

1. What is Communication?
2. What are communication and information systems?
3. What is a radio link?
4. What are the 7 components of a radio link?
5. What is the purpose of the transmitter?
6. What is the purpose of the Power Supply?
7. What is the purpose of the Transmission Line?
8. What is the purpose of the Transmitting antenna?
9. What is the propagation path?
10. What is the purpose of the receiving antenna?
11. What is the purpose of the receiver?
12. What is the goal of the operator while transmitting?
13. What is propagation velocity?

14. What is wavelength?
15. What are some common means of communication?
16. What are basic rules for radio communications?
17. What should never be done while speaking on a radio?
18. What are procedure words?
19. What are common prowords?
20. What are common strength pro-words?
21. What are common readability pro words?
22. How are numerals transmitted during radio communications?
23. What are ways to improve transmission security?
24. Two types of communication that reconnaissance Soldiers must be subject matter experts in:
25. What is line of sight communication?
26. Due to the curvature of the earth an antenna that is 6 feet (2 meters) tall will transmit

27. LOS AN

28. Radio communication range is greatly influenced by three factors. What are they?

29. Any radio that transmits is a LOS radio. Due to infrastructure or radio band properties, some radios can provide Beyond LOS capabilities. What are these?

30. What is beyond line of sight communications?

31. Two types of beyond line of sight communications that are commonly used are?

32. Why is tactical satellite (TACSAT) radio a reliable beyond line of sight communication system?

33. What are the characteristics of the AN/PRC-117F?

34. What are the characteristics of the Advanced SINCGARS Improvement Program (ASIP)?

35. What are the characteristics of the MultiBand Intra/Inter Team Radio?

36. What are the characteristics of the MBITR2?

37. What are the characteristics of the AN/PRC-152?

38. What are the specifications of the AM/PRC-117G?
39. How are HF comms used?
40. What are the characteristics of the AN/PRC-150?
41. What are the characteristics of the AN/PRC-160?
42. Of the four LOS radios discussed; the AN/PRC-119 / 148 / 152, and MBITR2, which ones can achieve beyond LOS capabilities and how?
43. Though the AN/PRC-150 and AN/PRC-117 are larger than hand held radios, what are some of their capabilities?
44. What should you always do before you leave for a reconnaissance mission?
45. What is the life cycle of the different radio batteries?
46. Why are tactical radios necessary for combat operations?
47. What are the different types of radios?
48. What is the purpose of tactical radio networks?
49. What is a communications network?

50. What does successful HF performance depend on?
51. What characteristics of HF radios make them ideal for long distance, wide area communications?
52. What is radio frequency?
53. What is the formula for radio frequency?
54. What is the formula for wavelength?
55. What are the characteristics of HF frequency?
56. What are the characteristics of VHF frequency?
57. What are the characteristics of UHF frequency?
58. Radio waves travel two paths from a transmitter to a receiver. What are they?
59. How do different frequencies travel from transmitter to receiver?
60. What are the characteristics of Ground Wave Propagation?
61. What are the components of a ground wave
62. What is a direct wave?

63. What is a ground reflected wave?

64. What is a surface wave?

65. What does sky wave propagation depend on?

66. How many layers does the ionosphere have? What are these layers?

67. Describe each layer of the ionosphere?

68. What contributes to ionospheric variations?

69. What are regular ionospheric variations?

70. What must be anticipated when planning a communications system?

71. What are examples of irregular ionospheric variations?

72. How do sunspots impact wave propagation?

73. What is the range of long-distance radio transmission determined by?

74. What happens when radio waves are directed vertically at frequencies higher than the critical frequency?

75. What is skip distance?

76. What happens when the antenna of a radio is lowered?

77. What effect does raising the antenna have?

78. What occurs when a transmitted wave is reflected back to the surface of the Earth?

79. What is the maximum usable frequency?

80. How does the MUF compare to the critical frequency?

81. What frequencies lead to greatest absorption during the day?

82. What occurs as sky wave frequency decreases in frequency?

83. How is radio communications equipment primarily used?

84. What affects the propagation characteristics of a wave?

85. When is sky wave reception possible?

86. What are the usable ground waves in the very high frequency band?

87. What waves must be used for all transmissions in the ultrahigh frequency band?

88. What transmitters produce RF carriers?

89. What is amplitude modulation?

90. What causes the generation of additional RF signals?

91. What occurs when the RF carrier is modulated by complex tones?

92. What is the space occupied by a carrier and associated side bands?

93. What is frequency modulation?

94. What is the center, or rest, frequency?

95. What determines how far the carrier signal moves from the center frequency?

96. What causes variations of a FM signal leaving the transmitting antenna?

97. What is the purpose of the limiter?

98. What is the principle of single side band communications based on?

99. What is the upper side band?

100. What mode does most SSB equipment operate on?



101. Why is single side band transmission is used in applications?
102. When can SCR support long range communications?
103. How is MAGTF SCR equipment fielded?
104. What is HF radio equipment capable of?
105. What are high frequency communications capable of?
106. What are the primary advantages of using HF radio?
107. What are some of the limitations of using HF radios?
108. What does ground wave propagation involve?
109. What does sky wave propagation involve?
110. What is a skip zone?
111. What are near-vertical incident sky wave communications?
112. Why are NVIS communications useful?
113. What is the SINCGARS?

114. How many different SINCGARS configurations are available?
115. What improvements have been made to the SINCGARS radio?
116. What is the SINCGARS ASIP?
117. What is the AN/ARC-210 multipurpose radio?
118. What are essential for reliable communications?
119. What is the primary communications system for combat elements?
120. What are some of the limitations of VHF radios?
121. How may VHF comms be used?
122. What can interfere with VHF LOS?
123. What frequencies does UHF radio equipment operate within?
124. Where may UHF radios be used?
125. What is the primary limiting factor when using UHF radios?
126. What is the purpose of the Tactical Communications Interface Module?

127. What two factors play an important role in communication equipment siting?
128. What are some guidelines for using ground wave links near hills?
129. How are Long-distance, HF sky wave signals often best received?
130. What obstacle may weaken or stop a radio signal?
131. How can a solid obstacle actually improve a radio link?
132. What commo equipment may easily give up your location?
133. What are methods you can use to minimize the chances of signal interception?
134. How can the body impact radio comms?
135. What are considerations for the use of Backpack Sets (AN/PRC-119)?
136. What are considerations for the use of Hand-Held Sets (AN/PRC-68)?
137. What are considerations for VHF Siting?
138. What can weaken UHF and VHF frequencies?
139. What is the most important cause of a weak HF signal?

140. What is the purpose of grounding?
141. How should the ground stake be placed into the ground?
142. What are some examples of useful ground?
143. Why is a ground radial system necessary?
144. How are radials used?
145. When may a vertical whip antenna be used?
146. How can vehicle whips be employed in HF comms?
147. When may a sloping wire be used?
148. When may the OE-254 be used?
149. What are considerations for Vertical Whip antennas?
150. What are the considerations for antenna length?
151. What are the two principal sources of natural radio noise?
152. Where does most manmade interference come from?

153. What may also result in radio interference?
154. What may frequency interference be caused by?
155. What steps can be taken to improve comms in the event of frequency interference?
156. What are unauthorized frequencies?
157. There are not enough radio frequencies available for all radio operators to have their own channel. What does this mean?
158. What is the primary communication method in the desert?
159. Where should radio antennas be located for best operation in the desert?
160. What may some SCRs do if the internal temperature rises too high?
161. How can dust affect communication equipment?
162. How can heat affect wet cell batteries?
163. How can wind and sand damage communications equipment?
164. How can condensation damage communications equipment?
165. How can static electricity in the desert impact communications equipment?

166. When can the maintenance of SCRs become difficult in desert areas?
167. Why must SCR communications in jungle areas be carefully planned?
168. What is the main issue in establishing SCR communications in jungle areas?
169. What makes maintenance of SCRs difficult in jungle areas?
170. What are some techniques for improving maintenance in jungle areas?
171. How can dismounted units improve communications in the jungle?
172. What are one of the most important capabilities of SCR in cold weather?
173. What is fading? When does it occur?
174. What issues may cold weather provide for establishing communications platforms?
175. What are a few tips for installing antennas in extremely cold areas?
176. What can cause frequency drift?
177. What difficulties arise when using SCR equipment in extreme cold?
178. How can low temperature impact your communications platforms?

179. How are microphones affected during cold weather operations?
180. What is the process of breathing for a radio? How can it impact the radio? How can the effects of radio sweating be minimized?
181. What problems arise during use of vehicle mounted radios?
182. How can mountainous areas provide problems?
183. When may SCR transmissions have to be line of sight?
184. What problems do SCR communications pose in urbanized terrain?
185. Why do HF radios rely on LOS less than VHF radios?
186. What provides the most effective means of retransmissions?
187. What steps can be taken to increase radio effectiveness in urban operations?
188. How do nuclear weapons impact communications platforms?
189. What are more effects of nuclear explosions?
190. What are defensive measures that can be taken EMPs?

191. What is electronic warfare?
192. What actions are taken during an electronic attack?
193. How many enemy forces try to exploit friendly use of the electromagnetic spectrum?
194. What is an effective way to disrupt control of the battle?
195. Why must radio operators be aware of enemy jamming efforts?
196. The radio operator should also be able to quickly identify the various types of jamming signals. What are some different types of jamming signals?
197. What is an inherent characteristic in FM communication?
198. What is the purpose of obvious interference?
199. What are the characteristics of subtle jamming?
200. Why must radio operators be able to determine if their radios are being jammed?
201. What actions are taken once the radio operator suspects jamming or enemy intrusion?
202. How are MIJI reports transmitted?



203. What are the two type of MIJI reports?
204. What does the MIJI report include?
205. What is the MIJI 2 Report?
206. What is a critical component of electronic protection?
207. What is the goal of COMSEC?
208. What is transmission security?
209. Critical information that must be protected can be remembered by the key words SELDOM UP. What does this refer to?
210. How can radio operators maintain TRANSEC?
211. What may other TRANSEC measures include?
212. What is cryptosecurity?
213. What is emission security?
214. What is physical security?
215. What are reportable violations of COMSEC?

216. When is COMSEC equipment unclassified for external viewing?
217. What does the enemy need to accomplish to intercept your radio signals?
218. What are some of the dangers the radio operator may face in combat?
219. What prevents an ideal fix?
220. How are field coordinates expressed?
221. How is the world divided? How does this impact time measurement?
222. What is the formula for zulu time?
223. What is the formula for local time?
224. How should times be stated during operations?
225. When should challenge and reply authentication be used?
226. What actions are taken when a station suspects imitative deception?
227. What can you do when a whip antenna is broken into two sections?
228. What may repair of a wire antenna involve?

229. How are antenna supports be repaired or replaced?
230. What are used to stabilize supports for an antenna?
231. What can be used as replacements for radio masts?
232. What are the best types of antennas used for antennas?
233. How can you determine if an improvised antenna is operating properly?
234. What are the primary methods of communications for Marine Corps forces around the world?
235. How can vertical antennas be improvised?
236. How can end-fed half-wave antennas be constructed?
237. What is the center-fed doublet?
238. What is a transmission line used for?
239. How can center fed half wave FM antennas be supported?
240. What are the characteristics of the vertical half-rhomic antenna and long wire antenna?

241. How can you make a Vee antenna?

242. What steps may be required in operating a radio set?

243. What may cause lack of communication or poor communications?

244. Why is equipment maintenance so important? What can you do to ensure maintenance of communication equipment?

Intellectual Infantryman