Use the following key to answer Questions 1-16.

a. 1,2, and 3 are correct
b. 1 and 3 are correct
c. 2 and 4 are correct
d. only 4 is correct
e. all are correct

1. The Central nervous system is comprised of:
   1. brain
   2. sympathetic nerves
   3. spinal chord
   4. parasympathetic nerves

2. The cerebrospinal fluid:
   1. is about 150 mL
   2. is produced and reabsorbed at a rate of about 150 mL/day
   3. is replaced every 4 to 6 hours
   4. is constant in volume

3. The blood brain barrier:
   1. is a physiological barrier separating brain and CSF fluid from substances carried in the blood
   2. allows brain and CSF composition to be different
   3. is determined at cell surfaces of the choroid plexus
   4. is permeable to water

4. The blood brain barrier is impermeable to:
   1. proteins
   2. carbon monoxide
   3. aniline dyes
   4. alcohol

5. In the case of drugs, the ability to cross the blood brain barrier:
   1. is greater if it is lipid soluble
   2. is less if it is ionized
   3. is dependent upon disease status
   4. is dependent upon amino acid transport

6. In normal CSF:
   1. protein levels are less than 800 mg/L
   2. protein levels are equal to serum
   3. glucose levels are 60-80% of serum
   4. glucose levels are equal to serum
7. The brain’s energy reserve:
   1. is similar to that of the liver
   2. is primarily the lipid of adipose tissue
   3. is in the grey matter
   4. is very small

8. The primary energy source(s) of the brain is/are:
   1. fatty acids
   2. triglycerides
   3. cholesterol
   4. glucose

9. Factors that determine whether a molecule will be excluded from the brain by the blood-brain barrier include:
   1. molecular weight
   2. molecular polarity
   3. molecular ionization
   4. capillary permeability

10. In the norepinephrine neuron the precursor amino acid tyrosine is taken up and converted to:
    1. levodopa
    2. dopamine
    3. phenylalanine
    4. norepinephrine

11. Serotonin neurons within the control nervous system use which amino acid precursor(s) to form the neurotransmitter?
    1. tyrosine
    2. phenylalanine
    3. norepinephrine
    4. tryptophan

12. Which of the following drugs is (are) used to treat psychiatric disorders:
    1. tricyclic antidepressants
    2. lithium
    3. monoamine oxidase inhibitors
    4. phenytoin

13. When monitoring drugs such as amitriptyline and imipramine
    1. the type of illness should be considered
    2. dexamethasone depression test results should be consulted
    3. care must be taken to keep specimens refrigerated
    4. the metabolites should also be monitored

14. Which of the following can act as neurotransmitters?
    1. acetylcholine
2. gamma-amino-butyric acid
3. dopamine
4. norepinephrine

15. Lithium is most useful for the treatment of:
   1. unipolar depression
   2. classical schizophrenia
   3. psychosis
   4. bipolar depression

16. The dexamethasone suppression test of cortisol is used to confirm the diagnosis of:
   a. unipolar depression
   b. bipolar depression
   c. psychoses
   d. classic schizophrenia
   e. none of the above

17. Antipsychotic drugs vary very little in their potency and greatly in their metabolism
   a. True
   b. False

Answer
1. b (p. 789)
2. e (p. 789)
3. e (p. 790)
4. b (p. 790-791)
5. a (p. 790)
6. b (p. 791, 801-803)
7. d (p. 792)
8. d (p. 792)
9. e (p. 790)
10. c (p. 793)
11. d (p. 793)
12. a (p. 800)
13. d (p. 803-804)
14. e (p. 792-793)
15. d (p. 800, 807)
16. a (p. 801)
17. b (p. 798-799)