

Excavator 180

A10

Below 5 tonnes

Technical Test – Theory

Roles and responsibilities	1. What is the definition of, or how can a hazard be described?
	A
	2. What is the purpose of a risk assessment?
	A
	3. List SIX typical subject areas that should be covered in a site induction.
	A
	4. What THREE main duties of the Health and Safety at Work Act must employees follow?
	A
	5. What does the Health and Safety at Work Act require employers to do with regards specifically to plant?
	A
	6. a) What is the purpose of a Method Statement and b) what is required of the operator?
	A
	7. Name FOUR different types or levels of sanctions that can be applied (by employers and judicial bodies) to plant operators who do not comply with, or follow legislation and regulations.
	A
	8. Plant operators are generally regarded as 'safety-critical' workers. What does this mean?
	A

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Roles and responsibilities continued	9. Name THREE ways in which an operator can minimise their impact upon the environment whilst using the machine.
	A
	10. In what situation does a hard hat NOT need to be worn when operating a 180 excavator?
	A
	11. The operator has to fit and use a new bucket using a quick-hitch coupler that they are unfamiliar with. What do Regulations (i.e. PUWER 98) and other guidance require the operator to have?
	A
	12. What are the possible outcomes if being prosecuted (by judicial bodies) for not complying with legislation and regulations?
	A
	13. Give TWO examples of where The Work at Height Regulations may apply to 180 excavator operations.
	A
Preparing for work	14. How can a qualification or card benefit a plant operator?
	A
	15. Name THREE ways that a plant operator can contribute in ensuring repeat business with the client or main contractor.
	A
	16. Where should the excavator's Operator's Manual be kept and why?
	A
	17. If the operator has to top-up the hydraulic oil, state TWO precautions to ensure cleanliness of the system.
A	

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Preparing for work continued	For questions 18 and 19 the Operator's Manual for the machine being used for the test MUST be available for reference by the candidate
	18. Using the Operator's Manual, state the tyres' operating pressure.
	A
	19. Using the Operator's Manual, state the cold-starting procedure for the machine.
	A
	20. If checking the oil level using a dipstick, why must gloves be worn?
	A
	21. Apart from the operator, who else may need to use the machine's Operator's Manual?
	A
	22. What is a possible consequence of using a tyre with a deep cut in the sidewall?
	A
	23. During work, the engine starts to overheat. Explain the danger if someone tries to remove the radiator or expansion tank cap.
	A
	24. Mini 180 excavators may be equipped with a (front) clamshell bucket. Name FOUR possible functions (excluding the forks).
A	
25. What is the purpose of a roll or ROPS frame?	
A	
Travelling and manoeuvring	26. a) Name THREE purposes of the raised lugs on tyres and b) what can happen to an excavator if the lugs are severely worn?
	A
	27. If the excavator is being travelled or working on the public highway, including adjacent pavements and verges, the Road Traffic Act applies. a) What type of licence and which classes should the operator hold and b) what is the minimum age allowed?
A	

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Travelling and manoeuvring continued	28. An operator has been asked to transport a load in the front bucket down a small section of the public highway, for which The Road Traffic Act applies. What effect does this have on operations?
	A
	29. When travelling, why should the rear boom be locked?
	A
	30. Why must the seat belt be worn, even with the cab door closed?
	A
Setting up for work	31. a) What is the minimum distance allowed near open trenches when travelling with a loaded front bucket and b) explain why.
	A
	32. What information does the 'dig-envelope' (also known as 'working range') chart give? (Candidates may be shown a copy of a chart)
	A
	33. Explain ALL visual checks that must be carried out on all types of quick-hitch bucket attaching systems before use.
	A
	34. On a semi-automatic quick-hitch bucket attaching system: a) what is the purpose of the safety pin and b) what checks MUST be made to the pin before use?
	A
35. Cable avoidance tools (CATs) can detect a variety of buried services. What type of material do they have limitations in locating?	
A	
36. Describe ONE physical method of checking that a bucket is fully secured to the quick-hitch coupler prior to work.	
A	

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Setting up for work continued	37. On stabiliser-equipped machines, what must be checked before the stabilisers are lowered?
	A
	38. If setting up to excavate in a confined area, name TWO things that should be taken into account before starting.
	A
	39. What is regarded as the most productive position for a dumper to be in when being loaded with a 180 excavator working from a stockpile?
	A
	40. Name TWO types of equipment used to ensure that excavation levels, measurements and positions are to the required specification.
	A
	41. What particular and specific hazards can affect the stability of the machine when working on old industrial (Brownfield) sites?
	A
	42. If setting up to work in a pedestrianised area, state THREE factors that need to be taken into account.
	A
	43. The operator is asked to excavate a new trench. State FIVE different requirements that must be considered or implemented before work commences.
	A
44. Before manually changing any bucket: a) where should the bucket be positioned (in relation to the ground) before removing the final pin and b) why?	
A	
45. With regards to lifting accessories, irrespective of who supplied the accessories, what THREE factors should be ensured before the accessories are used?	
A	
46. a) What is the recommended minimum distance to be kept away from overhead power lines mounted on wooden poles when setting up the machine to excavate and b) explain why a distance should be kept.	
A	

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Working tasks	47. If a trench has a depth of 1.0 metre: a) what is the minimum distance to maintain from the edge of the trench when placing spoil and b) explain why.
	A
	48. Why should different soils be segregated during excavating?
	A
	49. Give THREE reasons why an oversize bucket should not be used when excavating trenches to specification.
	A
	50. If fitted, describe ONE application when the hand throttle can safely be used.
	A
	51. Give FOUR reasons that may cause the excavator to tip over sideways.
	A
	52. Why must excavator operators not begin to load vehicles until the forward tipping dumper driver is clear of their machine?
	A
	53. What makes up the total (or gross) weight of a load that is to be lifted'?
	A
	54. What factors determine the shoring requirements of a trench?
	A
55. Give TWO reasons why, wherever possible, operators should excavate ground in layers.	
A	
56. If a yellow coloured marker tape is unearthed during excavating, which two types of services could this indicate?	
A	
57. What is the nearest distance allowed to gas pipes when excavating with the machine?	
A	

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Working tasks continued	58. What is the meaning of this hand signal (being demonstrated by the Tester)?
	A
	59. The operator is asked to tip material into a trench. State FIVE different requirements that must be considered or implemented before tipping commences.
	A
	60. If loading a dumper, who should determine the maximum load that should be placed into the body?
	A
	61. Explain a possible danger if the excavator is lifting a load on sloping ground, even though the load chart indicates that the machine can lift that load.
	A
	62. Before lowering into or moving a pipe into a trench, what trench-related checks must be made?
	A
Completing work	63. If a load is lifted using the backhoe unit that is inline with the machine, when slewing the load fully to the left or right, the machine can become unstable. Explain why.
	A
	64. If the excavator is carrying out deep excavating work using the full working range, what hazard may occur?
	A
Completing work	65. Describe TWO actions to be taken for an open trench at the end of a working day.
	A
Completing work	66. Before leaving the cab for a rest break, after parking and switching off the machine, what final action must be carried out?
	A

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Shutdown	67. When parking the machine at the end of the shift, name THREE places where the machine should NOT be parked.
	A
	68. The operator has been asked to drive the machine onto a transporter/trailer. a) Who is responsible for the loading operations and b) state FOUR actions to be considered by the operator before loading commences.
	A
	69. If the operator has loaded the machine onto a transporter/trailer on behalf of a driver, what checks must be carried out before they leave the cab?
	A
	70. Why should an excavator be re-fuelled at the end of the day?
	A
71. After shutting down the engine, why should the hydraulic operating levers be cycled?	
A	