

Slinger/Signaller

A40

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 slinger/signaller?
	A
	7. Name FOUR different types or levels of sanctions that can be applied (by employers and judicial bodies) to slingers/signallers who do not comply with, or follow legislation and regulations.
	A
	8. Slingers/signallers are generally regarded as 'safety-critical' workers. What does this mean?
	A

continued...

Roles and responsibilities continued	9. Name THREE ways in which a slinger/signaller can minimise their impact upon the environment during lifting operations.
	A
	10. State the functions or job role of the following personnel: a) Appointed Person, b) Crane Supervisor, c) Crane operator
	A
	11. The slinger has to use new lifting accessories that they are unfamiliar with. What do Regulations (i.e. LOLER 98) and other guidance require the slinger/signaller to have?
	A
	12. What are the possible outcomes if being prosecuted for not complying with legislation and regulations?
	A
	13. Give TWO examples of where The Work at Height Regulations may apply to lifting operations.
	A
Preparing for work	14. How can a qualification or card benefit a slinger/signaller?
	A
	15. Name THREE ways that a slinger/signaller can contribute in ensuring repeat business with the client or main contractor.
	A
	16. What is the difference between a contract lift and a 'standard' crane hire?
	A
	17. a) What is meant by the lifting capacity of the crane and b) who determines it?
	A
18. What are the THREE actions that a slinger/signaller undertakes on lifting accessories during pre-use inspections?	
A	
19. Which parts of the crane is the radius (for lifting) measured from?	
A	

continued...

Preparing for work continued	20. When checking the condition of lifting accessories, why must gloves be worn?
	A
	21. On what type of loads would a spreader beam be used?
	A
	22. a) How does the number of lines or falls of rope affect the lifting capacity for the crane and b) how is hoist speed affected when the number of lines (or falls of rope) is reduced?
	A
	23. a) Name the component A of the lifting accessory on Annex A and b) state its function.
	A
	24. What do the letters SWL signify, as stamped on lifting accessories?
	A
	25. a) Name THREE different types of lifting accessories and b) state ONE advantage of each compared to other types of available lifting accessories.
	A
	26. When would a fly jib or lattice extension be fitted and used on a crane?
	A
27. Polyester webbing slings are coloured and have black lines. What do the different colours and number of lines indicate?	
A	
28. a) Who is allowed to issue lifting accessory test certificates and b) when are they issued?	
A	
Setting up for work	29. a) Which part of the crane applies loading or pressure to the ground and b) name TWO ways that pressure can be reduced.
	A
	30. If assisting in fitting a fly jib to the crane, why is it important that the manufacturers' procedures are followed precisely?
	A
31. Wind speeds can be variable throughout the working day. What action must be taken to ensure safe working conditions are maintained?	
A	

continued...

Setting up for work continued	32. On a busy construction site, how would the slinger/signaller be identified to the crane operator?
	A
	33. If the legs of a chain sling are more than 90 degrees apart from each other, what happens to the SWL?
	A
	34. What is meant by centre of gravity, or how is the centre of gravity determined, on a load to be lifted?
	A
	35. If setting up to lift loads in a pedestrianised area, state ONE factor that needs to be taken into account by the slinger/signaller.
	A
	36. During inspections, damage has been found to a lifting accessory. What TWO actions must be taken?
	A
	37. A 1 tonne webbing sling is attached to a load using a choke hitch. What is the maximum weight the accessory is allowed to lift?
	A
	38. What information is needed when estimating the weight of a load?
	A
39. When using more than one lifting accessory, how should they be secured to the crane hook?	
A	
40. a) What is the recommended minimum distance to be kept away from overhead power lines mounted on metal pylons when setting up the lift and b) explain why a distance should be kept.	
A	
41. During a lift, it is suspected that a lifting accessory exceeded the rated capacity. What would be the course of action?	
A	
42. a) What is the type of sling shown as item B on the annex and b) what type of hitch is shown?	
A	

Working tasks	43. When must the signaller be used before moving a crane?
	A
	44. The safe working load (SWL) of a multi-leg chain sling only applies in what TWO conditions or configuration?
	A
	45. Give FOUR reasons that may cause a mobile crane to overturn.
	A
	46. If guiding a crane which is carrying a load near an open trench and the trench has a depth of 2.0 metres, what is the minimum distance to maintain?
	A
	47. If radios are to be used during the lifting operations, what FIVE actions and checks must be made by the slinger/signaller before use?
	A
	48. When working in a confined area or space: a) what danger can be present with regards to the counterweight of the machine, b) what is the recommended minimum distance and c) what measures must be implemented if the gap is less?
	A
	49. What makes up the total (or gross) weight of a load that is to be lifted?
	A
50. During the lifting operation, part of the task cannot be carried out as detailed in the lift plan. a) What initially must happen to the lifting operation and b) who authorises any changes?	
A	
51. If the hook block inadvertently (accidentally) lands, what course of action should be taken?	
A	

continued...

Working tasks continued	52. a) When is a trial lift carried out and b) name THREE checks to be made?
	A
	53. A tower crane is slewing a heavy load at high speed over at least 180 degrees. What TWO factors must the slinger take into account?
	A
	54. How does the rope or line length affect loads swings?
	A
	55. Name THREE ways in which wind speed can affect the lifting operation.
	A
	56. Why must the hoist rope of the crane be kept vertical before lifting loads?
	A
	57. If a load is slewed rather quickly, what TWO initial effects does it have on the load whilst slewing?
	A
	58. If the words STOP NOW are given to the crane operator by radio from the signaller during the lift, what action must the operator take?
A	
59. Only two legs of an 8 tonne 4 legged chain sling are being used. What is the maximum load that can be lifted with that sling?	
A	
60. What possible effects does excessive rain have on the lifting operation?	
A	
61. State the possible effect of lifting downhill on a slope.	
A	

continued...

Working tasks continued	62. How does the deflection of the boom or jib affect lift?
	A
Working tasks continued	63. Two cranes are working in the same vicinity that encroach the operating radius of each. What actions would the lift plan or method statement normally specify?
	A
Completing work	64. What are the ideal conditions for lifting accessories to be stored?
	A
	65. What checks should be made to lifting accessories after work has ceased?
Completing work	A

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Technical Test – Practical

RESOURCES

Required

Machine	<ul style="list-style-type: none"> • Lifting Equipment (Crane)
Area	<ul style="list-style-type: none"> • Ground, clear of hazards with: <ul style="list-style-type: none"> – sufficient area of at least the maximum operating radius of the crane – a structure allowing loads to be placed out of sight of the crane operator's cab – a flat area to allow lifting and placing of loads
Other equipment	<ul style="list-style-type: none"> • Measuring tape for measuring the maximum radius of the crane • Applicable lifting accessories for all loads with appropriate certification • Radios for verbal communication • Examples of the following for an identification activity: <ul style="list-style-type: none"> – 2 x unserviceable and 1 x serviceable web sling – 1 x unserviceable and 1 x serviceable chain sling – 1 x unserviceable and 1 x serviceable wire rope – 1 x out-of-date certificate • Marking equipment or tags to identify unserviceable lifting accessories
Loads	<ul style="list-style-type: none"> • LOAD 1 1 x balanced • LOAD 2 1 x unbalanced • LOAD 3 1 x bundled at least 4 metres in length
Notes	<ul style="list-style-type: none"> • The crane selected for the test must be in serviceable condition, be equipped with a drum hoist and rope, have 360 degree slew capability on a turntable and able to vary the radii from minimum to maximum • The operator's manual must be with the crane • Maximum radius equates to the configuration of the crane being used for the test • The crane operator must be certificated and competent • All lifting accessories for LOADS 1, 2 and 3 must be fit for purpose, certificated and made available to the candidate • The unserviceable lifting accessories selected for the identification activity must have at least one visual defect • The weight of all loads must be known

ACTIVITY

Instructions

Sequence	<ul style="list-style-type: none"> • Activities 2 and 3 can be undertaken at any time during the test • Activities 8–10 can be undertaken in any order <p>The test must be completed within a given time. The specifications' section gives further information.</p>
Preparing for work	<ol style="list-style-type: none"> 1. Check equipment for function and serviceability 2. From two or more examples each of a web sling, chain sling and wire rope, identify and impound all unserviceable items 3. From at least two examples of lifting equipment certification, identify certification not meeting current legislation or regulations
Setting up for work	<ol style="list-style-type: none"> 4. Establish the weight and features of each load prior to lifting 5. Establish communication methods (visual and with radios) with the crane operator 6. Select the relevant lifting accessory for the load to be lifted
Working tasks (refer to specifications)	<ol style="list-style-type: none"> 7. Attach the selected lifting accessory and prepare each load for lifting 8. Lift LOAD 1 from ground level, guide and land in a designated place out of sight of the crane operator. When landed, return the load to the original start point, land at a designated place and detach the accessory 9. Lift LOAD 2 from ground level, guide to maximum radius of the crane, slew for at least 180 degrees and land at a designated place which is at mid-radius. When landed, detach the accessory 10. Lift LOAD 3 from ground level, guide to minimum radius of the crane, slew for at least 360 degrees and land at a designated place which involves a change of radius. When landed, detach the accessory
Completing work	<ol style="list-style-type: none"> 11. All loads to be made safe following each activity 12. Collect and store all lifting accessories
Notes	<ul style="list-style-type: none"> • Activity 8 must be undertaken twice, once using radio communication and once using hand signals • For the purposes of the test, all hand communication shall conform with BS 7121: Part 1 2000

Activity measurements

Load placing	<ul style="list-style-type: none"> • To be landed within 100 mm of a designated place
Test timings	<ul style="list-style-type: none"> • The test must be completed within 1 hour and 45 minutes

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Technical Test – Practical

Basic details	Test reference	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 Checked all accessories for function and serviceability		
	2 Checked certification is in-date and applied to relevant accessory		
	3 Unserviceable accessories identified		
	4 Unserviceable accessories impounded/clearly marked		
	5 Certification not in date identified		
Setting up	6 Landing positions checked and safe prior to lifting and depositing loads		
	7 Intended load travel route clear of hazards		
	8 Communication procedures established with others involved with the lift		
	9 Weight and C of G of each load established		
Working tasks	10 Relevant lifting accessories selected for each load		
	11 Lifting accessories attached to each load		
	12 SWL or WLL of lifting accessories not exceeded at all times		
	13 Load integrity and stability maintained at all times		
	14 Loads did not contact any obstructions		
	15 Communication clear and precise and understood by all involved		
	16 Crane hoist line vertical as each lift commences		
	17 Loads not damaged during lifting, moving and placing		
	18 Load kept under control during movement		
Completing	19 Loads secure and stable after removing accessories		
	20 Lifting accessories removed and stored		
Other	21 Legislation, manufacturers' and health and safety requirements complied with		
	22 Test completed within the given time		
All of these items must be awarded		Achieved / Not achieved	

FAULTS		Candidate incorrectly carried out the following:		
		Fault	Mark	Penalty
Travelling	1 Full observation before moving the load		2	
	2 Full observation whilst guiding and landing the load		2	
Working	3 Load placing at the given points within the given tolerance		3	
	4 Lifting accessories clearing the ground		2	
	5 Each load lifted clear of surface for checking integrity prior to moving		3	
	6 Loads level during lifting and moving		2	
Not exceeded 8 penalties		Total penalties		
		Achieved / Not achieved		

