

POOL2I.TXT

FCC Novice Exam Question Pool. Subelement 2I.
Antennas and Feed Lines. 3 Questions.

One (1) question must be from the following:

2I 1.1 A

What is the approximate length of a Half-Wave Dipole antenna for 3725 kHz?

- A. 126 ft.
- B. 81 ft.
- C. 63 ft.
- D. 40 ft.

2I 1.2 D

What is the approximate length of a Half-Wave Dipole antenna for 7125 kHz?

- A. 84 ft.
- B. 42 ft.
- C. 33 ft.
- D. 66 ft.

2I 1.3 C

What is the approximate length of a Half-Wave Dipole antenna for 21,125 kHz?

- A. 44 ft.
- B. 28 ft.
- C. 22 ft.
- D. 14 ft.

2I 1.4 C

What is the approximate length of a Half-Wave Dipole antenna for 28,150 kHz?

- A. 22 ft.
- B. 11 ft.
- C. 17 ft.
- D. 34 ft.

2I 1.5 D

How is the approximate length of a Half-Wave Dipole antenna calculated?

- A. By substituting the desired operating frequency for f in the formula : $150/f$ (MHz.)
- B. By substituting the desired operating frequency for f in the formula : $234/f$ (MHz.)
- C. By substituting the desired operating frequency for f in the formula : $300/f$ (MHz.)
- D. By substituting the desired operating frequency for f in the formula : $468/f$ (MHz.)

2I 2.1 D

What is the approximate length of a Quarter-Wave Vertical antenna adjusted to resonate at 3725 kHz.?

- A. 20 ft.
- B. 32 ft.
- C. 40 ft.
- D. 63 ft.

2I 2.2 D

What is the approximate length of a Quarter-Wave Vertical antenna adjusted to resonate at 7125 kHz.?

- A. 11 ft.
- B. 16 ft.
- C. 21 ft.
- D. 33 ft.

2I 2.3 B

What is the approximate length of a Quarter-Wave Vertical antenna adjusted to resonate at 21,125 kHz.?

- A. 7 ft.
- B. 11 ft.
- C. 14 ft.
- D. 22 ft.

2I 2.4 B

What is the approximate length of a Quarter-Wave Vertical antenna adjusted to resonate at 28,150 kHz.?

POOL2I.TXT

- A. 5 ft.
- B. 8 ft.
- C. 11 ft.
- D. 16 ft.

2I 2.5 A

When a vertical antenna is lengthened,
what happens to its resonant frequency?

- A. It decreases.
- B. It increases.
- C. It stays the same.
- D. It doubles.

2I 2.6 C

What is the approximate length (in inches) of a
5/8 Wavelength Vertical antenna for the 220 MHz. band?

- A. 19.5 Inches.
- B. 22 Inches.
- C. 28.5 Inches
- D. 32 Inches.

2I 2.7 B

Why do many Amateurs use a 5/8 Wavelength Vertical
Antenna rather than a 1/4 Wavelength Antenna
for their VHF or UHF mobile stations?

- A. A 5/8 Wavelength Antenna can handle more
power than a 1/4 Wavelength antenna.
- B. A 5/8 Wavelength Antenna has more
gain than a 1/4 Wavelength antenna.
- C. A 5/8 Wavelength Antenna exhibits less
corona loss than a 1/4 Wavelength antenna.
- D. A 5/8 Wavelength Antenna looks more like
a CB Antenna, so it does not attract as
much attention as a 1/4 Wavelength Antenna.

One (1) question must be from the following:

2I 3.1 D

What is COAXIAL CABLE?

POOL2I.TXT

- A. Two parallel conductors encased along the edges of a flat plastic ribbon.
- B. Two parallel conductors held at a fixed distance from each other by insulating rods.
- C. Two conductors twisted around each other in a double spiral.
- D. A center conductor encased in insulating material which is covered by a conducting sleeve or shield and encased in a weatherproof jacket.

2I 3.2 B

What kind of antenna feed line is constructed of a center conductor encased in insulation which is then covered by an outer conducting shield and weatherproof jacket?

- A. Twin Lead.
- B. Coaxial Cable.
- C. Open-Wire Feed Line.
- D. Waveguide.

2I 3.3 B

What are some advantages in using Coaxial Cable as an antenna feed line?

- A. It is easy to make at home, and it has a characteristic impedance in the range of most common amateur antennas.
- B. It is weatherproof, and it has a characteristic impedance in the range of most common amateur antennas.
- C. It can be operated at a higher SWR than twin lead, and is weatherproof.
- D. It is unaffected by nearby metallic objects, and has a characteristic impedance that is higher than twin lead.

2I 3.4 B

What commonly available antenna feed line can be buried directly in the ground for some distance without adverse effects?

- A. Twin Lead.
- B. Coaxial Cable.
- C. Parallel Conductor.
- D. Twisted Pair.

2I 3.5 C

When an antenna feed line must be located near grounded metal objects, which commonly available feed line should be used?

- A. Twisted Pair.
- B. Twin Lead.
- C. Coaxial Cable.
- D. Ladder Line.

2I 4.1 B

What is Parallel Conductor Feed Line?

- A. Two conductors twisted around each other in a double spiral.
- B. Two parallel conductors held a uniform distance apart by insulating material.
- C. A conductor encased in insulating material which is then covered by a conducting shield and a weatherproof jacket.
- D. A metallic pipe whose diameter is equal to or slightly greater than the wavelength of the signal being carried.

2I 4.2 C

How can TV TYPE TWIN LEAD be used as a feed line?

- A. By carefully running the feed line parallel to a metal post to insure self resonance.
- B. TV Type Twin Lead can not be used in an Amateur Radio Station.
- C. By installing an impedance matching network between the transmitter and the feed line.
- D. By using a high power amplifier and installing a power attenuator between the transmitter and feed line.

2I 4.3 D

What are some advantages of using Parallel Conductor Feed Line?

- A. It has a lower characteristic impedance than coaxial cable and will operate at a higher SWR than coaxial cable.
- B. It will operate at a higher SWR than coaxial cable and it is unaffected by nearby metal objects.
- C. It has a lower characteristic impedance than coaxial cable and has less loss than coaxial cable.
- D. It will operate at a higher SWR than coaxial cable

and has less loss than coaxial cable.

2I 4.4 A

What are some disadvantages in using parallel conductor feed line?

- A. It is affected by nearby metallic objects and it has a characteristic impedance that is too high for direct connection to most Amateur transmitters.
- B. It is more difficult to make at home than Coaxial Cable and it can not be operated at high SWR.
- C. It is affected by nearby metallic objects and it can not handle the power output of typical Amateur transmitters.
- D. It has a characteristic impedance that is too high for direct connection to most Amateur transmitters and it will operate at high SWR.

2I 4.5 B

What kind of antenna feed line is constructed of two parallel conductors maintained a uniform distance apart by insulated spreaders?

- A. Coaxial Cable.
- B. Ladder Line open conductor line.
- C. Twin Lead in a plastic ribbon.
- D. Twisted Pair.

One (1) question must be from the following:

2I 5.1 A

What type of pattern is produced by a $5/8$ Wavelength Vertical Antenna?

- A. A pattern with the transmitted signal spread out equally in all directions.
- B. A pattern with more of the signal concentrated in one direction than in other directions.
- C. A pattern with most of the transmitted signal concentrated in two opposite directions.
- D. A pattern with most of the transmitted signal concentrated at high radiation angles.

2I 6.1 B

What type of pattern is produced by a YAGI Antenna?

- A. A pattern with the transmitted signal spread out equally in all directions.
- B. A pattern with more of the signal concentrated in one direction than in other directions.
- C. A pattern with most of the transmitted signal concentrated in two opposite directions.
- D. A pattern with most of the transmitted signal concentrated at high radiation angles.

2I 6.2 D

On the Yagi Antenna show in Figure 2I-6, what is the name of section B ?

- A. Director.
- B. Reflector.
- C. Boom.
- D. Driven Element.

2I 6.3 A

On the Yagi Antenna show in Figure 2I-6, what is the name of section C ?

- A. Director.
- B. Reflector.
- C. Boom.
- D. Driven Element.

2I 6.4 B

On the Yagi Antenna show in Figure 2I-6, what is the name of section A ?

- A. Director.
- B. Reflector.
- C. Boom.
- D. Driven Element.

2I 6.5 C

Approximately how long (in wavelengths) is the driven element of a YAGI Antenna?

- A. 1/4 Wavelength.
- B. 1/3 Wavelength.

POOL2I.TXT

C. 1/2 Wavelength.

D. 1 Wavelength.

End of Subelement 2I.