

# Amateur Radio Examination Foundation Level

Candidate:  
 Candidate DoB:  
 Centre:  
 Exam Date:

This paper consists of 26 questions

**Time Allowed:** 55 minutes.

<p><b>Candidate Declaration.</b>          I confirm that this is all my own work and that I have followed the rules of the examination.  <i>I understand that breaches of the Examination rules may result in disqualification or other penalty and that breaches by the Examination Centre may invalidate the examination.</i></p>	<p>Candidate's signature.</p>
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## INSTRUCTIONS TO CANDIDATES

You should have 3 items.

1. This Examination Paper
2. An Optical Mark Sheet
3. Reference Data for use in the Foundation Level Examination

You will need a pen, an HB pencil and an eraser. You may use a silent, non-programmable calculator.

Check that your personal details on this Examination Paper and your Optical Mark Sheet are correct and sign both using your pen before the examination begins.

All questions have equal marks and all questions should be attempted.

Each question has 4 possible answers, identified 'A', 'B', 'C' and 'D'. Only one answer is correct, the others are wrong. You should decide which of the 4 answers is correct and mark the answer box for each question accordingly.

Your answers should initially be marked lightly in HB pencil on the Optical Mark Sheet. Errors should be corrected using your eraser.

<p>If you decide answer 'C' is correct, show this by marking box 'C' using an HB pencil.</p>	<p>A <input type="checkbox"/>    B <input type="checkbox"/>    C <input type="checkbox"/> --    D <input type="checkbox"/></p>
<p>If you change your mind before inking-in, rub out the mark and ink-in the box of your new choice</p>	<p>A <input checked="" type="checkbox"/>    B <input type="checkbox"/>    C <input type="checkbox"/>    D <input type="checkbox"/></p>
<p>To confirm your original answer ink-in the whole box.</p>	<p>A <input type="checkbox"/>    B <input type="checkbox"/>    C <input checked="" type="checkbox"/>    D <input type="checkbox"/></p>

When you are satisfied with your answer, shade in the whole box with **black ink**. Do **NOT** make any mark outside the box. **Once you have inked-in the Optical Mark Sheet, no changes can be made.**

The Reference Data booklet contains the Schedule to the licence, the Band Plans, the Frequency to Wavelength Conversion Chart and the Frequency Allocation Table, which may be used to help answer any question.

**The Optical Mark Sheet is designed to be machine marked and will provide the result for this Examination. It must be completed during the time allowed for the Examination.**

**This paper, the Optical Mark Sheet and the Reference Data Booklet must be handed in at the end of the Examination.**

## **Notice to candidates**

You must not talk to or distract any other candidate in the exam room.

You are not allowed any assistance in answering exam questions and the Invigilator is not permitted to discuss examination questions. If you have a reader, the reader may read the questions to you but they cannot explain them.

If you need other assistance, please raise your hand and talk quietly to an Invigilator when approached.

If you wish to challenge an exam question please advise an Invigilator. They will not be able to help you answer the question, but will pass your challenge to the examination office.

You may not leave the exam room without permission and may not re-enter the room unless you have been escorted by an Invigilator at all times.

You must use black ink for your final answers.

Any calculations should be done on the Examination Paper  
NOT the Optical Mark Sheet.

- 1 The holder of M6XYZ is
- A a Full licence holder.
  - B a Scottish Intermediate licensee.
  - C a Foundation licence holder in England.
  - D a pirate station.
- 2 Your CQ call on two metres is answered immediately and you change frequency to a 'working' channel where you hold a 20 minute conversation and then close down. To comply with your licence, you must have given your callsign at least
- A whenever asked
  - B three times
  - C four times
  - D as frequently as practicable.
- 3 Which transmission is regarded as 'broadcasting'?
- A Being overheard by other amateurs you are not talking to.
  - B Talking to a group of more than six amateurs.
  - C Talking to anybody who happens to be listening.
  - D Talking in a language other than English.
- 4 Who may require you to stop transmitting until a fault in your transmitter has been fixed?
- A The person suffering from interference.
  - B A person authorised by Ofcom.
  - C A person authorised by the local Council.
  - D A member of the RSGB staff.
- 5 On which one of the following bands do radio amateurs have Primary status?
- A 50.00 – 51.00MHz
  - B 51.00 – 52.00MHz
  - C 430.0 – 431.0MHz
  - D 431.0 – 432.0MHz
- 6 What power in a Foundation Licence holder permitted to use on the 0.137MHz band?
- A 1W
  - B 1W erp
  - C 10W
  - D 10W erp

7 A 12V mobile transceiver consumes 10W on receive and 100W on transmit. Which one of the following fuses is appropriate?

- A 100mA
- B 1A
- C 10A
- D 100A

8 What is the significant difference between AC and DC?

- A Direct currents are always greater than alternating currents.
- B Direct currents take a long time to change direction.
- C Alternating currents are continually changing direction.
- D Alternating currents have a fixed polarity.

9 Which of the following frequency ranges is considered sufficient to convey speech?

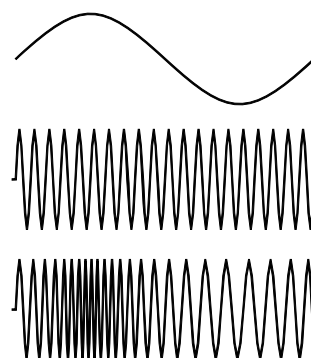
- A 30Hz – 300Hz
- B 300Hz – 3kHz
- C 3kHz – 30kHz
- D 30kHz – 300kHz

10 An RF signal has a wavelength of 20m. What is its frequency?

- A 10MHz
- B 15MHz
- C 20MHz
- D 25MHz

11 The bottom waveform in the diagram shows the

- A audio wave.
- B carrier wave.
- C amplitude modulated wave.
- D frequency modulated wave.

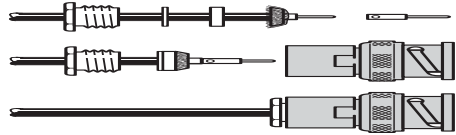


12 Too much audio gain is likely to cause a transmitter to

- A stop working
- B increase the SWR
- C interfere with other bands
- D interfere with adjacent frequencies.

- 13 Which one of the following would NOT be found in a radio receiver?
- A RF power amplifier.
  - B Audio amplifier.
  - C Detector (demodulator).
  - D Tuning and RF amplifier.

- 14 The connector shown is a
- A PL259 plug
  - B BNC plug
  - C jack plug
  - D USB plug.



- 15 A vertical half wave dipole will radiate
- A equally in all horizontal directions
  - B a maximum signal in a vertical direction
  - C a minimum signal at right-angles to the antenna
  - D a maximum signal off the ends of the antenna.
- 16 When adjusting an Antenna Matching Unit you should always
- A adjust for a minimum standing wave ratio
  - B adjust for a maximum standing wave ratio
  - C turn off the transmitter
  - D ensure the antenna is cut for the right wavelength.

- 17 A VHF transmitting antenna should be located
- A indoors, protected from the rain, wind and sun
  - B outdoors, as high as practicable to avoid obstructions
  - C close to the transmitter so you can easily adjust it to the correct length
  - D at ground level to minimise interference.

- 18 HF propagation is not affected by the
- A sun
  - B time of day
  - C day of the week
  - D frequency used.

- 19** A radio amateur's transmission is LEAST likely to cause interference to
- A other amateurs
  - B other radio users
  - C an electric drill
  - D An electronic security alarm.
- 20** Which of the following would NOT help to reduce interference to local TV receivers?
- A Increasing the distance between the antenna and the houses.
  - B Lengthening the transmitter mains cable.
  - C Increasing the height of the antenna.
  - D Using balanced antennas for HF.
- 21** Fitting external chokes and filters to TV sets can
- A increase the chance of interference
  - B reduce the chances of interference
  - C increase the chance of direct pickup in the TV
  - D reduce the chance of direct pickup in the TV.
- 22** Once you have contacted another station on a VHF FM calling channel you should
- A remain on the frequency until another station wishes to use it
  - B remain on the frequency as long as the contact takes
  - C ask if the calling channel is clear
  - D change frequency to a suitable clear channel.
- 23** What frequency should you use for SSB calling on the 2m band?
- A 144.050MHz
  - B 144.300MHz
  - C 144.500MHz
  - D 144.600MHz
- 24** When calling CQ another station replies in an offensive manner. You should
- A reply, accepting the contact, as if nothing offensive was said
  - B advise the station that they will be reported to the police
  - C complain, on-air, about the offensive station
  - D ignore the offensive station and make no reference to having heard it.
- 25** Which mains supply and earthing practice can cause problems for radio amateurs?
- A PME
  - B PEP
  - C RFI
  - D EMC

- 26** The mains power switch to the radio shack should be
- A out of reach to younger children for safety reasons
  - B key operated to prevent use by non-licensed persons
  - C switched off at all times
  - D in a clearly marked position.

Answers

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
C	D	C	B	A	B	C	C	B	B	D	D	A	B	A	A	B	C	C	B	B	D	B	D	A	D