



Headquarters Air Cadets Examination

Senior Cadet
Advanced Radio & Radar
Generated 24-Aug-99

Serial: 70

1. Use black or dark blue pen, NOT pencil.
2. Mark one answer per question with a cross.
3. If you wish to change an answer, cancel the original mark and mark another single answer.

A selected answer.

A cancelled answer.

Mark:

Name and Initials _____

Date of Exam _____

Date of Birth _____

Squadron/Unit _____

Wing _____

1 The purpose of the reflector and directors of an aerial, as in the Yagi array, is to:

- a Modify the aerial's radiation pattern
- b Match the aerial to the transmission line
- c Allow the aerial to work at many frequencies
- d Alter the aerial's electrical length

2 Electromagnetic energy is best used for:

- a Conversations
- b Short range speech
- c Long range communication
- d Very short range communication

3 If the wavelength was 20 metres, the best aerial lengths would be:

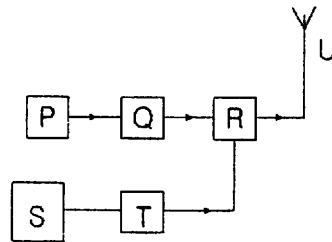
- a 10 or 20 metres
- b 1 or 2 metres
- c 5 or 15 metres
- d 5 or 10 metres

4 What type of code uses Amplitude Modulation?

- a Semaphore
- b Baudote Code
- c Murrey Code
- d Morse Code

5 What does the block marked P represent in the diagram?

- a Master Oscillator
- b Power Amplifier
- c Buffer Amplifier
- d Microphone



6 What is the purpose of an aerial on a receiver:

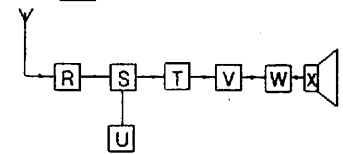
- a To convert the electromagnetic waves (em) into a constant voltage
- b To convert the electromagnetic waves (em) into tiny voltages
- c To convert the electromagnetic waves (em) into large voltages
- d To convert the electromagnetic waves (em) into very large voltages

7 A tuned circuit is used to:

- a Filter out all unwanted signals
- b Amplify all unwanted signals
- c Attenuate all unwanted signals
- d Select only unwanted signals

8 What does the block marked W represent on the diagram:

- a Loudspeaker
- b Demodulator
- c AF Amplifier
- d Local Oscillator



9 What do FM receivers use to demodulate signals:

- a Modulator
- b Distracter
- c Disputer
- d Discriminator

10 Radio detection and ranging is better known as:

- a RAADAR
- b RIDDOR
- c RDF
- d RADAR

11 Radar detects a target by calculating its height, bearing and which other:

- a Range
- b Elevation
- c Speed
- d Azimuth

12 Which of the listed answers is a type of primary radar:

- a Cyclic wave
- b Carrier wave
- c Intermittent wave
- d Continuous wave

13 When the return wave of a doppler wave increases slightly the target is:

- a Constant
- b Advancing
- c Retreating
- d Climbing away from the radar

14 Mode B in SSR gives out what information:

- a Aircraft mission
- b Civil identify
- c Height data
- d Military identify

15 What does code 7600 mean in SSR usage:

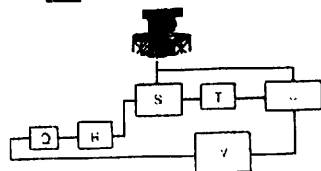
- a Height information
- b Hijack
- c Loss of radio communications
- d SOS

16 Which of these factors affects radar performance

- a Weight of radar
- b Speed of target
- c Target composition
- d Height of radar

17 In this block diagram of a radar system, what does the block marked Q represent:

- a MTU
- b TX
- c RX
- d CRT indicator



18 How many distinctive assemblies does PAR consist of:

- a 2
- b 3
- c 1
- d 4

19 ILS is made up of three elements, the localiser, marker beacons and which other:

- a Glide slope
- b Glide path
- c Airfield lights
- d Runway bearing

20 In an aircraft using ILS the meter's flags are set because:

- a The pilot has not calibrated the meter
- b The aircraft is too close to the airfield
- c The signal strength is inadequate
- d The signal strength is adequate

21 What does DRDF stand for ?

- a Digital resolution direction finding
- b Day radio dawn flight
- c Direct radio digital finder
- d Digitally resolved direction finder

22 How many aircraft can Tacan reply to at any one time:

- a 100 correctly equipped aircraft
- b Any 50 aircraft
- c 200 correctly equipped aircraft
- d Any 100 aircraft

23 How does UKADGE achieve its aim:

- a By using mobile radars only to cover the UK's air space
- b By using fixed radars only to cover the UK's air space
- c By using both fixed and mobile radars to cover the UK's air space
- d By using airborne radars only to cover the UK's air space

24 What is the air defence system used in the UK called?

- a Air Defence Ground Environment (United Kingdom)
- b Ground Equipment For United Kingdom's Air Defence
- c United Kingdom Air Defence Ground Environment
- d United Kingdom Defence Of Air Ground Equipment

25 Within STCICS, scheduled broadcasts contain which information:

- a Weather and airfield sites
- b Message and airfield states
- c Meteorological and airfield sites
- d Meteorological and airfield states