

**EXAMINATION FOR THE ISSUE OF AMATEUR RADIO OPERATORS
LICENCE BY DIRECTOR GENERAL OF TELECOMMUNICATIONS**
(General Class)

Fundamentals of Electricity & Radio Communications - 2000

Answer for all question

One hour

- (1) In a series tuned (RLC) circuit, at the resonance
 - (a) Current is maximum
 - (b) Impedance is maximum
 - (c) Current is minimum
 - (d) Voltage across C is minimum

- (2) A FET behaves as
 - (a) A current controlled current source
 - (b) A variable voltage regulator
 - (c) A constant voltage regulator
 - (d) A voltage controlled current source

- (3) The best frequency demodulation is the
 - (a) PLL discriminator
 - (b) envelop detector
 - (c) Ratio detector
 - (d) Pulse averaging discriminator

- (4) The main reason of image interference is
 - (a) High signal noise ratio
 - (b) Low signal noise ratio
 - (c) poor selectivity
 - (d) poor gain

- (5) An open or short transmission line has a standing wave ratio of
 - (a) Infinity
 - (b) Seventy
 - (c) Three Hundred
 - (d) Zero

- (6) A single-winding transformer is known as a
 - (a) Normal transformer
 - (b) special transformer
 - (c) Auto transformer
 - (d) Toroid transformer

- (7) For best selectivity and stability the IF should be
 - (a) Low
 - (b) Infinity
 - (c) Average
 - (d) Zero

- (8) The instrument used for d.c. measurement only is
 - (a) Permanent magnet type
 - (b) Induction type
 - (c) Electromagnetic type
 - (d) Moving iron type

- (9) In which type of transmitter class C amplifiers are not used
 - (a) DSB
 - (b) AM
 - (c) FM
 - (d) CW

- (10) The following can not be used to remove the unwanted side band in SSB
- (a) RC filter system
 - (b) LC filter system
 - (c) Balance shift method
 - (d) Phase shift method.
- (11) A dummy load for use at VHF should be made from
- (a) Wire - wound resistors
 - (b) Carbon resistors
 - (c) Metal oxide resistors
 - (d) Electric - fire heating elements
- (12) Which of the following would be used to examine the shape of a waveform,
- (a) an oscilloscope
 - (b) an absorption
 - (c) a digital frequency counter
 - (d) a dip meter
- (13) Fading can be caused by
- (a) A poor antenna
 - (b) Horizontal polarization
 - (c) Interaction of the SKY and ground wave
 - (d) Poor Coaxial cable
- (14) A VFO should ideally be followed by
- (a) a buffer amplifier
 - (b) a power amplifier
 - (c) a class C amplifier
 - (d) a notch filter
- (15) Electrostatic instruments are not free from effect of
- (a) Inductance
 - (b) Stray electrostatic field
 - (c) Magnetic field
 - (d) Resistance
- (16) De-emphasis circuit is used
- (a) before demodulation
 - (b) after demodulation
 - (c) before detection
 - (d) after detection
- (17) Generally the value of a component increases as the temperature
- (a) decrease
 - (b) remains constant
 - (c) increases
 - (d) none of above
- (18) If a transmitter is overdriven it is likely to cause
- (a) harmonics
 - (b) sub-harmonics
 - (c) a change in the modulation
 - (d) small DC variation
- (19) If the frequency stability of a transmitter is poor it may cause
- (a) electric shocks
 - (b) operation out of band
 - (c) excessive collector dissipation
 - (d) excessive power to the drawn from the supply
- (20) In order to radiate, an electromagnetic wave must have
- (a) E field
 - (b) H field
 - (c) E and H field
 - (d) air to travel in

Answers:-

1. a	2. d	3. c	4. c	5. a	6. c
7. a	8. a	9. b	10. d	11. b	12. a
13. c	14. a	15. b	16. b	17. c	18. a
19. b	20. c				

Q-16 wrong question. Demodulation and detection are same meaning. (Refer VHF-UHF manual 4th edition page 5.29)

Q-7 IF should be low for high selectivity and gain.(Radio Handbook by W6SAI P-10.21)
Lower I.F. higher the gain and selectivity. Lower the image rejection
Higher the I.F. lower the gain and selectivity. Higher the image rejection

Q-17 Actually this is a meaningless question, because there are hundreds of components, but all of them are not behavior as same way.
If it is changed as “the value of a resistor” the answer is (c)

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(General Class)

Licensing Conditions, Operating Practice and Procedure - 2000

Answer for all questions.

Two Hours

- (1) Abbreviation AA means
 - (a) End of message of communication
 - (b) End of transmission
 - (c) Invitation to a particular station to transmit
 - (d) Waiting period

- (2) Amplitude Modulated Single Side-Band full carrier is denoted by
 - (a) A1A
 - (b) J3E
 - (c) A3E
 - (d) H3E

- (3) Abbreviation KN means
 - (a) invitation to any station to transmit
 - (b) end of transmission
 - (c) end of message or communication
 - (d) invitation to a particular station to transmit

- (4) "Increase Power" is given by Q code
 - (a) QRS
 - (b) QRQ
 - (c) QRP
 - (d) QRO

- (5) "Your frequency varies" is given by Q - code
 - (a) QRK
 - (b) QRI
 - (c) QRH
 - (d) QRG

- (6) Abbreviation for "Stand by" is
 - (a) SK
 - (b) VA
 - (c) AR
 - (d) AAS

- (7) Abbreviation VA means
 - (a) end of work
 - (b) end of message
 - (c) stand by
 - (d) closing station

- (8) A log book must be kept for
 - (a) main station address and all temporary locations
 - (b) main station address only
 - (c) all temporary locations
 - (d) mobile operations

- (9) An amateur station log book shall be maintained in a
 - (a) Writing pad
 - (b) An exercise book serially numbered and stapled
 - (c) Daily Diary
 - (d) A folder with loose leaf

- (10) When using voice transmission
- (a) Use secret cipher
 - (b) Reduce the power on the transmitter
 - (c) Switch off the transmitter
 - (d) Communicate in Q- code
- (11) Direction CQ calls should
- (a) be made
 - (b) not be made
 - (c) be acknowledge
 - (d) not be acknowledged
- (12) The Q-code QSD means
- (a) Your signals are mutilated
 - (b) Are you busy
 - (c) Stop sending
 - (d) I am ready
- (13) The Q-code QRO means
- (a) Change transmission to another frequency
 - (b) I will call you again
 - (c) Shall I increase transmitter power
 - (d) I am ready
- (14) The Q-code for "send more slowly" is given by
- (a) QSR
 - (b) QSU
 - (c) QRX
 - (d) QSS
- (15) The Q-code for "what working frequency will you use" is
- (a) QRL
 - (b) QRT
 - (c) QRX
 - (d) QSS
- (16) Abbreviation KA means
- (a) Stating signal
 - (b) End of work
 - (c) Please do not interfere
 - (d) End of QSO
- (17) Abbreviation AR means
- (a) End of work
 - (b) Send faster
 - (c) Waiting period
 - (d) end of transmission
- (18) In amateur transmission it is permissible to use
- (a) Phone patched traffic
 - (b) Secret codes
 - (c) The words of a third party publicly spoken
 - (d) None of the above
- (19) To prevent interference to other users of an amateur band a transmitter should

- initially be tuned into a
- (a) Antenna
 - (b) Dummy load
 - (c) Real load
 - (d) None of the above
- (20) In a RST code "Tone" is given by
- (a) RS
 - (b) RT
 - (c) T
 - (d) S
- (21) Listen on the frequency
- (a) Before initialing a CQ call
 - (b) After initialing a CQ call
 - (c) While initiating a CQ call
 - (d) None of the above
- (22) Q - code abbreviation QSV means —
- (a) Send a message
 - (b) Do not send a message
 - (c) Send a series of Vs
 - (d) Do not send a series of Vs
- (23) Which of the following types of messages can be received by an amateur license
- (a) Secret transmission
 - (b) Air force transmission
 - (c) Standard frequency transmission
 - (d) Diplomatic transmission
- (24) Q - code abbreviation QTH means
- (a) What is your location
 - (b) Is my signal fading
 - (c) Is my keying defective
 - (d) What is the strength of my signal
- (25) Abbreviation K means
- (a) What is the correct true
 - (b) How many messages have you send
 - (c) What is your location
 - (d) Invitation to any station to transmit.

Answers:-

- | | | | | | |
|-------|-------|-------|-------|-------|-------|
| 1. | 2. d | 3. d | 4. d | 5. c | 6. ?? |
| 7. a | 8. b | 9. b | 10. b | 11. d | 12. a |
| 13. c | 14.?? | 15. d | 16. a | 17. d | 18. c |
| 19. b | 20. c | 21. a | 22. c | 23. c | 24. a |
| 25. d | | | | | |

Q-1 No answer. Answer is “all after” .

Q-4 QRS = send slowly, QRQ = send faster, QRP = low power or decrease power,
QRO = high power or increase power

Q-5 QRK = intelligibility (1 to 5 scale), QRI = tone (1 to 3 scale),
QRG = exact frequency

Q-6 no answer, answer is AS (di dah di di dit)
SK = VA = end of work (di di di dah di dah)
AR = end of message (di dah di dah dit)

Q-7 end of work = VA =SK (di di di dah di dah)
end of message = AR (di dah di dah dit)
standby = AS (di dah di di dit) or QRX
closing station = QRT

Q-11 spelling mistake - “direction” should be “directional”

Q-12 Are you busy? = QRL ?

Stop sending = QRT

I am ready = QRV

Q-13 Change transmission to another frequency = QSY

I will call you again = QRX

Shall I increase transmitter power = QRO

I am ready = QRV

Q-14 No correct answer.

The correct answer is QRS

QSR = Repeat your call on the calling frequency (not use in amateur radio)

QSU = shall I reply on this frequency (.....MHz)

QRX = standby or I will call you again at (.....time)

QSS = I will use the working frequencyMHz. (not use in amateur radio)

Q-15 answer is QSS, but it is not use in Amateur radio

QRL = I am busy/Are you busy?

QRT = Stop sending or stop transmission

QRX = standby or I will call you again at (.....time)

QSS = I will use the working frequencyMHz. (not use in amateur radio)

Q-16 End of work = VA = SC or QRT

End of QSO = AR

Q-17 End of work = QRT

Send faster = QRQ
Waiting period = AS
End of transmission = AR

Q-20 R = readability, S = strength, T = tone

Q-22 For test transmission on CW (Morse) normally send a series of “V”s

Q-24 (a) What is your location? = QTH?
(b) Is my signal fading? = QSB?
(c) Is my keying defective? = QSD?
(d) What is the strength of my signal? = QSA?

Q-25 (a) No meaning. (may be a typing error)
(b) Not use in Amateur Radio
(c) What is your location = QTH
(d) Invitation to any station to transmit = CQ call