

Technician Practice Exam #3

1. What is the unit of frequency? (T5C05)

- A. Farad
- B. Tesla
- C. Hertz
- D. Henry

2. What electrical difference exists between the smaller RG-58 and larger RG-8 coaxial cables? (T9B10)

- A. There is no significant difference between the two types
- B. RG-58 cable can handle higher power levels
- C. RG-8 cable has less loss at a given frequency
- D. RG-58 cable has less loss at a given frequency

3. Which of the following is the most common cause for failure of coaxial cables? (T7C09)

- A. Overloading
- B. The velocity factor exceeds 1.0
- C. Gamma rays
- D. Moisture contamination

4. Why do exposure limits vary with frequency? (T0C05)

- A. The human body absorbs more RF energy at some frequencies than at others
- B. Lower frequency RF fields have more energy than higher frequency fields
- C. Higher frequency RF fields are transient in nature
- D. Lower frequency RF fields do not penetrate the human body

5. How soon may you operate a transmitter on an amateur service frequency after you pass the examination required for your first amateur radio license? (T1C10)

- A. As soon as your name and call sign appear in the FCC's ULS database
- B. Immediately
- C. 30 days after the test date
- D. You must wait until you receive your license in the mail from the FCC

6. What kind of hazard might exist in a power supply when it is turned off and disconnected? (T0A12)

- A. The fuse might blow if you remove the cover
- B. Static electricity could damage the grounding system
- C. Circulating currents inside the transformer might cause damage
- D. You might receive an electric shock from stored charge in large capacitors

7. What is a grid locator? (T8C05)

- A. An instrument for neutralizing a final amplifier
- B. An instrument for radio direction finding
- C. A letter-number designator assigned to a geographic location
- D. A letter-number designator assigned to an azimuth and elevation

8. Which of the following would be connected between a transceiver and computer in a packet radio station? (T4A06)

- A. Terminal node controller
- B. Antenna

- C. Transmatch
- D. Mixer

9. What are the two components of a radio wave? (T3B03)

- A. AC and DC
- B. Ionizing and non-ionizing radiation
- C. Voltage and current
- D. Electric and magnetic fields

10. What is a good precaution to observe before climbing an antenna tower? (T0B02)

- A. Put on a climbing harness and safety glasses
- B. All of the these choices are correct
- C. Make sure that you wear a grounded wrist strap
- D. Remove all tower grounding connections

11. What is an amateur station control point? (T1E05)

- A. The mailing address of the station licensee
- B. The location of the station transmitting apparatus
- C. The location at which the control operator function is performed
- D. The location of the station's transmitting antenna

12. Which of the following can be used to display signal strength on a numeric scale? (T6D04)

- A. Transistor
- B. Potentiometer
- C. Meter
- D. Relay

13. What type of transmission is indicated by the term NTSC? (T8D04)

- A. A special mode for earth satellite uplink
- B. A Normal Transmission mode in Static Circuit
- C. A frame compression scheme for TV signals
- D. An analog fast scan color TV signal

14. Which of the following is equivalent to 500 milliwatts? (T5B05)

- A. 0.02 watts
- B. 0.5 watts
- C. 50 watts
- D. 5 watts

15. When is an amateur station required to transmit its assigned call sign? (T1F03)

- A. At least once during each transmission
- B. At least every 10 minutes during and at the end of a contact
- C. At the beginning of each contact, and every 10 minutes thereafter
- D. At least every 15 minutes during and at the end of a contact

16. What type of wave carries radio signals between transmitting and receiving stations? (T3A07)

- A. Electrostatic
- B. Surface acoustic

- C. Electromagnetic
- D. Magnetostrictive

17. Which of the following common problems might cause you to be able to hear but not access a repeater even when transmitting with the proper offset? (T2B04)

- A. All of these choices are correct
- B. The repeater receiver requires audio tone burst for access
- C. The repeater receiver requires a CTCSS tone for access
- D. The repeater receiver may require a DCS tone sequence for access

18. Which of the following circuits combines a speech signal and an RF carrier? (T7A08)

- A. Modulator
- B. Noise blanker
- C. Beat frequency oscillator
- D. Discriminator

19. What is a logical first step when attempting to cure a radio frequency interference problem in a nearby telephone? (T7B05)

- A. Improve station grounding
- B. Install an RF filter at the telephone
- C. Install a low-pass filter at the transmitter
- D. Install a high-pass filter at the transmitter

20. What is the characteristic appearance of a "cold" solder joint? (T7D09)

- A. A greenish tint
- B. Dark black spots
- C. A grainy or dull surface
- D. A bright or shiny surface

21. What is the resistance of a circuit that draws 4 amperes from a 12-volt source? (T5D06)

- A. 16 ohms
- B. 48 ohms
- C. 8 Ohms
- D. 3 ohms

22. Which of the following describes a simple dipole mounted so the conductor is parallel to the Earth's surface? (T9A03)

- A. A vertically polarized antenna
- B. A rhombic antenna
- C. A horizontally polarized antenna
- D. A ground wave antenna

23. Which of the following might be happening when VHF signals are being received from long distances? (T3C02)

- A. Signals are being reflected by lightning storms in your area
- B. Signals are arriving by sub-surface ducting
- C. Signals are being refracted from a sporadic E layer
- D. Signals are being reflected from outer space

24. Which of the following is a good electrical insulator? (T5A08)

- A. Mercury
- B. Copper
- C. Glass
- D. Aluminum

25. What must an amateur operator do when making on-air transmissions to test equipment or antennas? (T2A06)

- A. State the purpose of the test during the test procedure
- B. Make test transmissions only after 10:00 p.m. local time
- C. Notify the FCC of the test transmission
- D. Properly identify the transmitting station

26. What electrical component stores energy in an electric field? (T6A04)

- A. Resistor
- B. Capacitor
- C. Diode
- D. Inductor

27. When may amateur radio operators use their stations to notify other amateurs of the availability of equipment for sale or trade? (T1D05)

- A. When the asking price is less than its appraised value
- B. When the equipment is normally used in an amateur station and such activity is not conducted on a regular basis
- C. When the asking price is \$100.00 or less
- D. When the equipment is not the personal property of either the station licensee or the control operator or their close relatives

28. What is the approximate bandwidth of a single sideband voice signal? (T8A08)

- A. 1 kHz
- B. 3 kHz
- C. 6 kHz
- D. 15 kHz

29. What do the symbols on an electrical circuit schematic diagram represent? (T6C12)

- A. Traffic nodes
- B. Logic states
- C. Digital codes
- D. Electrical components

30. Why should you not set your transmit frequency to be exactly at the edge of an amateur band or sub-band? (T1B09)

- A. All of these choices are correct
- B. To allow for calibration error in the transmitter frequency display
- C. So that modulation sidebands do not extend beyond the band edge
- D. To allow for transmitter frequency drift

31. What set of rules applies to proper operation of your station when using amateur radio at the request of public service officials? (T2C01)

- A. FCC Rules
- B. ARES Rules
- C. FEMA Rules
- D. RACES Rules

32. What is a commonly used method of sending signals to and from a digital satellite? (T8B11)

- A. FM Packet
- B. PSK31
- C. USB AFSK
- D. WSJT

33. Which of the following is an appropriate receive filter to select in order to minimize noise and interference for CW reception? (T4B10)

- A. 500 Hz
- B. 5000 Hz
- C. 1000 Hz
- D. 2400 Hz

34. What does the abbreviation "LED" stand for? (T6B07)

- A. Liquid Emission Detector
- B. Light Emitting Diode
- C. Long Echo Delay
- D. Low Emission Diode

35. What is the FCC Part 97 definition of telecommand? (T1A06)

- A. A one-way transmission to initiate, modify or terminate functions of a device at a distance
- B. An instruction bulletin issued by the FCC
- C. An instruction from a VEC
- D. A one-way radio transmission of measurements at a distance from the measuring instrument