1. How should adjacent layer conductors be routed to reduce crosstalk?
   A. in parallel with each other
   B. perpendicular to each other
   C. routed at angles greater than 90°
   D. offset by one half the conductor width

2. What is the main purpose of ground?
   A. to reduce CTE
   B. to radiate RF energy
   C. provide ESD shielding
   D. provide an active return path

3. What voltage is used to determine minimum conductor spacing?
   A. RMS
   B. Peak
   C. Average
   D. constant load

4. What is impedance?
   A. voltage divided by device current
   B. the differential between AC and DC resistance
   C. the DC resistance per given length of conductor
   D. the property that resists the propagation of energy through the circuit

5. One of the most popular surface finish types uses solder as the surface protection metal. What is the acronym for this process?
   A. OSP
   B. HASL
   C. HAST
   D. SMOBC

6. What function does the flux perform just prior to the solder reflowing?
   A. modifies the surface tension
   B. sets up the bonding site metal
   C. establishes a neutral base condition
   D. cleans the metal surface and removes oxides

7. In determining how a board or array will be excised from its manufacturing panel what three considerations must the designer take into account? (select three)
   A. copper distribution
   B. component arrangement
   C. board construction lay-up
   D. tooling hole accessibility
   E. manufacturing removal preference
   F. maximum conductor clearance from board edges

8. What two factors are used to establish the size of an assembly array?
   A. the unit cost per panel
   B. conveyor width capability
   C. the probe concentration at electrical test
   D. the number of boards required for a production run
   E. the number of assembly arrays that can fit on a fabrication panel

9. Bare board electrical testing checks the unpopulated board for what conditions?
   A. bus and signals
   B. opens and shorts
   C. crosstalk and reflections
   D. circuit speed and modulation

10. What happens to potential radiation when an exact impedance match between the source (driver IC), transmission line conductor, and the load (input IC) exists?
    A. the radiation is increased
    B. the radiation is minimized
    C. the original signal is amplified
    D. the reflections from the source are power driven