

# Foundation Amateur Radio Question Paper



This paper consists of 25 questions  
**Duration 45 minutes**

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## INSTRUCTIONS TO CANDIDATES

- You should have 2 items.
1. This question paper
  2. A booklet including
    - (a) The Schedule to the Foundation Amateur Licence
    - (b) A Frequency to Wavelength conversion chart
    - (c) A Frequency Allocation Table
    - (d) 14MHz and 144MHz Amateur Radio Band Plans

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 the correct one and mark the answer box for each question accordingly.

If you decide answer 'C' is correct, show this by ticking in the box marked 'C'. **Take care to ensure your tick does NOT cover two boxes.**

A [ ] A [✓]  
B [ ] B [ ]  
C [✓] C [■]  
D [ ] D [ ]

If you then change your mind, shade out the tick and tick the box for your new choice.

The Booklet may be used to help answer any question.

You may also use a calculator.

**This paper will contain your answers and must be handed in at the end of the exam.**

<b>Surname:</b>	
<b>First Names:</b>	
<b>Date of Birth:</b>	
<b>Candidate Number:</b>	
<b>Examination Centre:</b>	
<b>Date of Examination:</b>	

## **Notice to candidates**

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

You are not allowed any assistance with the exam questions and the invigilator is not permitted to discuss exam questions.

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

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 a blue or black pen for your answers and any calculations may be done on the reverse of the question paper.

1 Which, of the items listed below, is NOT a type of Amateur licence?

- A [ ] Intermediate
- B [ ] Foundation
- C [ ] Beginner
- D [ ] Full

2 When transmitting, you must give your call sign when establishing contact and

- A [ ] on every 'over'
- B [ ] every 5 minutes
- C [ ] every 15 minutes
- D [ ] at the end of the contact.

3 You are talking to M3ABC by amateur radio and friends enter his room. You may also talk to them

- A [ ] if they are a family members
- B [ ] if M3ABC gives permission
- C [ ] if they are also amateurs
- D [ ] but only on the calling channel.

4 If an amateur changes address, he/she should notify

- A [ ] the Police
- B [ ] the RSGB (Radio Society of Great Britain)
- C [ ] Ofcom
- D [ ] the local radio club.

5 On which one of the frequencies below may a Foundation licensee transmit?

- A [ ] 7.5MHz
- B [ ] 15MHz
- C [ ] 72MHz
- D [ ] 145MHz

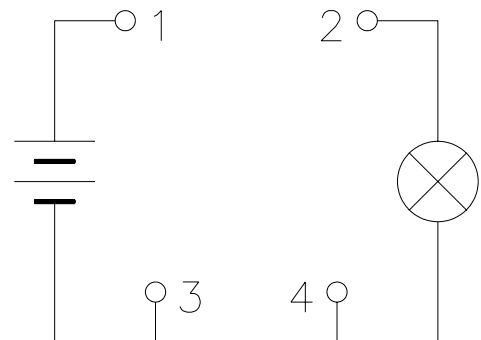
6 Which part of an amateur band is not permitted within 100km of Charing Cross, London?

- A [ ] 1.810-1.830MHz
- B [ ] 51.00-52.00MHz
- C [ ] 431.0-432.0MHz
- D [ ] 438.0-440.0MHz

7 The correct formula relating the voltage, V, the current, I, and the resistance R is

- A [ ]  $R = V - I$
- B [ ]  $R = V \times I$
- C [ ]  $R = I / V$
- D [ ]  $R = V / I$

8 To allow the bulb in the diagram to light correctly, a wire should be connected between points



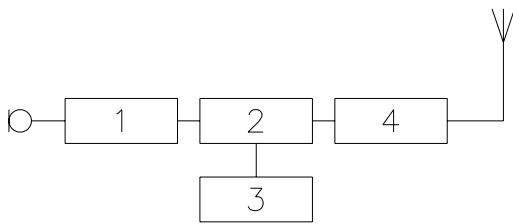
- A [ ] 1 and 2
- B [ ] 1 and 3
- C [ ] 2 and 3
- D [ ] 2 and 4

9 The UK mains supply is

- A [ ] 230V D.C.
- B [ ] 230V 50Hz
- C [ ] 230V 60Hz
- D [ ] 230V 100Hz

- 10** The frequency 121.5MHz is used for
- A [ ] Aeronautical radio
  - B [ ] Amateur radio
  - C [ ] Land based radio
  - D [ ] Satellite radio.

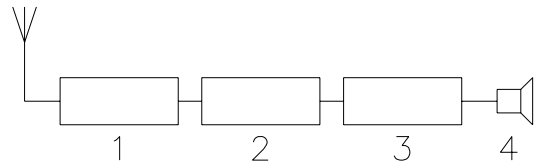
- 11** What is the function of the box marked '2' on the transmitter block diagram ?



- A [ ] Frequency generation oscillator
- B [ ] RF amplifier
- C [ ] Modulator
- D [ ] Audio amplifier

- 12** Excessive amplitude modulation may cause
- A [ ] the transmit frequency to drift
  - B [ ] interference to adjacent channels
  - C [ ] the received voice to become higher in pitch
  - D [ ] the standing wave ratio to increase above its limits.

- 13** In the block diagram of a radio receiver shown, what is the function of the box marked '2'?

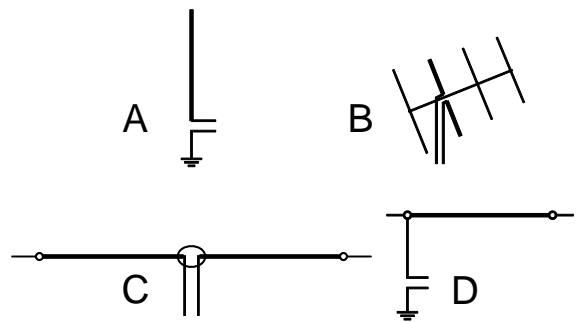


- A [ ] Tuning and RF amplification.
- B [ ] Detection.
- C [ ] Audio amplifier.
- D [ ] Loudspeaker.

- 14** The output from the transmitter should be connected to the antenna by

- A [ ] waterproof mains cable
- B [ ] screened audio cable
- C [ ] fuse wire
- D [ ] coaxial cable.

- 15** Which drawing shows a dipole antenna?



- A [ ] Drawing A
- B [ ] Drawing B
- C [ ] Drawing C
- D [ ] Drawing D.

- 16** An antenna is connected correctly to a transmitter but used on the wrong frequency. This will have the effect of
- A [ ] reflecting some of the power from the transmitter back down the feeder
  - B [ ] risking damage to the antenna
  - C [ ] reducing the SWR on the feeder
  - D [ ] increasing the signal strength received at a distance from the transmitter.
- 17** An amateur wishes to achieve a greater range on VHF and UHF. Which option is likely to be most successful?
- A [ ] Increase the antenna height above surrounding roofs.
  - B [ ] Double the receiving station's transmitter power.
  - C [ ] Use UHF for greatest range.
  - D [ ] Move the antenna on the ground in the garden.
- 18** The ionosphere is
- A [ ] layers of reflective air at heights of 70 to 400km
  - B [ ] another name for the air we breath
  - C [ ] a type of spherical transmitting antenna
  - D [ ] a piece of amateur radio test equipment.
- 19** One of the effects of operating a radio transmitter is that
- A [ ] the electricity bill might be reduced
  - B [ ] the RSGB membership fees are higher
  - C [ ] local rainfall is increased
  - D [ ] interference may be caused to nearby televisions.
- 20** Which transmission is MOST likely to cause interference?
- A [ ] A high power fm transmission
  - B [ ] A low power fm transmission
  - C [ ] A high power ssb transmission
  - D [ ] A low power ssb transmission.
- 21** A neighbour complains that your transmissions were causing interference to his television. You should
- A [ ] say its not your fault because you were operating in accordance with your licence
  - B [ ] advise him to inform the local authority
  - C [ ] advise him to contact Ofcom
  - D [ ] ask if he will help you with a test to check what the problem might be.
- 22** Before making an initial call an amateur should
- A [ ] make an entry in the log book
  - B [ ] listen on the frequency
  - C [ ] log the frequency
  - D [ ] check the transmitter power.
- 23** Band Plans are published because
- A [ ] it is a convenient way of remembering the schedule to the amateur licence
  - B [ ] it allows the different modes and types of transmission to best share the band
  - C [ ] it allocates most of the band to the higher power stations
  - D [ ] it is illegal to operate in contravention of the band plan.

- 24** What is the most serious risk when working inside equipments using high voltages?
- A  Such equipments are more likely to develop a fault.
  - B  Spare parts are harder to obtain.
  - C  High voltage equipments are more complicated and harder to repair.
  - D  There is a risk of receiving a fatal electric shock.

- 25** You find an amateur friend lying on the floor, silent and not moving, beside his transmitter which has fallen off the desk. You should
- A  go for help
  - B  turn him face up
  - C  switch off the power
  - D  pull any microphone and other cables away from him.

SAMPLE

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
C	C	C	C	D	C	D	A	B	A	C	B	B	D	C	A	A	A	D	C	D	B	B	D	C