Unit 113: Plumbing, heating and ventilation

# Multiple choice questions (learner)

1. Which of the following BES operatives would carry out the installation of a fan coil unit within an open plan office?
2. Controls engineer
3. Gas fitter
4. Heating & Ventilation engineer
5. Plumber
6. Which of the following BES operatives would install first fix cold water pipework in a new build dwelling?
7. Controls engineer
8. Gas fitter
9. Heating & Ventilation engineer
10. Plumber
11. Copper pipework at sizes 8mm to 10mm is classed as:
12. Microbore
13. Small bore
14. Medium bore
15. Large bore
16. Copper pipework at sizes 12mm to 22mm is classed as:
17. Microbore
18. Small bore
19. Medium bore
20. Large bore
21. What type of copper fitting is shown in the image?

A screenshot of a cell phone

Description automatically generated

1. Non-manipulative compression coupling
2. Manipulative compression coupling
3. Non-manipulative compression cap
4. Manipulative compression cap
5. What type of fitting is shown in the image below?

A picture containing indoor, table, glass, sitting

Description automatically generated

1. Equal tee with integral solder ring
2. Reducing tee with integral solder ring
3. End feed equal tee
4. End feed reducing tee
5. Which one of the following pipework services would solder that **does contain lead** be suitable for?
6. Hot water pipework
7. Mains cold water pipework
8. Cistern fed cold water pipework
9. Heating flow pipework
10. What does the acronym BSP stands for?
11. British Standard Product
12. British Standard Pipe-thread
13. Best Standard Practice
14. Best Site Procedure
15. The items shown in the image below would be used with which component?

A picture containing wheel, gear

Description automatically generated

1. Union
2. Compression fitting
3. Flange
4. Radiator
5. What type of thread is normally cut onto the end of an LCS pipe to allow threading into a fitting used in a commercial heating system?
6. Left-handed thread
7. Parallel thread
8. Tapered thread
9. Crossed thread
10. Medium grade LCS pipe is identified by banding of which colour?
11. Yellow
12. Brown
13. Red
14. Blue
15. What pipe jointing process is being carried out in the image below?

A picture containing person, gun

Description automatically generated

1. Brazing
2. MMA welding
3. Soldering
4. Oxyacetylene welding
5. Which of the following screw heads is a ‘Pozidriv’ head?

A close up of a logo

Description automatically generated

1. What size screw and drill bit combination is **best** suited to a Brown wall plug?
2. 5mm drill bit with an 8 gauge screw
3. 7mm drill bit with a 10 gauge screw
4. 10mm drill bit with a 6 gauge screw
5. 8mm drill bit with an 8 gauge screw
6. What type of material surface would the fixing device shown below be most suitable for?



1. Plasterboard
2. Masonry
3. Concrete
4. Ceramic tiles
5. What type of pipe clip is shown in the image below?

A picture containing black

Description automatically generated

1. Pressed steel Munsen ring
2. Malleable iron Munsen ring
3. Pressed steel school board clip
4. Malleable steel school board clip
5. Which of the following pieces of equipment is most suitable for producing accurate bends in LCS pipework?

http://begassafe.com/wp-content/uploads/2010/11/Bending-spring-Int.jpghttp://begassafe.com/wp-content/uploads/2010/11/Bending-spring-Ext.jpgA B



C D

A picture containing sitting, front, plane, holding

Description automatically generated

1. A
2. B
3. C
4. D
5. Select the surface water source from the following options:
6. River
7. Artesian well
8. Bore hole
9. Deep well
10. When temporary hard water is heated, what chemical does it leave behind, particularly on hot surfaces?
11. Sulphur trioxide
12. Calcium sulphate
13. Sandstone
14. Limescale
15. What is the most suitable material for the supply of underground mains cold water to a property?
16. Low carbon steel
17. Bare copper
18. UPVC
19. MDPE
20. Water that is clean and fit for human consumption is said to be…
21. Wholesome
22. Palatable
23. Clear
24. Chlorinated
25. What type of cold water system is shown in the image below?

A screenshot of a cell phone

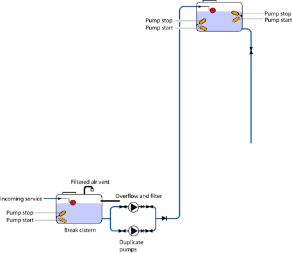
Description automatically generated

1. Direct cold water
2. Boosted cold water
3. Indirect cold water
4. Indirect boosted cold water
5. What type of cold water system is shown in the image below?

A screenshot of a social media post

Description automatically generated

1. Direct cold water
2. Boosted cold water
3. Indirect cold water
4. Indirect boosted cold water
5. What pressure would be created at the lowest point by a cistern positioned high in a multi-storey tower block if it was 45m above the lowest point?
6. 10 bar
7. 4.5 bar
8. 45 bar
9. 9.0 bar
10. What type of cold water system is shown in the image below?



1. Direct cold water
2. Boosted cold water
3. Indirect cold water
4. Indirect boosted cold water
5. What type of hot water system uses a cistern at high level feeding a calorifier at low level?
6. Unvented hot water system
7. Open vented hot water system
8. Instantaneous hot water system
9. Multipoint hot water system
10. Which pipe on a hot water system ensures that the whole hot water distribution system temperature does not fall to dangerous levels and prevents wastage of water?
11. Primary flow
12. Primary return
13. Secondary flow
14. Secondary return
15. Hot water storage calorifiers and cylinders should store water at what temperature?
16. 38–42⁰C
17. 45–55⁰C
18. 60–65⁰C
19. 70–82⁰C
20. What component is shown in the image below?



1. Plate heat exchanger
2. Indirect calorifier
3. Direct gas fired water heater
4. Instantaneous electric water heater
5. Identify the system shown in the image below:



1. One-pipe gravity heating system
2. Two-pipe gravity heating system
3. One-pipe semi-gravity heating system
4. Two-pipe semi-gravity heating system
5. Identify the system shown in the image below:



1. One-pipe gravity heating system
2. Two-pipe gravity heating system
3. One-pipe semi-gravity heating system
4. Two-pipe semi-gravity heating system
5. Which of the following options is **not** an advantage of underfloor heating systems?
6. The heat is distributed comfortably
7. Aesthetically pleasing
8. Efficient
9. Easily adapted during extensions
10. What is this component shown in the image below?

A picture containing indoor, small, sitting, table

Description automatically generated

1. Feed and expansion cistern
2. Pressure relief valve
3. Expansion vessel
4. Nitrogen cylinder
5. The process of manufacturing pipework pieces and sections offsite before taking them to site to be installed is known as what?
6. Pre-installation
7. Pre-fabrication
8. Pre-casting
9. Pre-forming
10. What type of heat emitter radiates its heat from flat panels that are heated by LTHW?
11. Radiant tube heater
12. Indirect gas fired warm air unit
13. Radiant panel
14. Fan coil unit
15. Which site document is used to record potential hazards in the workplace and decide what actions should be taken to make the work area safer?
16. Method statement
17. Time sheet
18. Site drawings
19. Risk Assessment
20. Which type of drawing is used to allow installers to see the location of components and devices in a system relative to each other and may not be to scale?
21. Installation drawing
22. Schematic drawing
23. As fitted drawing
24. Plan drawing
25. A hydraulic pressure test is carried out by charging the pipework system with which medium?
26. Nitrogen
27. Air
28. Hydraulic oil
29. Water