

# Motorised Scraper

**A24**

Technical Test – Theory

Roles and responsibilities	1. What is the definition of, or how can a hazard be described?
	<b>A</b>
	2. What is the purpose of a risk assessment?
	<b>A</b>
	3. List SIX typical subject areas that should be covered in a site induction.
	<b>A</b>
	4. What THREE main duties of the Health and Safety at Work Act must employees follow?
	<b>A</b>
	5. What does the Health and Safety at Work Act require employers to do with regards specifically to plant?
	<b>A</b>
	6. a) What is the purpose of a Method Statement and b) what is required of the operator?
	<b>A</b>
	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.
	<b>A</b>
	8. Plant operators are generally regarded as 'safety-critical' workers. What does this mean?
	<b>A</b>

*continued...*

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

*continued...*

Preparing for work continued	<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 the tyres’ operating pressure.
	<b>A</b>
	19. Using the Operator’s Manual, state the cold-starting procedure for the machine.
	<b>A</b>
	20. What is the purpose of a roll or ROPS frame?
	<b>A</b>
	21. If checking the oil level using a dipstick, why must gloves be worn?
	<b>A</b>
	22. Before entering the bowl area, what should be ensured?
	<b>A</b>
	23. Apart from the operator, who else may need to use the machine’s Operator’s Manual?
	<b>A</b>
	24. On scrapers, steering is achieved by actuating hydraulic rams which are controlled by turning the steering wheel. a) How does the engine supply the oil flow and b) what happens to the steering when the engine stops?
<b>A</b>	
25. What is the purpose of the apron?	
<b>A</b>	
26. On start up, the air pressure on the machine is low. What actions must the operator carry out before work and during work?	
<b>A</b>	
27. During work, the engine starts to overheat. Explain the danger if someone tries to remove the radiator or expansion tank cap.	
<b>A</b>	

*continued...*

Travelling and manoeuvring	28. Many scrapers have differential locking systems. How can this help production?
	<b>A</b>
	29. a) Give ONE advantage and b) TWO disadvantages of rear mounted cameras.
	<b>A</b>
	30. An operator has been asked to carry some material down a small section of the public highway, for which the Road Traffic act applies. What are the implications for the operator and machine?
	<b>A</b>
	31. If the machine is being travelled or working on the public highway, 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?
	<b>A</b>
	32. Give THREE possible reasons why scrapers should not stray off the designated haul routes.
	<b>A</b>
	33. a) State the purpose of a retarder and b) the possible consequences of not using it when required.
	<b>A</b>
	34. Name THREE conditions that mirrors must be in, on the machine.
	<b>A</b>
	35. What problems and hazards can soft ground cause to a loaded scraper?
	<b>A</b>
36. a) Name THREE purposes of the raised lugs on tyres and b) what can happen to the scraper if the lugs are severely worn?	
<b>A</b>	

*continued...*

Travelling and manoeuvring continued	37. When travelling on wet clay or rock, what effect does this have on the scraper?
	<b>A</b>
	38. a) What is the minimum distance allowed near open trenches when travelling with a scraper and b) explain why.
	<b>A</b>
	39. When MUST a banksman/signaller be used before moving a scraper?
	<b>A</b>
	40. Why must the seat belt be worn, even with the cab door closed?
	<b>A</b>
	41. Give THREE reasons that may cause the machine to roll over.
	<b>A</b>
	42. Explain the difference between: a) struck and b) heaped capacities.
	<b>A</b>
	43. How are scrapers rated?
	<b>A</b>
44. Give an advantage of an auger or elevator type scraper over a conventional scraper.	
<b>A</b>	
Setting up for work	45. Give TWO reasons why the scraper operator should have an understanding of the type of material being loaded.
	<b>A</b>
	46. If setting up to excavate in a confined area, name TWO things that should be taken into account before starting.
	<b>A</b>
47. What particular and specific hazards can affect the stability of the machine when working on old industrial (Brownfield) sites?	
<b>A</b>	

*continued...*

Setting up for work continued	48. Which two points on a site represent the haul distance?
	<b>A</b>
	49. The operator is asked to excavate a new area. State FIVE different requirements that must be considered or implemented before work commences.
Setting up for work continued	<b>A</b>
	50. 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.
	<b>A</b>
Working tasks	51. Why should different soils be segregated during excavating?
	<b>A</b>
	52. Describe TWO actions to be taken if the scraper becomes 'bogged' down on the fill.
	<b>A</b>
	53. To assist in ejecting sticky material from the scraper bowl, describe the actions that may be taken.
	<b>A</b>
	54. On a twin-engined scraper, how should the engines speed be set whilst driving around a corner?
	<b>A</b>
	55. Explain the difference between: a) a 'stockpile' and b) a 'borrow pit'.
	<b>A</b>
56. What is 'pump loading'?	
<b>A</b>	
57. Describe one use of a concave cut.	
<b>A</b>	

*continued...*

Working tasks continued	58. What factors determine the shoring/supporting requirements of a trench?
	<b>A</b>
	59. Give TWO reasons why operators should excavate ground in layers.
	<b>A</b>
	60. If a yellow coloured marker tape is unearthed during excavating, which two types of services could this indicate?
	<b>A</b>
	61. What is the nearest distance allowed to gas pipes when excavating with the machine?
	<b>A</b>
Completing work	62. What is the meaning of this hand signal (being demonstrated by the tester)?
	<b>A</b>
	63. Describe one action to be taken to protect the formation in inclement weather.
Completing work	<b>A</b>
	64. Before leaving the cab for a rest break, after parking and switching off the machine, what final action must be carried out?
Shutdown	<b>A</b>
	65. When parking the machine at the end of the shift, name THREE places where the machine should NOT be parked.
	<b>A</b>
	66. Many scrapers 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?
	<b>A</b>
Shutdown	67. 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.
	<b>A</b>

*continued...*

Shutdown continued	68. 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?
	<b>A</b>
	69. Why should a scraper be re-fuelled at the end of the day?
	<b>A</b>