

Foundation Licence Practice Test -- QUESTIONS



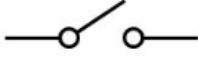




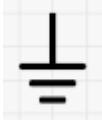
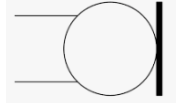
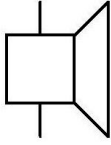
Page references are to the Handbook Third Edition

1. You get zapped touching a machine after walking on carpet. What sort of electric charge is this?
2. Complete the sentence. An electric current is
3. What is the difference between a conductor and an insulator?
4. If current moves only in one direction, how is this referred?
5. If current moves back and forth or is cyclic, how is this referred?
6. What does EMF stand for?
7. EMF goes by a common name as
8. What is the opposition to electron flow called and what unit is it measured in?
9. DC circuits are polarity critical. What does this mean?
10. What voltage can a single carbon zinc cell generate?
11. Draw the Ohms law triangle and enter the units. Page 9
12. Define and explain each of the units.
13. Calculate the following:

$E = 20\text{v}$	$I = 0.2\text{A}$Ohms
$I = 2\text{A}$	$R = 100\Omega$Volts
$R = 1000\Omega$	$E = 500\text{v}$ Amps
14. Resistors and other items are given a power rating. What unit is power measured in?
15. How is the value of a resistor displayed?
16. What is the formulae to calculate the power if the voltage and current are known?
17. Calculate the following:

$E = 20\text{v}$	$I = 0.2\text{A}$Watts
$I = 2\text{A}$	$R = 100\Omega$Watts
$R = 1000\Omega$	$E = 500\text{v}$Watts

18. What do the following symbols represent? Page 75

<p>A </p>	<p>B </p>
<p>C </p>	<p>D </p>
<p>E </p>	<p>F </p>
<p>G </p>	<p>H </p>
<p>I </p>	<p>J </p>

19. In question 18 A, which side is positive?

20. How are conductors shown in a circuit?

21. Draw a circuit of a torch with a battery, closed switch and a lamp. Page 10

22. What do the following readings mean? Eg 1kV means 1kilo volt or 1000v

6mv 10MΩ 66μA

23. What is the unit of frequency?

24. What does the terms MF, HF VHF and UHF represent and what frequency range applies to theses?

25. What band would 2M or 144MHz band fall within?

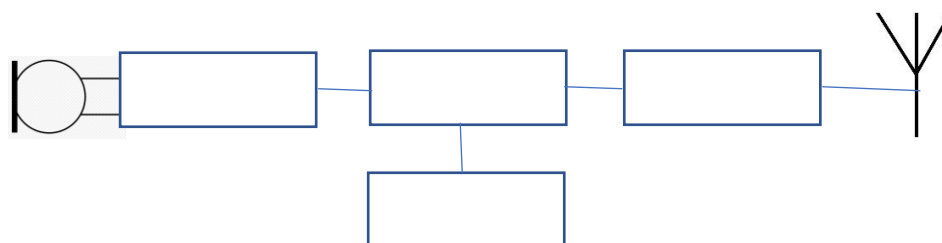
26. Why do we have dedicated amateur bands?

27. Describe the wavelength of a signal.

28. Wavelength is calculated by dividing 300 by the frequency in MHz.

$\lambda = 300 / \text{frequency in MHz}$. What is the wavelength of a 28MHz signal?

29. To transmit information over a distance, a carrier signal needs to be modulated in some way. The two common ways this is done is by AM and FM. What do these terms mean and how does it work?
30. What does the term USB LSB mean?
31. What is the maximum peak power level a Foundation licence holder can emit?
32. What does "frequency deviation" mean in regard to an FM signal?
33. When modulating a carrier signal with voice, what is the approx. audio frequency range of the modulating signal?
34. What is signal bandwidth?
35. What is a detector and a discriminator?
36. Three aspects of a receiver are sensitivity, selectivity and stability. What does each term mean?
37. What is the final stage of a transmitter?
38. What do transmission lines do? These are also referred to as feedlines or feeders.
39. What are the two types of feedlines?
40. What instrument would you use to test the continuity of a cable?
41. Why should antennas be fitted with lightning protectors?
42. Name five types of antenna.
43. What does SWR stand for and what does it measure?
44. What does ATU stand for and what does it do?
45. What device would you use if you wanted to test the output power of the transmitter without sending a signal up the antenna?
46. Fill in the name of the parts for a transmitter.



47. What is a balun?
48. With regards to antennas, what do the following terms mean?
Directivity, Gain, Beamwidth and Effective Radiated Power (ERP).

49. What do the terms horizontal, vertical and circular polarization mean with regards to antennas?
50. Convention has it that VHF, UHF and mobile signals are transmitted on a vertical antenna. What antenna polarisation should the receive antenna be?
51. Describe an isotropic antenna.
52. What are the four layers in the ionosphere that impact HF communications?
53. What happens to these layers during the night?
54. Why does sunspot activity impact HF radio communications?
55. The distance a VHF or UHF signal can travel under normal circumstances is defined by four factors. What are these?
56. What is Tropospheric ducting?
57. What is the MUF?
58. What is the radio squelch?
59. What does RIT stand for and how does this help the operator?
60. Can a Foundation licence holder modify their radio internals?
61. In the current Australian 240v wiring system, what colour is the earth wire?
62. Why is an earthing system, for both mains electrical and RF signals, so important?
63. What can happen if the antenna or the antenna tuner are not tuned correctly?
64. What equipment in your shack could give you an RF burn?
65. What is EMC and EMI
66. If your station causes interference, what should you do?
67. In an AM transmitter, what can happen if you over drive the AF stage of the transmitter?
68. What is a choke, why is it needed and how does it work?
69. What is the maximum power allowable for a Foundation licence?
70. On which bands is FM allowed with a Foundation licence?

71. What are the distress and urgency signals for both telephony and telegraphy?

Type	Telephony	Telegraphy
Urgency		
Distress		

72. Write the word " Antenna" using the phonetic alphabet.

73. What is CTCSS and DTMF?

74. What would be the call sign prefix for Tasmania and Northern Territory?

75. What is meant when you receive a signal from a VK3RNL?

76. What should you do, as a licenced amateur operator, if you change your address?

77. What is meant by QRN causing you to QSY?

78. Can any amateur transmit any entertainment or advertisements?

79. What does the giving of a signal report of 5/9 mean?

80. What is the third number in a signal report and when is it used?

81. You see someone being electrocuted, what should you do?

82. Why should your amateur station be secured at all times?