

Technical Test Theory

Tower Crane A04



No.	Question
1	What do The Work at Height Regulations require of crane operations?
2	What is the difference between a contract lift and a 'standard' crane hire?
3	At the end of the shift: a) in what position should jibs and trolleys be left in and b) why?
4	On a busy construction site, how would the slinger/signaller be identified to the crane operator?
5	a) What checks should be made to the ground conditions and b) when should the checks be made?
6	What is jib deflection and when does it occur?
7	If a load of 20 tonnes is lifted on four falls or lines of rope, what is the tension in each fall or line?
8	State the functions or job role of the following personnel: a) Appointed Person b) Crane Supervisor c) Slinger d) Signaller.
9	Using the Operator's Manual or other, state the maximum wind speed the crane may be operated in. Note: The Operator's Manual for the machine being used for the test MUST be available for reference by the candidate.
10	At the end of the shift: a) how should cab cleanliness be maintained and b) explain why?
11	a) What is meant by the lifting capacity of the crane and b) who determines it?

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12	What are the possible outcomes of facing prosecution for not complying with legislation and regulations?
13	If fitted, what is the purpose of the flags situated on the jib?
14	<p>Using the lifting capacity diagrams (Annex A, B and C):</p> <p>Annex A – using a 55-metre jib set-up:</p> <p>a) what is the lifting capacity in tonnes at 34 metres radius and</p> <p>b) what radius can a load weighing 5.80 tonnes be placed at?</p> <p>Annex B – using a 45-metre jib set-up:</p> <p>c) what is the lifting capacity in tonnes at 27 metres radius using double falls and</p> <p>d) using a single fall, how far can a load weighing 9.6 tonnes be placed?</p> <p>Annex C – with a jib length of 33 metres:</p> <p>e) what is the maximum possible lifting capacity in tonnes,</p> <p>f) what is the lifting capacity at 20 metres radius using four falls of rope and</p> <p>g) what is the difference in maximum lifting capacity between a two-falls hook block and a four-falls hook block in two-falls mode?</p>
15	Where should the Operator's Manual be kept and why?
16	If the words STOP NOW are given to the crane operator by radio during the lift, what action must the operator take?
17	If assisting in erecting a tower crane, why is it important that the manufacturer's procedures are followed precisely?
18	During your time on site how can you create a good relationship and ensure that the client may want you back on site?
19	When should maximum permissible wind speeds be reduced?
20	A crane has been erected on site. What must take place before any site lifting takes place?

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21	a) At the end of the shift what THREE security measures should be applied and b) why?
22	If facing the crane whilst using the remote unit what can happen?
23	When can you use the high speed hoist?
24	How can a qualification or card benefit a crane operator?
25	What is the purpose of a risk assessment?
26	Apart from lifting using the hook, what other type of work can Tower cranes undertake?
27	Describe the THREE main types of tower crane base options
28	The lifting plan will specify a minimum distance that your jib must be kept away from overhead electricity lines/pylons. a) Explain why your jib must be kept away and b) what are the consequences of coming in to contact with the lines/pylons?
29	What prevents the hook block from contacting the jib pulley?
30	What is the purpose of counterweight(s) on the crane?
31	List SIX typical subject areas that should be covered in a site induction.

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32	If a load is lifted up and the hook block is not above the centre of the load what can happen?
33	a) What is the purpose of a Method Statement and b) what is required of the operator?
34	If setting up to lift loads near a pedestrianised area, what main factor needs to be taken into account?
35	a) Where must the load radius diagram be located and b) what information must it contain?
36	Why would hard hats (head protection) be needed when climbing a tower crane?
37	Which parts of the crane is the radius (for lifting) measured from?
38	What is the main purpose of the Rated Capacity Indicator (RCI)?
39	The operator has to use a new model of tower crane that they are unfamiliar with. What do Regulations (i.e. LOLER 98) and other guidance require the operator to have?
40	If a load is slewed too fast what TWO factors must the operator (and signaller) take into account?
41	What does The Health and Safety at Work Act require employers to do with regards specifically to plant?
42	Why are some tower cranes rail mounted?

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No.	Question
43	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?
44	a) What happens to the lifting capacity of the crane if the hook block is changed from four falls to two falls and b) What happens to the hoisting speed?
45	What THREE main duties of The Health and Safety at Work Act must employees follow?
46	Name FOUR different types or levels of disciplinary actions or sanctions that can be applied (by employers and judicial bodies) to operators of plant who do not comply with, or follow legislation and regulations.
47	a) In what environments are luffing units commonly used and b) why?
48	Name THREE ways in which wind speed can affect the lifting operation.
49	When a crane is sent out on hire what condition must the crane be in?
50	What is the meaning of this hand signal (being demonstrated by the Tester)?
51	What do the words SWL, as stamped on lifting accessories, signify?
52	If the hook block inadvertently (accidentally) lands, what course of action should be taken?
53	When slewing with a load, where should the operator be looking?

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54	What is the definition of, or how can a hazard be described?
55	Why should tools and spare components not be left lying on the decks or landings?
56	Why would a load require netting?
57	Why are crane operators generally regarded as 'safety-critical' workers?
58	Why should luffing jibs be placed in the correct out-of-service position at the end of the working day?
59	During a rest break, or leaving the crane for a short period, what action should be taken for the control box?
60	a) When is a trial lift carried out and b) name THREE checks to be made?
61	The safe working load or working load limit (SWL/WLL) of a multi-leg chain sling only applies in what TWO conditions or configuration?
62	If a load of 8 tonnes is lifted on two falls or lines of rope, what is the tension in each fall or line?
63	The number of falls has been changed on the hook block. How has this action affected the RCI?
64	If you are using radios for communication name FIVE checks you must complete before you start lifting?

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65	What makes up the total (or gross) weight of a load that is to be lifted?
66	Apart from the operator, who else may need to use the machine's Operator's Manual?
67	What are the THREE actions or stages that a crane operator should undertake during pre-use inspections?
68	<p>During the lifting operation, part of the task cannot be carried out as detailed in the lift plan.</p> <p>a) What initially must happen to the lifting operation and b) who authorises any changes?</p>
69	Wind speeds can be variable throughout the working day. What action must be taken to ensure safe working conditions are maintained?
70	Name TWO ways that wet weather can affect lifting operations.
71	What is meant by a floor-climbing tower crane?
72	While lifting loads on site what main factor needs to be taken into account?
73	What checks should be made to the transmitter of a remote-controlled tower crane before work?
74	If a load is slewed rather quickly, what TWO initial effects does it have on the load whilst slewing?