactivity of the meso-limbic pathway?

(2 points) What are 2 functional domains (regions) that all neurotransmitter receptors have?

(1 point) A metabotropic receptor

A. doesn’t have a neurotransmitter binding domain
B. has an effector domain that forms an ion channel
C. is the general type of receptor for all dopamine receptors
D. is the general type of receptor for all GABA receptors
E. all of the above are true

(2 points) Circle the correct choice in each bracket that completes this sentence. All of the most effective typical neuroleptics are selective [ agonists ; antagonists ] for [ D1 ; D2 ; D3 ; D4 ; D5 ] receptors.
(2 points) What short-term effect (within the same day) does blockade of a D2 autoreceptor have on a dopamine neuron?

(2 points) What long-term effect (after 1-2 weeks) does blockade of a D2 autoreceptor have on a dopamine neuron?

(2 points) Keeping in mind the dopamine hypothesis of schizophrenia, why may the long-term effects of D2 autoreceptor blockade be beneficial in treating schizophrenia?

(2 points) What is tardive dyskinesia?

(2 points) Describe changes that may occur at dopamine synapses after long-term treatment with haloperidol or chlorpromazine that may account for the development of tardive dyskinesia?
(4.5 points) Match the following drugs/drug classes with the psychological disorder that they are most commonly used to treat. **Match only one disorder for each drug/drug class.**

- ______ neuroleptics A. panic disorder
- ______ tricyclics B. schizophrenia
- ______ benzodiazepines C. unipolar disorder
- ______ anticonvulsants D. bipolar disorder
- ______ MAOIs
- ______ SSRIs
- ______ lithium
- ______ clozapine
- ______ buspirone

(2 points) List 2 examples of anticholinergic effects of a drug.

(1 point) Phenothiazines produce anticholinergic side-effects because

A. the acetylcholine neurons require dopamine for normal function  
B. they are weak acetylcholine receptor antagonists  
C. dopamine and acetylcholine have very similar effects in the body  
D. they are weak acetylcholine receptor agonists  
E. acetylcholine also stimulates D2 receptors

(3.5 points) Match the following pharmacodynamic drug properties with the specific drugs. **Note some properties may apply to more than one drug—list all drugs that match those properties.**

- ______ strong D2 receptor antagonist A. haloperidol
- ______ strong D4 receptor antagonist B. chlorpromazine
(2 points) Describe the mechanism by which some antipsychotic drugs produce galactorrhea.

(2 points) List 2 advantages of using clozapine or risperidone to treat schizophrenia compared to the "typical" antipsychotic drugs.

(1 point) True or False. Psychotherapy combined with drug treatment is no more effective in delaying the relapse of a psychotic episode than is drug treatment alone.

(2.5 points) Describe the following in terms of depressive and manic episodes:

unipolar disorder
bipolar disorder
hypomania
dysthymia
cyclothymia

(2 points) List 2 symptoms of a manic episode
(2 points) List 2 symptoms of a depressive episode

(2 points) List 2 symptoms of an "atypical" depressive episode?

(2 points) Circle the correct choice in each bracket that completes this sentence. Cortisol is a [neurotransmitter; hormone] that is [elevated; reduced] in many individuals during a depressive episode.

______(1 point) True or False. Sleep deprivation temporarily relieves depression.

(2 points) What is the monoamine hypothesis of depression?

(1 point) What neurotransmitter is produced by many neurons whose cell bodies are located in the locus ceruleus?

(1 point) Where in the brain is the locus ceruleus located (be as specific as possible)?
(1 point) The raphe nuclei

A. are located in the medial pons
B. contain cell bodies of many neurons that produce dopamine
C. are located in the ventral tegmental area
D. contain cell bodies of many neurons that produce norepinephrine
E. refers to a nucleus of individuals that takes care of C.U.'s mascot

(2 points) Why is deprenyl (an MAO-B inhibitor) not effective in treating depression?

(6 points) Compare the receptor supersensitivity hypothesis of depression to the new variant on the norepinephrine/serotonin hypothesis of depression in terms of: 1) what is the proposed defect in the brain, 2) how do antidepressants correct this problem, 3) receptor downregulation.

(2 points) What is the rationale behind giving a 5HT1A receptor antagonist to supplement SSRI treatment of depression?
(2 points) What does "SSRI" stand for?

_____(1 point) SSRIs are now more widely prescribed than typical antidepressants because
A. SSRIs are more effective at relieving depression
B. SSRIs have less serious side effects
C. Drug companies more aggressively advertise for the use of SSRIs
D. SSRIs produce beneficial effects more rapidly
E. all of the above are true

_____(1 point) Which of the following is not a side effect that is typically seen with tricyclic treatment
A. anticholinergic effects
B. sedative effects
C. sexual dysfunction
D. weight gain
E. galactorrhea

_____(1 point) True or False. Tyramine is a toxin present in MAOIs, which can lead to tyramine poisoning and a hypertensive crisis.

(2 points) What traditionally has been the most effective drug for treating bipolar disorder?
(1 point) True or False. Continual lithium treatment of a person with bipolar disorder is effective in delaying the relapse/recurrence of both depressive episodes and manic episodes.

(1 point) True or False. Electroconvulsive therapy (ECT) is no longer used to treat depression.

(3 points) List 3 symptoms associated with a panic attack.

(3 points) Match the following anxiety disorders with a characteristic symptom:

______ "flash back" experiences of a traumatic event A. Panic disorder

______ persistent and recurrent unwanted thoughts B. Agoraphobia

______ recurrent unexpected panic attacks C. Social phobia

______ fear of being in public places D. Obsessive-Compulsive disorder

______ extreme anxiety of being evaluated by others E. Generalized anxiety disorder

______ continual worry about at least two different life circumstances F. Post-traumatic stress disorder

(2 points) What are "anxiolytics"?
____(1 point) GABA\textsubscript{A} receptors

A. are ionotropic receptors
B. bind GABA
C. bind benzodiazepines
D. bind barbiturates
E. all of the above are true

(2 points) Describe the mechanism by which benzodiazepines produce inhibition of neurons.

(1 point) The fastest relief from anxiety is produced by

A. diazepam (Valium)
B. fluoxetine (Prozac)
C. buspirone (Buspar)
D. all of the above drugs produce rapid relief from anxiety
E. none of the above drugs produce rapid relief from anxiety

Extra credit (Note: extra credit question also on the next page!):

(2 points) List 2 pieces of evidence suggesting that unipolar disorder and anxiety disorders are closely related.
(2 points) Although the use of pindolol, a 5HT1A receptor antagonist, may be a useful supplement to SSRI treatment of depression, what may be an eventual undesirable outcome of pindolol treatment?

(3 points) On the diagram of a dopaminergic synapse below, label the following items:

A. presynaptic neuron
B. postsynaptic neuron
C. synaptic cleft
D. dopamine precursor
E. amino acid transporter
F. monoamine transporter
G. dopamine transporter
H. dopamine synthesis
I. voltage-gated calcium channel
J. synaptic vesicle
K. autoreceptor
L. postsynaptic receptor