G9C01 (A) p.150
Which of the following would increase the bandwidth of a Yagi antenna?
A. Larger diameter elements
B. Closer element spacing
C. Loading coils in series with the element
D. Tapered-diameter elements

G9C02 (B) p.148
What is the approximate length of the driven element of a Yagi antenna?
A. 1/4 wavelength
B. 1/2 wavelength
C. 3/4 wavelength
D. 1 wavelength

G9C03 (B) p.149
Which statement about a three-element, single-band Yagi antenna is true?
A. The reflector is normally the shortest element
B. The director is normally the shortest element
C. The driven element is the longest element
D. Low feed point impedance increases bandwidth

G9C04 (A) p.149
Which statement about a three-element, single-band Yagi antenna is true?
A. The reflector is normally the longest element
B. The director is normally the longest element
C. The reflector is normally the shortest element
D. All of the elements must be the same length

G9C05 (A) p.150
How does increasing boom length and adding directors affect a Yagi antenna?
A. Gain increases
B. Beamwidth increases
C. Front to back ratio decreases
D. Front to side ratio decreases

G9C06 (D) p.152
What configuration of the loops of a two-element quad antenna must be used for the antenna to operate as a beam antenna, assuming one of the elements is used as a reflector?
A. The driven element must be fed with a balun transformer
B. There must be an open circuit in the driven element at the point opposite the feed point
C. The reflector element must be approximately 5 percent shorter than the driven element
D. The reflector element must be approximately 5 percent longer than the driven element

G9C07 (C) p.149
What does "front-to-back ratio" mean in reference to a Yagi antenna?
A. The number of directors versus the number of reflectors
B. The relative position of the driven element with respect to the reflectors and directors
C. The power radiated in the major radiation lobe compared to the power radiated in exactly the opposite direction
D. The ratio of forward gain to dipole gain

G9C08 (D) p.148
What is meant by the "main lobe" of a directive antenna?
A. The magnitude of the maximum vertical angle of radiation
B. The point of maximum current in a radiating antenna element
C. The maximum voltage standing wave point on a radiating element
D. The direction of maximum radiated field strength from the antenna

G9C09 (B) p.150
How does the gain of two 3-element horizontally polarized Yagi antennas spaced vertically 1/2 wavelength apart typically compare to the gain of a single 3-element Yagi?
A. Approximately 1.5 dB higher
B. Approximately 3 dB higher
C. Approximately 6 dB higher
D. Approximately 9 dB higher

G9C10 (D) p.150
Which of the following is a Yagi antenna design variable that could be adjusted to optimize forward gain, front-to-back ratio, or SWR bandwidth?
A. The physical length of the boom
B. The number of elements on the boom
C. The spacing of each element along the boom
D. All of these choices are correct

G9C11 (A) p.150
What is the purpose of a gamma match used with Yagi antennas?
A. To match the relatively low feed point impedance to 50 ohms
B. To match the relatively high feed point impedance to 50 ohms
C. To increase the front-to-back ratio
D. To increase the main lobe gain

G9C12 (A) p.152
Which of the following is an advantage of using a gamma match for impedance matching of a Yagi antenna to 50 ohm coax feed line?
A. It does not require that the elements be insulated from the boom
B. It does not require any inductors or capacitors
C. It is useful for matching multiband antennas
D. All of these choices are correct

G9C13 (A) p.152
Approximately how long is each side of the driven element of a quad antenna?
A. 1/4 wavelength
B. 1/2 wavelength
C. 3/4 wavelength
D. 1 wavelength

G9C14 (B) p.152
How does the forward gain of a two-element quad antenna compare to the forward gain of a three-element Yagi antenna?
A. About 2/3 as much
B. About the same
C. About 1.5 times as much
D. About twice as much

G9C15 (B) p.152
Approximately how long is each side of the reflector element of a quad antenna?
A. Slightly less than 1/4 wavelength
B. Slightly more than 1/4 wavelength
C. Slightly less than 1/2 wavelength
D. Slightly more than 1/2 wavelength

G9C16 (D) p.153
How does the gain of a two-element delta-loop beam compare to the gain of a two-element quad antenna?
A. 3 dB higher
B. 3 dB lower
C. 2.54 dB higher
D. About the same

G9C17 (B) p.153
Approximately how long is each leg of a symmetrical delta-loop antenna?
A. 1/4 wavelength
B. 1/3 wavelength
C. 1/2 wavelength
D. 2/3 wavelength

G9C18 (A) p.153
What happens when the feed point of a quad antenna of any shape is moved from the midpoint of the top or bottom to the midpoint of either side?
A. The polarization of the radiated signal changes from horizontal to vertical
B. The polarization of the radiated signal changes from vertical to horizontal
C. There is no change in polarization
D. The radiated signal becomes circularly polarized

G9D05 (D) p.150
What is an advantage of vertical stacking of horizontally polarized Yagi antennas?
A. It allows quick selection of vertical or horizontal polarization
B. It allows simultaneous vertical and horizontal polarization
C. It narrows the main lobe in azimuth
D. It narrows the main lobe in elevation

G9D06 (A) p.154
Which of the following is an advantage of a log periodic antenna?
A. Wide bandwidth
B. Higher gain per element than a Yagi antenna
C. Harmonic suppression
D. Polarization diversity

G9D07 (A) p.154
Which of the following describes a log periodic antenna?
A. Length and spacing of the elements increase logarithmically from one end of the boom to the other
B. Impedance varies periodically as a function of frequency
C. Gain varies logarithmically as a function of frequency
D. SWR varies periodically as a function of boom length