Name

Date of assessment:

This Challenge Test is designed to assess your ability to understand and perform the duties of operating in the workplace.

This Challenge Test is a theory based assessment of underpinning knowledge questions and is designed to assess your ability to plan and complete a task at the workplace with the required knowledge. All questions must be answered correctly with safety OH&S requirements being paramount.

There is no maximum time to complete, however expected time frame is approximately 30 minutes.

This assessment is not a closed book assessment and reference materials may be used to complete questions

I (name of applicant) _____; affirm that I am the person completing this assessment.

Signature_____   Dated:___/___/20

Theory Section One	DOGGING/RIGGING
Controls & Planning	

1. List four things a Dogger is responsible for whilst performing High Risk Work?

   ----

2. Identify 3 people you would consult with in regards to specific hazards on site?

   ----

3. You are about to perform dogging duties at a new site. List at least 9 hazards you would consider and plan for

   ----

   ----

4. You are about to start Dogging operations what requirements would you need to consider in your operational plan list at least 6 requirements.

   ----

5. List the 6 steps of the Hierarchy of Controls for the control of workplace hazards?

   _____

   _____

   _____

6. When Should you apply risk control measures

   _____

Theory Section Two:	DOGGING/RIGGING
Electrical Awareness	

7. When Operating near Overhead Electrical Power Lines what are the minimum safe approach distances that an untrained (unauthorised) person must maintain for QLD Electrical Regulations and the following Voltages?

   - Up To-   132,000 volts_____

   - Between-   132,000 & 330,000 volts_____

   - Above-   330,000 volts_____

8. What are the requirements if you need to work closer than the minimum safe distances?

   _____

   _____

   _____

9. How can you determine the voltage of Overhead Electrical Power Lines?

   _____

10. What is the minimum diameter of tagline that can be used?

   _____

11. What must the tagline be made of?

   _____

12. The Crane in which you are operating contacts power lines what should you do.

   _____

   _____

   _____

   _____

Theory Section Three:	DOGGING/RIGGING
Selection/Inspection/Connection of Rigging	

13. Why is it important to inspect rigging equipment before use?

_____

14. Who is responsible for selection and inspection of rigging equipment?

_____

15. Name at least 6 defects that would identify a synthetic sling as NOT safe for lifting loads

_____

_____

_____

16. Name at least 6 defects that would identify a chain sling as NOT safe for lifting loads

_____

_____

_____

17. What does the marking on a link of a lifting chain indicate?

_____

18. What is the maximum amount of wear permitted in the link of a lifting chain?

_____

19. If you identify faulty and/or damage rigging equipment as part of your inspection what must be done

_____

_____

20. What factors do you need to consider when selecting correct rigging equipment to safely lift loads? (name at least 4).

_____

_____

_____

_____

Theory Section Three:	DOGGING/RIGGING
Selection/Inspection/Connection of Rigging	

21. Which type of eyebolt should be used for lifts where multiple leg slings are utilised?

_____

22. What load factor must be applied to the WLL of a FSWR sling when a basket hitch is used in a direct lift from a spreader beam cradled around a square load?

_____

23. A lifting sling of 4.0 tonnes WLL is reeved around a circular load. What is the sling now capable of lifting?

_____

24. A lifting sling of 1.5 tonnes WLL is used in a basket hitch around a large round load. What is the sling now capable of lifting?

_____

25. If two slings are spread at an included angle of 30 degrees, what is the load factor applied to the load been lifted?

_____

26. If two slings are spread at an included angle of 120 degrees, what is the load factor applied to the load been lifted?

_____

27. Name 3 types of information that must be displayed on lifting devices such as Work Box, Spreader Bars.

_____

_____

28. Name two types of lifting eyebolts?

_____

29. Why is it unsafe to interchange components of a shackle or Rigging Equipment?

_____

Theory Section Three:	MOBILE CRANE OPERATIONS
Set Up	

30. What must be fitted to the hook of a Crane to prevent the lifting slings from dislodging?

_____

31. If a lifting ring or shackle is placed on a hook and it does not hang freely what does this indicate

_____

32. What is the minimum amount of tail projection for the dead end of a rope used with a wedge socket

_____

33. What is the most obvious indication of a defective swage fitting?

_____

34. Why do you have to fully extend the outriggers of a mobile crane?

_____

35. What is the minimum thickness of timber you would use for the base layer of packing under a mobile crane's outrigger?

_____

36. Where would you find a crane's rated capacity for a particular boom length at a particular radius?

_____

37. What does a thick black/red Line through the load chart Indicate?

_____

38. State three essential items of information you would expect to obtain from a load chart.

_____

_____

_____

Theory Section Three:	MOBILE CRANE OPERATIONS
Set Up	

39. You are about to commence a lift on site. List 5 things you need to consider in your plan other than site hazards

_____

_____

_____

_____

40. Why should a crane carrying a heavy load be directed down a sloping surface backwards?

_____

41. Before placing a heavy load on a floor, temporary formwork/false work, scaffolding and Cantilevered Load Platforms; what should the person dogging the load ensure?

_____

42. When mobiling a load up a slope, what can happen to the crane's boom if it is positioned too close to vertical?

_____

43. What is the result of boom deflection in reference to radius?

_____

44. What is the percentage applied to multiple crane lifts as follows

- 2 Cranes_____

- 3 Cranes_____

- 4 Cranes or more_____

Theory Section Three:	MOBILE CRANE OPERATIONS
Set Up	

45. What considerations given when performing lifts with 2 or more cranes. (List at least 5 items)

_____

_____

_____

_____

_____

46. A Crane With the following load chart **CN** is set up as follows:

- Main Boom Length: 12.50m

- Boom Angle: 40°

- Articulation Greater than 10°

What is radius in meters and the maximum Load to be lifted at the given radius?

(Show all readings and calculations)

_____

_____

_____

47. Crane with Load Chart **C1** is set up as follows:

- Main Boom Length: 36m

- Working Radius: 29m

- Full Outriggers   6.4 x 6.2m

- Fly Jib Erected: 13m

What is the maximum capacity at the given radius and what off-set on the fly jib would be required?

(Show all readings and calculations)

_____

_____

Load Chart CN – Non Slew Mobile Crane

Pick & Carry 0.4 m/s (1.44 km/h); On rubber 66.6%   5.67–13.85 m   AS 1418.5

Values shown per cell as: RC(kg) <10° articulation / RC(kg) >10° articulation / Boom angle (or ( ) = Radius at 0° boom angle)

m	5.67	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50	13.85	m
1.6	16800/12600/48°	16250/12600/51°	15450/12600/54°	14900/12600/57°															1.6
2.0	16800/12600/42°	16800/12600/46°	16500/12600/50°	15700/12600/53°	15100/12600/56°	14700/12600/58°	14350/12600/60°												2.0
2.5	13900/12150/34°	13900/12150/39°	13900/12100/44°	13850/12100/48°	13850/12100/51°	13850/12100/54°	13850/12100/56°	13200/12050/58°	13000/12050/60°										2.5
3.0	11450/9950/25°	11450/9950/31°	11450/9950/37°	11400/9950/42°	11400/9950/46°	11400/9950/49°	11400/9900/52°	11400/9900/55°	11400/9900/57°	11150/9900/59°	10250/9900/60°								3.0
3.5	9650/8400/8°	9650/8400/20°	9650/8400/29°	9650/8400/36°	9650/8400/41°	9650/8400/45°	9650/8400/48°	9650/8400/51°	9650/8350/53°	9650/8350/55°	9500/8350/57°	8150/8150/59°	7500/7500/60°						3.5
4.0	9450/8200/(3.57)	8550/7450/(3.90)	8350/7250/19°	8350/7250/28°	8350/7250/35°	8350/7250/39°	8350/7250/43°	8350/7250/47°	8300/7200/49°	8300/7200/52°	8300/7200/54°	7600/7200/57°	7000/7000/59°	6700/6700/60°	6450/6450				4.0
4.5			7500/6500/(4.40)	7300/6350/19°	7300/6350/27°	7300/6350/34°	7300/6350/38°	7300/6350/42°	7300/6300/45°	7300/6300/48°	7300/6300/50°	7150/6300/52°	6550/6300/54°	6250/6250/56°	6050/6050/58°	5800/5800/59°	5650/5650/60°		4.5
5.0				6650/5750/(4.90)	6500/5600/18°	6500/5600/27°	6500/5600/33°	6500/5600/37°	6500/5600/41°	6500/5600/44°	6500/5600/47°	6500/5600/49°	6150/5600/51°	5900/5600/53°	5650/5600/55°	5450/5450/56°	5300/5300/58°	5150/5150/59°	5.0
6.0				5950/5100/(5.40)	5350/4600/(5.90)	5250/4550/17°	5250/4550/25°	5250/4500/31°	5250/4500/35°	5250/4500/39°	5250/4500/42°	5250/4500/45°	5250/4500/47°	5250/4500/49°	5050/4500/51°	4850/4500/53°	4700/4500/54°	4600/4500	6.0
7.0							4850/4200/(6.40)	4450/3800/(6.90)	4400/3750/16°	4400/3750/24°	4400/3750/29°	4400/3750/34°	4400/3750/37°	4350/3750/40°	4350/3750/43°	4350/3750/45°	4200/3750/47°	3950/3750/48°	7.0
8.0									4100/3500/(7.40)	3750/3200/(7.90)	3700/3150/15°	3700/3150/23°	3700/3150/28°	3700/3150/32°	3700/3150/36°	3700/3150/38°	3700/3150/41°	3600/3150/43°	8.0
9.0											3500/2950/(8.40)	3250/2750/(8.90)	3200/2700/15°	3200/2700/22°	3200/2700/27°	3200/2700/31°	3200/2700/34°	3200/2700/36°	9.0
10.0													3000/2550/(9.40)	2800/2400/(9.90)	2800/2350/14°	2800/2350/21°	2800/2350/26°	2800/2350/29°	10.0
11.0															2650/2200/(10.40)	2500/2100/(10.90)	2450/2050/13°	2450/2050/18°	11.0
11.75																	2350/1950/(11.40)	2250/1850/(11.75)	11.75

■ RC (kg) < than 10° articulation
□ RC (kg) > than 10° articulation
□ Boom angle
( ) Radius at 0° boom angle

Load Chart C1 -Mobile Slewing Crane (Telescopic Hydraulic)

8,2 – 36 m (T)	13 m (K)	6,4 x 6,2 m	360°	6,5 t	EN

m	8,2 m / 13 m				27,7 m / 13 m				30,4 m / 13 m				33,2 m / 13 m				36 m / 13 m				m
	0°	20°	40°	60°	0°	20°	40°	60°	0°	20°	40°	60°	0°	20°	40°	60°	0°	20°	40°	60°	
3	4,1																				3
3,5	3,9																				3,5
4	3,7																				4
4,5	3,5																				4,5
5	3,3																				5
6	3	2,6			4,6				4,2												6
7	2,8	2,4			4,3				4				3,7								7
8	2,6	2,3			4				3,8				3,6				3,2				8
9	2,4	2,1			3,8				3,6				3,5				3,1				9
10	2,2	2	1,7		3,6	2,5			3,5				3,4				3,1				10
11	2,1	1,9	1,7		3,4	2,4			3,3	2,4			3,3				3				11
12	1,9	1,8	1,6	1,4	3,2	2,3			3,2	2,3			3,1	2,3			2,9				12
13	1,8	1,7	1,5	1,4	3	2,3			3,1	2,3			3	2,2			2,8	2,1			13
14	1,7	1,6	1,5	1	2,9	2,2	1,7		2,9	2,2	1,7		2,9	2,1			2,7	2,1			14
15	1,6	1,6	1,5	0,6	2,8	2,1	1,7		2,8	2,1	1,7		2,8	2,1	1,7		2,6	2			15
16	1,6	1,5	1,4	0,6	2,7	2,1	1,7	1,4	2,7	2,1	1,6		2,7	2	1,6		2,6	2	1,6		16
17	1,5	1,5	0,7		2,6	2	1,6	1,4	2,6	2	1,6	1,4	2,6	2	1,6	1,4	2,5	1,9	1,6		17
18	1,5	0,8	0,7		2,5	1,9	1,6	1,4	2,5	2	1,6	1,4	2,5	1,9	1,6	1,4	2,4	1,9	1,6	1,4	18
19					2,3	1,9	1,6		2,4	1,9	1,6	1,4	2,4	1,9	1,6	1,4	2,3	1,8	1,6	1,4	19
20					2,3	1,8	1,6		2,3	1,9	1,6		2,4	1,8	1,5		2,3	1,8	1,5	1,3	20
21					2,2	1,8	1,5		2,3	1,8	1,5		2,3	1,8	1,5		2,2	1,8	1,5		21
22					2,1	1,8	1,5		2,2	1,8	1,5		2,2	1,8	1,5		2,2	1,7	1,5		22
23					2	1,7	1,5		2,1	1,7	1,5		2,1	1,7	1,5		2,1	1,7	1,5		23
24					2	1,7	1,5		2,1	1,7	1,5		2,1	1,7	1,5		2,1	1,7	1,5		24
25					1,9	1,6	1,5		2	1,7	1,5		2	1,7	1,5		2	1,7	1,5		25
26					1,9	1,6	1,5		1,9	1,6	1,5		2	1,6	1,5		1,9	1,6	1,4		26
27					1,8	1,6			1,9	1,6	1,5		1,9	1,6	1,4		1,8	1,6	1,4		27
28					1,7	1,6			1,8	1,6	1,4		1,8	1,6	1,4		1,6	1,6	1,4		28
29					1,7	1,5			1,7	1,6			1,6	1,6	1,4		1,5	1,6	1,4		29
30					1,7	1,5			1,6	1,5			1,5	1,5	1,4		1,3	1,5	1,4		30
31					1,6	1,5			1,5	1,5			1,3	1,5			1,2	1,4	1,4		31
32					1,5	1,5			1,3	1,5			1,2	1,4			1,1	1,3			32
33					1,4	1,4			1,2	1,4			1,1	1,3			0,9	1,1			33
34					1,3				1,1	1,3			1	1,2			0,8	1			34
35					1,2				1	1,1			0,9	1,1			0,7	0,9			35
36					1,1				0,9				0,8	0,9			0,6	0,8			36
37					1				0,8				0,7	0,8				0,7			37
38									0,7				0,6	0,7				0,6			38
39									0,7				0,6								39

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Theory Section Three:	MOBILE CRANE OPERATIONS
Load Movements	

Name:

Signature:

Date:

Phone Number: