

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

*continued...*

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 grader?
	A
	11. The operator has to use a new type of grader 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. How can a qualification or card benefit a plant operator?
	A
Preparing for work	14. Name THREE ways that a plant operator can contribute in ensuring repeat business with the client or main contractor.
	A
	15. Where should the grader's Operator's Manual be kept and why?
	A
	16. If the operator has to top-up the hydraulic oil, state TWO precautions to ensure cleanliness of the system.
	A
	<b>For questions 17 and 18 the Operator's Manual for the machine being used for the test MUST be available for reference by the candidate</b>
	17. Using the Operator's Manual, state the figure for the tyres' operating pressure.
A	
18. Using the Operator's Manual, state the cold-starting procedure for the machine.	
A	

*continued...*

Preparing for work continued	19. What is the purpose of a roll or ROPS frame?
	A
	20. Explain the difference between a mouldboard side-shift and a circle side-shift.
	A
	21. If fitted, how are the scarifier tines in the block retained in position?
	A
	22. If fitted, what typical applications would a front dozer blade be used for?
	A
	23. How does front wheel drive help work efficiency?
	A
	24. If checking the oil level using a dipstick, why must gloves be worn?
	A
	25. If fitted, what would a front-mounted scarifier normally be used for?
	A
26. Apart from the operator, who else may need to use the machine's Operator's Manual?	
A	
27. During work, the engine starts to overheat. Explain the danger if someone tries to remove the radiator or expansion tank cap.	
A	
Travelling and manoeuvring	28. On an articulated grader, what precaution should be taken when turning left or right?
	A
	29. a) What should be avoided when travelling if the mouldboard is being carried in the banking position and b) why?
	A

*continued...*

Travelling and manoeuvring continued	30. How can a tight turning circle be achieved?
	A
	31. When MUST a banksman/signaller be used before moving a grader?
	A
	32. Why must the seat belt be worn, even with the cab door closed?
A	
Setting up for work	33. Give TWO reasons that may cause the grader to tip over sideways.
	A
	34. Cable avoidance tools (CATs) can detect a variety of buried services. What type of material do they have limitations in locating?
	A
	35. If setting up to grade in a confined area, name TWO things that should be taken into account before starting.
	A
	36. What particular and specific hazards can affect the stability of the machine when working on old industrial (Brownfield) sites?
	A
	37. If setting up to work near a pedestrianised area, state THREE factors that need to be taken into account.
	A
38. Name TWO types of equipment used to ensure that grading levels, measurements and positions are to the required specification.	
A	
39. Describe the procedure to be followed if the blade attachment has to be removed.	
A	
40. What THREE things should be checked out before carrying out embankment work?	
A	

*continued...*

Working tasks	41. Before manually changing the blade, why should the blade be positioned resting on the ground before removing the final pin?
	A
	42. a) What is the recommended minimum distance to be kept away from overhead power lines mounted on wooden poles when setting up the machine and b) explain why a distance should be kept.
	A
	43. If a trench has a depth of 2.0 metres: a) what is the minimum distance to maintain from the edge of the trench and b) explain why.
	A
	44. If a yellow coloured marker tape is unearthed during grading, which two types of services could this indicate?
	A
	45. What is the nearest distance allowed to gas pipes when grading with the machine?
	A
	46. What is the meaning of this hand signal (being demonstrated by the tester)?
	A
	47. Describe THREE reasons for using the crab steer mode.
	A
	48. If operating the machine on a 'formation' trim, name THREE possible hazards.
A	
49. How can tyre marks be avoided when finishing a surface?	
A	
50. Why would a fast working speed be selected if spreading light materials?	
A	
51. On graders fitted with leaning wheels, how can the effect of side-thrust acting on the front be counteracted when a large volume of material is being side-cast?	
A	

*continued...*

Working tasks continued	52. What problem may occur if the wearing plates on the blade are at the maximum wear limit?
	A
Working tasks continued	53. What does float control of the blade allow?
	A
Completing work	54. Before leaving the cab for a rest break, after parking and switching off the machine, what final action must be carried out?
	A
Shutdown	55. When parking the machine at the end of the shift, name THREE places where the machine should NOT be parked.
	A
	56. 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
	57. Many graders have a turbo-charged engine. a) What is the normal procedure before switching off the engine after working and b) what happens if the procedure is not followed?
	A
Shutdown	58. 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
	59. Why should a grader be re-fuelled at the end of the day?
	A

# Grader

# A19

## Technical Test – Practical

### RESOURCES

#### Required

Machine	<ul style="list-style-type: none"> <li>• Grader with centrally-mounted blade</li> </ul>
Area	<ul style="list-style-type: none"> <li>• Ground, clear of hazards which must include:             <ul style="list-style-type: none"> <li>– level area for grading activities</li> <li>– rough terrain</li> <li>– slope or slopes</li> <li>– bank of suitable material</li> </ul> </li> </ul>
Other equipment	<ul style="list-style-type: none"> <li>• Items to create restrictions for manoeuvring</li> <li>• Laser equipped measuring equipment to ensure earthmoving specifications are met</li> </ul>
Notes	<ul style="list-style-type: none"> <li>• The machine selected for the test must be in serviceable condition and conform with current legislation</li> <li>• The operator's manual must be with the grader</li> <li>• The level area must be at least 30 metres in length and 3 x the blade width</li> <li>• The bank must be at least 15 metres in length</li> <li>• The slope must have at least an 18% (1:5.5) incline with sufficient manoeuvring room at the top, or a straight ramp with an up and down route with a flat area at the summit</li> </ul>

### ACTIVITY

#### Instructions

Sequence	<ul style="list-style-type: none"> <li>• Activity 1 must be undertaken at the start of the test</li> <li>• Activities 2, 4 and 5 can be undertaken at any time during the test</li> <li>• Activity 7 must be undertaken at the end of the test</li> </ul> <p>The test must be completed within a given time. The specifications' section gives further information.</p>
Preparing for work	1. Complete all manufacturers' pre-start and running checks and prepare the grader for travel
Travelling & manoeuvring (refer to specifications)	2. Travel to the work area and: <ul style="list-style-type: none"> <li>– travel up and down the slope</li> <li>– pass through a restriction</li> <li>– travel over rough terrain</li> </ul>
Setting up for work	3. Prepare and set the grader for the relevant work
Working tasks (refer to specifications)	4. Trim the bank to an agreed angle 5. Grade and level an area to specification 6. Reinstate the work area to level
Shutting down	7. Park the grader and carry out shut-down and securing procedures
Notes	<ul style="list-style-type: none"> <li>• If the machine is hot, checks unable to be carried out (i.e. coolant) may be assessed by the Tester using verbal questions</li> </ul>

#### Activity measurements

Travel restrictions	<ul style="list-style-type: none"> <li>• 800 mm</li> </ul>
Bank grading	<ul style="list-style-type: none"> <li>• 15 metres minimum to <math>\pm 35</math> mm</li> </ul>
Level grading	<ul style="list-style-type: none"> <li>• 30 metres in length and 3 x the blade width to <math>\pm 35</math> mm</li> </ul>
Test timings	<ul style="list-style-type: none"> <li>• The test must be completed within 1 hour and 45 minutes</li> </ul>

# Grader

# A19

## Technical Test – Practical

<b>Basic details</b>	Test ref.	Candidate name
	Tester name	Candidate ref.
	Tester ref.	Date of test
	Make and model	Start time of test
		Duration

### MANDATORY

		Correctly carried out during the test?	Y/N
Preparing	1 All pre-start and running checks (or responses to relevant questions)		
	2 Grader set for travel		
Travelling	3 Restrictions cleared		
	4 Encountered hazards cleared		
	5 Control maintained when ascending and descending inclines		
Setting up	6 Allocated area checked and clear of hazards prior to grading		
	7 Grader set for required work		
	8 Mouldboard set to required position for banking and level work		
Working	9 Bank profile constant and met given specification and tolerances		
	10 Level area graded and conformed to the stated sizes and tolerances		
	11 No contact between mouldboard and machine		
	12 Excavated area reinstated to level		
Shutdown	13 All shut down and securing procedures		
Other	14 Legislation, manufacturers' and health and safety requirements complied with		
	15 Test completed within the given time		
<b>All of these items must be awarded</b>		Achieved / Not achieved	

### FAULTS

		Candidate incorrectly carried out the following:	Fault	Mark	Penalty
Travelling	1 Grader mounting and dismounting			1	
	2 Full observation before moving and reversing			3	
	3 Full observation whilst travelling			2	
	4 Mouldboard within machine confines when travelling			1	
	5 Travel speed matched to the ground type and conditions			1	
Working	6 Mouldboard lowered whilst moving			1	
	7 Area graded in layers			2	
	8 Feathering out at the end of the cut			2	
	9 Smooth use of steering/braking/hydraulic controls			2	
	10 Sequence of steering/braking/hydraulic controls			1	
<b>Not exceeded 8 penalties</b>			Total penalties		
			Achieved / Not achieved		

