For each numbered question or figure item, match the best answer.

**1-10. Cerebral Lobes** (a) frontal (b) insular (c) limbic (d) occipital (e) parietal (f) temporal

Where are these cortical areas?

1. Primary auditory cortex (A1)
2. Primary motor cortex (M1)
3. Primary somatosensory cortex (S1)
4. Primary visual cortex (V1)
5. Higher areas of ventral visual stream, WHAT?
6. Higher areas of dorsal visual stream, WHERE?
7. Broca's area, speech production.
8. Wernicke’s area, speech comprehension.
9. Gustatory area within lateral sulcus
10. Border of cerebral cortex

**11-15. Gyrus & Sulcus** (a) central sulcus (b) cingulate sulcus (c) corpus callosum (d) lateral sulcus (e) sagittal fissure

11. Connects left and right hemispheres.
12. Separates left and right hemispheres.
13. Separates allocortex and neocortex.
14. Separates frontal and parietal lobes.
15. Separates temporal from other lobes.

**16-21. Glial Cells** (a) astrocyte (b) ependymal cell (c) microglia (d) oligodendrocyte (e) radial glia (f) Schwann cell

17. Myelinating neuroglia of the peripheral nervous system.
18. Neuroepithelial cells forming cerebral spinal fluid.
20. Phagocytes of the central nervous system.
21. Star-shaped neuroglia recycling transmitters L-glutamic acid and GABA.

**22-27. Glutamate & GABA** (a) γ-amino-butyric acid (GABA) (b) GABA transaminase (c) L-glutamic acid (d) glutamic acid decarboxylase (GAD)

22. Major excitatory neurotransmitter in the brain.
23. Major inhibitory neurotransmitter in the brain.
25. Neurotransmitter of Purkinje cells of cerebellar cortex.
26. Enzyme that makes GABA.
27. Enzyme that degrades GABA.
28-32. **Axons & Dendrites** (True or False)

28. Dendritic spines are presynaptic compartments.
29. Dendritic spines are found only on dendrites of glutaminergic neurons.
30. Dendrites integrate and propagate post-synaptic signals to the cell body.
31. The diameter of axons tapers going away from the neuron cell body.
32. Nodes of Ranvier on myelinated axons are sites of synaptic excitation.

33-38. **Pyramidal Neurons** (a) apical dendrite (b) apical tuft (c) basal dendrites (d) collateral axons (e) major axon (f) oblique dendritic branches

39-43. **Pyramidal Cell Targets** (a) L1 (b) L2 (c) L3 (d) L4 (e) L5 (f) L6

39. Association to other areas of ipsilateral hemisphere.
40. Commissure to like areas of contralateral hemisphere.
41. Reciprocal modulator (READ) of thalamic input.
42. Same as the “granular layer”.
43. Subcortical target & non-reciprocal driver (WRITE) of higher-order thalamic relays.

44-50. **Vision** (a) cone cell (b) fusiform face area (c) lateral geniculate nucleus (LGN) (d) MT/V5 (e) pulvinar (f) rod cell (g) V4

44. First-order thalamic visual relay.
45. Higher-order thalamic visual relay.
46. Cortical site of color blindness.
47. Cortical site of face agnosia.
48. Cortical site of motion blindness.
49. Retinal site of color blindness.
50. Retinal site of night vision.