

# Agricultural Tractor

**A33**

## 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 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. Where required, in what situation does a hard hat NOT need to be worn when operating an agricultural tractor?
	A
	11. The operator has to use a new type of implement 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 for not complying with legislation and regulations?
	A
Preparing for work	13. How can a qualification or card benefit a plant operator?
	A
	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 agricultural tractor's Operator's Manual be kept and why?
	A
	16. What is a possible consequence of using a tyre with a deep cut in the sidewall?
	A
	17. If the operator has to top-up the transmission oil, state TWO precautions to ensure cleanliness of the system.
	A
<b>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</b>	
18. Using the Operator's Manual, state the figure for tyres' operating pressure.	
A	
19. Using the Operator's Manual, state the cold-starting procedure for the machine.	
A	

continued...

Preparing for work continued	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 the purpose of a ROPS cab?
	A
	23. How are agricultural tractors classified?
	A
	24. Why should a linch pin/safety pin be fitted to the drawbar pin after connecting a trailer?
	A
	25. What speeds may PTO shafts be normally driven at?
	A
Travelling and manoeuvring	26. What is the function of an 'automatic pick-up hitch'?
	A
	27. Describe one application when the hand throttle can safely be used
	A
	28. During work, the engine starts to overheat. Explain the danger if someone tries to remove the radiator or expansion tank cap.
	A
	29. a) Name THREE purposes of the raised lugs on tyres and b) what can happen to an agricultural tractor if the lugs are severely worn?
	A
30. What problems and hazards can soft ground cause to an agricultural tractor?	
A	

*continued...*

Travelling and manoeuvring continued	31. An operator has to travel the tractor on the public highway, for which The Road Traffic Act applies. List SIX requirements that must be followed.
	A
	32. a) When should 4-wheel drive not be selected and b) explain why?
	A
	33. a) What is the minimum distance allowed near open trenches when travelling with an agricultural tractor and b) explain why.
	A
	34. If the machine 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 class should the operator hold and b) what is the minimum age allowed?
	A
	35. When travelling on wet clay, what effect does this have on the agricultural tractor?
	A
Setting up for work	36. Why must the seat belt be worn at all times, even with the cab door closed?
	A
	37. Give THREE possible reasons why agricultural tractor should not stray off the designated travel routes.
	A
	38. If setting up to work in a pedestrianised area, state THREE factors that need to be taken into account.
A	
Setting up for work	39. If applicable, whenever possible, who should decide the positioning of the tractor and trailer when being loaded?
	A

*continued...*

Setting up for work continued	40. The operator is asked to tip material from a trailer into a trench. State FIVE different requirements that must be considered or implemented before tipping commences.
	A
	41. On trailer operations, give TWO reasons why the tractor operator should have an understanding of the type of spoil being transported.
	A
Working tasks	42. Why should hydraulic pipe connections be cleaned before re-connecting to the implement and/or tractor?
	A
	43. Before uncoupling a trailed implement, what should be ensured?
	A
	44. Why should the driven speed of a PTO driven implement be checked before attaching to the tractor?
	A
	45. Which parts of the shaft must PTO shaft guarding cover?
	A
	46. If a higher operating speed (1000 rpm) is selected for an implement designed to run at the lower speed (540 rpm), what may occur during operation?
	A
47. What may happen if turning too tight whilst driving a PTO trailed implement?	
A	
48. When working in a confined area or space, name THREE hazards that can occur.	
A	

*continued...*

Working tasks continued	49. a) What is the recommended minimum distance to be kept away from overhead power lines mounted on wooden poles if tipping loads and b) explain why a distance should be kept.
	A
	50. a) Why should the body of the trailer be raised slowly/carefully when discharging wet or sticky material and b) what would be a consequence if this was not done?
	A
	51. Who should determine the maximum load that should be placed into the trailer?
	A
	52. State TWO requirements of using a stop block or earth bank (berm) at a trench discharging point.
	A
	53. When tipping a load, the centre of gravity of the trailer changes. a) How does this affect the trailer and b) state TWO actions to avoid accidents?
	A
Completing work	54. If a load has to be tipped on a slope, what may happen if the load is tipped downhill?
	A
	55. What is the meaning of this hand signal (being demonstrated by the Tester)?
	A
	56. Operators should lower the trailer fully before driving away. Give TWO possible consequences if this is not carried out.
	A
	57. Before leaving the cab for a rest break, after parking and switching off the machine, what final action must be carried out?
A	
Completing work	58. On tractors equipped with powershift transmissions, manufacturers state that the parking brake is to be fully applied when parking, and not just leaving the machine in gear. Explain why.
	A

*continued...*

Shutdown	59. When parking the machine at the end of the shift, name THREE places where the tractor should NOT be parked.
	A
	60. Larger agricultural tractors tend to 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
	61. Why should an agricultural tractor be re-fuelled at the end of the day?
	A
62. 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	

# Agricultural Tractor

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## Technical Test – Practical

### RESOURCES

#### Required

Machine	<ul style="list-style-type: none"> <li>• Agricultural Tractor equipped with trailer towing facilities and 3-point linkage for implement mounting</li> </ul>
Area	<ul style="list-style-type: none"> <li>• Ground, clear of hazards which must include:               <ul style="list-style-type: none"> <li>– rough undulating terrain</li> <li>– slope or slopes</li> <li>– confined space for reversing</li> </ul> </li> </ul>
Other equipment	<ul style="list-style-type: none"> <li>• Compatible loaded two wheel trailer or fully laden bowser</li> <li>• 3-point mountable implement</li> <li>• A PTO-driven implement</li> </ul>
Notes	<ul style="list-style-type: none"> <li>• The machine selected for the test must meet be in serviceable condition and conform with current legislation</li> <li>• The operator's manual must be with the tractor</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> <li>• The PTO-driven implement may be used in conjunction with the trailer/bowser or mounted implement</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>• Activity 2 may be spread over the period of the test</li> <li>• Activities 4, 5 and 6 may be carried out in any order during the test</li> <li>• Activity 6 may be combined with activity 4 or 5</li> <li>• Activity 8 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 tractor for travel
Travelling & manoeuvring (refer to specifications)	2 With the trailer and mounted implement: <ul style="list-style-type: none"> <li>– travel up and down the slope</li> <li>– travel over rough terrain</li> </ul> and additionally with the trailer: <ul style="list-style-type: none"> <li>– stop and restart on the incline in the up direction</li> <li>– carry out sharp left- and right-hand turns</li> <li>– reverse into a confined space</li> </ul>
Setting up for work	3 Position and prepare the tractor for all work
Working tasks (refer to specifications)	4 Attach the trailer and carry out activity 2. On completion, disconnect the trailer with the confined area 5 Attach the 3-point linkage implement and carry out activity 2. On completion, disconnect the implement 6 Connect the PTO driven implement and run to full speed to ensure correct functioning. On completion, detach the PTO driveline
Completing work	7 Leave all implements, trailers and components safe and secure
Shutting down	8 Park the tractor and carry out shut-down and securing procedures
Notes	<ul style="list-style-type: none"> <li>• The trailer must be reversed into a confined area that is at least the length of the trailer</li> <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

Reversing direction	<ul style="list-style-type: none"> <li>• 800 mm</li> </ul>
Reversing restriction	<ul style="list-style-type: none"> <li>• 1 metre</li> </ul>
Test timings	<ul style="list-style-type: none"> <li>• The test must be completed within 1 hour and 45 minutes</li> </ul>

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## 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

<b>MANDATORY</b>		Correctly carried out during the test?	Y / N
Preparing	1 All pre-start and running checks (or responses to relevant questions)		
Travelling	2 Tractor set for travel		
	3 Restrictions and hazards cleared		
	4 Full control maintained when ascending and descending slopes		
Setting up	5 No opposite movement of intended direction when restarting on slopes		
	6 Allocated area checked and clear of hazards prior to work		
Working	7 Positioned the tractor for the relevant work		
	8 Trailer attached and disconnected using the correct sequence		
	9 Mounted implement attached and disconnected using the correct sequence		
	10 PTO implement attached and disconnected using the correct sequence		
	11 Mounted implement secured and stable prior to travel		
	12 PTO driveline components checked for condition prior to connection		
	13 PTO shaft secured and fully locked onto tractor and implement		
	14 Sequence of starting and stopping the PTO driveline		
Completing	15 PTO driveline checked for safe running		
	16 PTO driveline secured after disconnection		
Shutdown	17 All implements, trailers and components safe and secure after disconnecting		
Other	18 All shutdown and securing procedures		
	19 Legislation, manufacturers' and health and safety requirements complied with		
	20 Test completed within the given time		
<b>All of these items must be awarded</b>		Achieved / Not achieved	

<b>FAULTS</b>		Candidate incorrectly carried out the following:	Fault	Mark	Penalty
Travelling	1	Tractor mounting and dismounting		1	
	2	Full observation before moving		2	
	3	Full observation whilst travelling		2	
	4	Full observation before and during reversing		3	
Working	5	Transmission drive engaged smoothly from rest		1	
	6	Travel speed matches ground type and conditions		2	
	7	Gear ratios match ground speed		1	
	8	Tractor positioning within 3 attempts when connecting trailer		2	
	9	Reversing into confined space within 3 attempts		2	
	10	Sequence of using hydraulic controls		1	
	11	Smooth use of steering and braking controls		1	
<b>Not exceeded 8 penalties</b>			Total penalties		
			Achieved / Not achieved		

