

Instructions

Take no more than 45 minutes for this exam.

Treat this as a mock exam. Make sure you are not disturbed

Answer each of the following 36 questions.

Mark your answer choice on the special answer sheet. If available.

DO NOT MAKE ANY REFERENCE TO BOOKS OR OTHER RAE INFORMATION

Please do not show these questions to any person studying the RAE.

They may use this same set of questions and prior knowledge would defeat the object.

- 1] In order to hold a full (class A) Amateur Radio Licence the RAE should be passed:
- a) at any time previous.
 - b) within the previous twelve months.
 - c) in your own county.
 - d) within 100 km of your main address.
- 2] An Amateur station installed on a narrowboat that is navigating the Grand Junction Canal should have the following suffix added to the callsign:
- a) /M
 - b) /MC
 - c) /MM
 - d) /MJ
- 3] The station log should always use:
- a) the local time
 - b) UTC
 - c) UCT
 - d) Universal Standard Time
- 4] Which callsign should I use when I am mobile in Maidenhead.
- a) M4EGQ
 - b) GM4EGQ
 - c) G4EGQ/MM
 - d) G4EGQ/M
- 5] When chatting to another local amateur, on 145.525 MHz, you need only give your call sign every:
- a) 60 minutes
 - b) 30 minutes

- c) 15 minutes
- d) 10 minutes

6] What is the maximum height that an Amateur Radio aerial system may be erected if it is within one kilometre of an aerodrome?

- a) 20 metres
- b) 15 metres
- c) 10 metres
- d) 5 metres

7] A Radio Amateur uses Lower Sideband on 3.762 MHz. What emission code should be entered in his log?

- a) J3E b) L3B c) J3B d) S3L

8] Which of the following Amateur Radio Stations are in Scotland?

- a) MM0ABC b) MS0ABC
- c) SM0ABC d) GS0ABC

9] A station log not be completed for

- a) mobile transmissions
- b) portable transmission
- c) unanswered CQ calls
- d) transmissions during peak TV hours

10] Amateur Radio Repeaters can be accessed by a tone of:

- a) 1750 Hz for 500 Sec
- b) 1750 Hz for 500 mSec
- c) 1570 Hz for 500 Sec
- d) 1570 Hz for 500 mSec

11] What is the meaning of this Q code?

"QRP?"

- a) Shall I decrease my power?
- b) Are you using low power equipment?
- c) I will reduce my power.
- d) Please reduce your power output.

12] A trap fitted into each leg of a dipole aerial is designed to:

- a) filter out an interfering frequency.
- b) provide neutral point for aerial support.
- c) prevent rain water entering coax cable.
- d) allow operation on more than one band.

13] A series LC tuned circuit has

- a) a high impedance at resonance.
- b) a low impedance at resonance.
- c) an infinite impedance at resonance.
- d) a negative impedance at resonance.

14] An audio transformer has a turns ratio of 1:10. Its impedance ratio will be:

- a) 1:100
- b) 1:3.14
- c) 1:1000
- d) 100:1

15] A variable capacitance diode enables an oscillator to:

- a) be frequency modulated
- b) be amplitude modulated
- c) remain on a stable frequency
- d) to generate single sideband

16] FM is obtained by modulating

- a) the first mixer stage
- b) the second mixer stage
- c) an audio amplifier stage
- d) an oscillator

17] A superhet receiver has an intermediate frequency of 500 kHz. The local oscillator is set to 3.0 MHz. Which of the following frequencies could be received?

- a) 1000 kHz
- b) 1500 kHz
- c) 2500 kHz
- d) 3000 kHz

18] A multiband transceiver:

- a) operates on several Amateur Bands
- b) has a split band audio output cct
- c) can receive 3 Amateur bands at once
- d) has 7 intermediate frequency stages

19] A transmitter is found to have an output that is mathematically unrelated to the required frequency.

This is likely to be due to:

- a) interfeon oscillations
- b) multiple harmonic distortion
- c) spurious oscillations
- d) parasitic oscillations

20] In the interests of EMC the amateur aerial should be:

- a) as high as possible
- b) close to the ground to avoid radiation
- c) away from his other aerials
- d) close to building frame to ensure good sheilding

21] A L.P.F. is usually included in the output of a H.F. transmitter to:

- a) eliminate sub-harmonics present in output
- b) ensure blocking of low parastic frequencies
- c) eliminate the fundamental frequency
- d) reduce harmonic content

- 22] Which type of transmission has the greatest bandwidth?
- a) A.M. speech
 - b) TV
 - c) SSB, full carrier
 - d) Double sideband
- 23] The morse key should not turn an oscillator on and off as this would result in:
- a) chirp b) squegging
 - c) squawking d) cheep
- 24] In operating is planned close to any band edge, you should:
- a) confirm frequency accuracy of transmitter
 - b) obtain authority from R.A.
 - c) use a carefully tuned, balanced aerial
 - d) obtain permission from service using adjacent frequency band allocation
- 25] A stub is used on a TV to reduce interference from a nearby 144.65 MHz Amateur transmitter. Its length should be:
- a) $\lambda/16$ b) $\lambda/8$
 - c) $\lambda/4$ d) $\lambda/2$
- 26] A key-click filter is included in an Amateur transmitter to:
- a) increase the Morse speed
 - b) to ensure a stable frequency
 - c) to reduce the generation of harmonics
 - d) to slow down Morse transmissions
- 27] An amateur aerial should be erected away from overhead mains cables to:
- a) reduce drain of mains consumption
 - b) prevent RF coupling
 - c) improve earthing
 - d) overcome ground conduction
- 28] Two radio frequencies can mix and cause interference to other frequencies in the presence of:
- a) a non-linear device
 - b) an extremely linear device
 - c) a non inductive attenuator
 - d) a non volatile substance
- 29] A TV is being affected by your transmissions. You could:
- a) fit a filter in the TV mixer stage
 - b) try a filter in the TV aerial lead
 - c) reduce TV mains by 10%
 - d) retune the TV radio frequency stage
- 30] Radio Amateurs:
- a) should only use SSB after a CW contact

- b) should reduce power after a CQ call
- c) should use minimum power for reliable communication
- d) should only transmit in the same mode as that received

- 31] The ionosphere is created by:
- a) CTC gasses that build up in the atmosphere
 - b) ultra violet radiation from the sun
 - c) the low atmospheric pressure
 - d) an increase in atmospheric pressure

- 32] M.U.F is:
- a) most used frequency
 - b) mean utilization of frequencies
 - c) minimise unstable frequencies
 - d) maximum usable frequency

- 33] A vertical dipole aerial will
- a) transmit in all direction of the compass
 - b) only transmit vertically
 - c) transmit a mainly horizontal wave
 - d) will be unsuitable in built-up area

- 34] A transmitter output power goes up from 2 Watts to 8 Watts. This represents a change of:
- a) 2 dB
 - b) 3 dB
 - c) 6 dB
 - d) 8 dB

- 35] Meters are marked as follows:
- a) 100 M per volt
 - b) 1 M per volt
 - c) 100 k per volt
 - d) 2 k per volt
- Which is the most sensitive?

- 36] The two tone test checks linearity.
The two tones should be:
- a) harmonically related
 - b) equal in amplitude
 - c) of opposite phase
 - d) should be modulated with 100 & 50 Hz

Now check that you have attempted ALL questions and you have selected ONLY one answer for each question.

Post questions and answers within 24 hours of attempting this exam, to:
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