



Headquarters Air Cadets Examination

Senior Cadet
35/3 Adv Radio & Radar
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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 In a radio receiver, the process of converting the amplified radio frequency signal to an audio frequency is known as:
- a Demodulation
 - b Superhetrodyning
 - c Conversion
 - d Re-amplification

- 2 A PPI radar display:
- a Is used with a height-finding radar
 - b Can display range only
 - c Has a circular trace and uses radial deflection
 - d Has a radial trace rotating in time with the radar

- 3 The purpose of the radio frequency amplifier in a receiver is to:
- a Amplify the signal after demodulation
 - b Demodulate the signal
 - c Amplify the signal being received
 - d Convert the received signal to a lower frequency

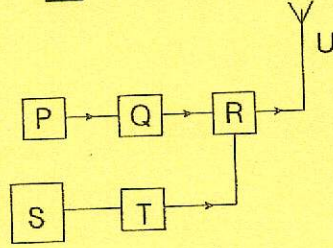
- 4 The purpose of the reflector and directors of an aerial, as in the Yagi array, is to:
- a Match the aerial to the transmission line
 - b Allow the aerial to work at many frequencies
 - c Alter the aerial's electrical length
 - d Modify the aerial's radiation pattern

- 5 What is the speed of sound?
- a 3 m/s
 - b 30 m/s
 - c 300 m/s
 - d 3000 m/s

- 6 What medium replaces sound for effective long range communication:
- a Potential energy
 - b Kinetic energy
 - c Electrical energy
 - d Electromagnetic energy

- 7 If the wavelength was 40 metres, the best aerial lengths would be:
- a 1 or 4 metres
 - b 10 or 20 metres
 - c 20 or 40 metres
 - d 2 or 10 metres

- 8 What does the block marked U represent in the diagram?
- a Amplifier
 - b Aerial
 - c Master Oscillator
 - d Buffer Amplifier



- 9 A tuned circuit is used to:
- a Filter out all unwanted signals
 - b Attenuate all unwanted signals
 - c Amplify all unwanted signals
 - d Select only unwanted signals

- 10 Radio detection and ranging is better known as:
- a RADAR
 - b RDF
 - c RIDDOR
 - d RAADAR

- 11 Radar detects a target by calculating its range, bearing and which other:
- a Distance
 - b Height
 - c Azimuth
 - d Elevation

- 12 What is the time used in rough calculations when working in statute miles:
- a 5µs
 - b 12µs
 - c 10µs
 - d 6µs

- 13 What does IFF stand for?
- a Identify fighter formations
 - b Identify friend or foe
 - c Identifying foes fighters
 - d Identify friendly fighters

- 14 What does SSR stand for?
- a Service surveillance radio
 - b Secondary surveillance radar
 - c Second sense radar
 - d Single side radio

- 15 What does code 7500 mean in SSR usage:
- a Loss of radio communications
 - b Highjack
 - c Height information
 - d SOS

- 16 What does code 7600 mean in SSR usage:
- a SOS
 - b Highjack
 - c Loss of radio communications
 - d Height information

17 Which of these factors affects radar performance

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

18 What is the purpose of a timebase generator in a Radar?

- a Provides the reference signal to start the transmit sequence
 - b Used to launch the pulses and collect them on return
 - c Provides a reference signal for the receiver
 - d Synchronises the TPR switch
-

19 Which radar, employed in the RAF, uses a cross shaped beam to guide aircraft to a safe landing:

- a PIR
 - b PUR
 - c PAR
 - d CBR
-

20 What does ILS stand for:

- a Instrument landing system
 - b Instrument lighting system
 - c Instrument landing scheme
 - d Instrument lighting scheme
-

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

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

22 There are two main centres used in the DRDF system, one is West Drayton, the other is at:

- a Prestwich
 - b Preston
 - c Prestwick
 - d Prestatyn
-

23 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
-

24 The pilot of an aircraft receives distance, bearing and which other information from TACAN:

- a Height
 - b Altitude
 - c Azimuth
 - d Beacon identification
-

25 What information does STCICS supply:

- a Scheduled broadcasts, flight watch and message taking
 - b Unscheduled broadcasts, flight watch and message switching
 - c Unsheduled broadcasts, film watch and message switching
 - d Scheduled broadcasts, flight watch and message switching
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