12. Building services engineering (BSE) systems

# Multiple choice questions (learner)

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| 1. | Why is copper tube ideal for hydronic systems? |
| a. | It is very strong |
| b. | It comes in a wide range of sizes |
| c. | It has a very smooth internal surface |
| d. | It is easy to bend |

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| 2. | The cold water service pipe to a building must be buried underground to a minimum recommended depth of: |
| a. | 750mm |
| b. | 900mm |
| c. | 650mm |
| d. | 700mm |

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| 3. | The conductor intended to protect electrical installations is referred to as the: |
| a. | Switched live conductor |
| b. | Phase conductor |
| c. | Neutral conductor |
| d. | Circuit protective conductor |

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| 4. | Rigid ductwork is made from: |
| a. | Aluminium |
| b. | Plastic |
| c. | Low carbon steel |
| d. | Copper |

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| 5. | The gas supply to a building is controlled by a device referred to as a: |
| a. | Gas cock |
| b. | Service control valve |
| c. | Main gas cock |
| d. | Gate valve |

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| 6. | In an AC system, what is the maximum percentage of extracted air that can be recirculated? |
| a. | 70% |
| b. | 25% |
| c. | 100% |
| d. | 15% |

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| 7. | Fittings used to joint plastic pipe are push-fit and incorporate a: |
| a. | ‘D’ ring and grab ring |
| b. | Friction ring washer |
| c. | ‘O’ ring and grab ring |
| d. | Compression ring |

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| 8. | The output of most alternators is: |
| a. | 30,000V (30kV) |
| b. | 2,300V (25kV) |
| c. | Not measured |
| d. | 25,000V (25kV) |

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| 9. | Pipeline components that are used to control the flow of fluids are referred to as: |
| a. | Restrictors |
| b. | Compressors |
| c. | Valves |
| d. | Impeders |

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| 10. | Which is the most commonly used pipework system in commercial heating installations? |
| a. | One pipe |
| b. | Three pipe |
| c. | Four pipe |
| d. | Two pipe |

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| 11. | Which component in an AC plant is used to dehumidify the supply air? |
| a. | Pre-heating coil |
| b. | Air washer |
| c. | Cooling coil |
| d. | Steam injector |

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| 12. | The operating pressure of a gas appliance is set and maintained by a device known as a: |
| a. | Service governor |
| b. | Pressure reducing valve |
| c. | Relay valve |
| d. | Constant pressure governor  |

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| 13. | What component is crucial for a compensated heating system to function correctly? |
| a. | Three-port mixing valve |
| b. | Three-port diverting valve |
| c. | Two-port on/off valve |
| d. | Double regulating valve |

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| 14. | The neutral conductor in fixed cable installations is identifiable by the insulation being coloured: |
| a. | Blue |
| b. | Brown |
| c. | Yellow and green |
| d. | Red |

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| 15. | Unvented hot water storage cylinders are supplied as a complete unit containing all the: |
| a. | Usual connections for pipes |
| b. | Mandatory safety devices |
| c. | Necessary BS numbers |
| d. | Fixing instructions |

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| 16. | In a sealed heating system an important safety device which prevents excessive force within is called: |
| a. | An open-vent pipe |
| b. | An automatic air vent |
| c. | An expansion vessel |
| d. | A pressure relief valve |

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| 17. | Which component in a vapour refrigeration system increases the pressure of the refrigerant? |
| a. | Expansion valve |
| b. | Evaporator  |
| c. | Condenser |
| d. | Compressor |
| 18. | An operational technology network is more commonly known as: |
| a. | Wi-fi |
| b. | A building energy management system (BEM)  |
| c. | A virtual private network (VPN) |
| d. | A wide area network (WAN |

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| 19. | When a building is naturally ventilated by cooler external air displacing warmer internal air, this is referred to as the: |
| a. | Wind effect |
| b. | Suction effect |
| c. | Stack effect |
| d. | Dynamic effect |
| 20. | Which of the following is not a type of earthing arrangement? |
| a. | TN-S |
| b. | TN-C-S |
| c. | TN-SC |
| d. | TT |