



# Gujarat Council of Vocational Training

## Gandhinagar



1. Name of Course :

**RUBBER TYRED GANTRY CRANE OPERATOR  
(RTG Crane Operator)**

N.C.O. No. for Skill Covered:  
(Please refer National Classification of  
Occupations - 2004 available on  
www.dget.nic.in)

8333

2. Engineering or Non-engineering: **Non-Engineering**
3. No. of Students per Batch: **12**
4. Duration in Hours: **568 Hours**
5. Duration in Month: **3 Months**
- Practical: **2 Months**
- Theory: **1 Month**

6. Examination Scheme:

No.	Name of Subject	Teaching Hours during full course	Maximum Marks (Excluding sessional)	Maximum Marks required for Passing (excluding sessional)	Sessional Marks if any
1	Theory	62	100	40	20
2	Practical	506	300	180	100

7. Entry Qualification for Trainee:

Minimum entry qualification (Essential):	10 <sup>th</sup> + ITI
Desirable :	Computer Knowledge

8. Minimum Qualification for Trainer:

Minimum entry qualification (Essential):	Automobile Diploma
Desirable :	Crane Simulator and Computer Knowledge



9. Syllabus Committee Members:

SN	Name	Organization	Designation	Technical Qualification	Experience in Year	Signature
1	Shri Houssam Haddad	Adani Ports and SEZ Ltd, Mundra	Asst. Vice President Container Terminal		17 years	
2	Shri Samir Kumar	Adani Ports and SEZ Ltd, Mundra	Head - Human Resources	PACHRM.	21 years.	
3	Shri Mrityunjai Gupta	Adani Ports and SEZ Ltd, Mundra	Sr. Manager, Technical Training	B.Tech. (Mech. Engg.) & M.B.A.	12 years	
4	Shri Cherian Abraham	APSEZL - Container Terminal	AGM - CT3	BE-Mech MTECH-OR (IIT MADRAS)	24 yrs	
5	Capt. Kumar Paritosh	APSEZL - Container Terminal	DGM - CT2	B.Sc. (Physics) master (F.G.) machine	25 years	
6	Shri Wilson Pious	APSEZ - HR Technical Training	Executive	Graduate	18 years	
7	Shri J.P. Chottai	ITI, Mundra	The Principal	D.M.E.	33 years	
8	Smt. Vidisha Solanki	ITI, Mundra	The Foreman	B.Tech. Comp.Sci.	2 Years	

10. Terminal Skill of Trainee: (Should be well defined and having reference to NCO)

Trainee after successful completion of training, will have following skills...

- Ability to operate RTG crane in the yard.

11. Approximate cost of Tools /Equipments Machinery for starting one batch of the Course:

Rupee

INR 1 Cr

Reference Year

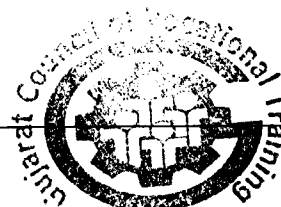
2014

12. Area required for practical / Workshop for one batch:

72 Sq. Meter

13. Minimum Power connection required:

7 KW



14.1 No. of items in Standard List of Machinery:

2

Space:

<b>Audio Visual Class Room</b>	<b>Crane Simulator</b>	<b>On – Job – Training</b>
<b>Accommodate 6 – 12</b>	<b>Accommodate 6 – 12</b>	<b>6 – 12</b>

Trainer & Equipment:

<b>Class Room</b>	<b>Crane Simulator</b>	<b>On – Job – Training</b>
<b>1</b>	<b>1</b>	<b>1</b>

Assistant (optional):

<b>Class Room</b>	<b>Crane Simulator</b>	<b>On – Job – Training</b>
<b>1</b>	<b>1</b>	<b>1</b>

Assessment Panel:

<b>Class Room Trainer</b>	<b>Simulator Trainer</b>	<b>OJT Trainer</b>	<b>HR – TT or ITI Rep.</b>
<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>

14.1.1 Page No. From: 8 to 8

14.2 No. of items in Standard List of Shop outfit:

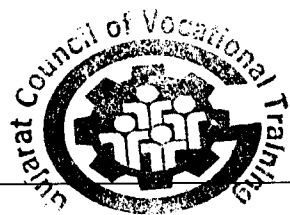
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14.2.1 Page No. from \_\_\_-\_\_\_ to \_\_\_-\_\_\_

14.3 No. of items in Standard List of Trainee Tool-Kit:

3

14.3.1 Page No. from: 8 to 8



\*\*\*\*\* FOR OFFICIAL USE \*\*\*\*\*

Approved by GCVT on :

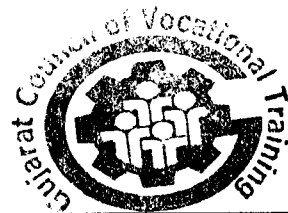
8-6-15

Syllabus implemented w.e.f admission session

next session

Revision History:

- |    |                   |                     |
|----|-------------------|---------------------|
| 1. | Revision No. .... | Revision Date ..... |
| 2. | Revision No. .... | Revision Date ..... |
| 3. | Revision No. .... | Revision Date ..... |



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## Syllabus for Rubber Tyred Gantry Crane Operator

### Summary:

Sr. No	Title Module	Theory (Duration in Hours)	Practical (Duration in Hours)	Total (Duration in Hours)
1	Proper Understanding of RTGC	8	-	8
2	Operational efficiency for RTGC operation	4	-	4
3	Checker Operation efficiency	8	-	8
4	Effective communication and entrepreneurial quality	10	10	20
5	General	4	72	76
6	Tour of the RTG	8	76	84
7	Safety of the RTG operation	4	20	24
8	Working with the RTG	8	112	120
9	Operating RTG	-	90	90
10	Anchoring RTG	-	90	90
11	Assessment	8	36	44

### Course Breakup:

Sr. No	Program Description	Duration (Hours)	
		Class	Practical
01	<b>Proper Understanding of RTGC</b>	8	-
02	<b>Operational efficiency for RTGC operation</b>	4	-
03	<b>Checker Operation efficiency</b>	8	-
04	<b>Effective communication and entrepreneurial quality</b>	10	10
05	<b>General</b> <ul style="list-style-type: none"> <li>• Safety procedure RTG operator</li> <li>• Operating the RTG</li> <li>• Risk detection and safety</li> <li>• Pre operational check up</li> <li>• Technical safety procedures</li> <li>• Daily inspections and maintenance</li> </ul>	4	72



	<ul style="list-style-type: none"> <li>• Container Terminal operations–Stevedore, back-up yard &amp; Evacuation</li> </ul>		
06	<b>Tour of the RTG</b> <ul style="list-style-type: none"> <li>• RTG long travel path</li> <li>• Bus bar and e-RTG extraction/retraction of power trolley</li> <li>• Spreader &amp; Head block</li> <li>• Construction</li> <li>• Auxiliary Engine room</li> <li>• Operator cabin control panel</li> <li>• Controls</li> <li>• Entrance protection/ Safety doors lock</li> <li>• Chair</li> <li>• Laser guided auto steering</li> <li>• Camera</li> <li>• Wind speed indicator or Anemometer – permissible limit of operations</li> <li>• Anti-collision</li> <li>• Lights/Flashing light</li> </ul>	8	76
07	<b>Safety of the RTG operation</b> <ul style="list-style-type: none"> <li>• Emergency exit of RTG operator</li> </ul>	4	20
08	<b>Working with the RTG</b> <ul style="list-style-type: none"> <li>• Controls</li> <li>• Selecting driving direction and steering</li> <li>• Modus park wheels</li> <li>• Operating/securing RTG</li> <li>• Anchoring turn buckle / lashing slings</li> </ul>	8	112
09	<b>Operating RTG</b> <ul style="list-style-type: none"> <li>• Daily Pre operational check</li> <li>• Starting engine or power</li> <li>• Change over engine power to electrical power- engaging trolley to bus bar</li> <li>• Hoist break test</li> <li>• Control environment</li> <li>• Checking of spreader cables</li> <li>• Check-up spreader ( 20' , 40' ) Checking telescopic arm (extension &amp; retraction)</li> <li>• Over dimension Cargo- ODC (container) handling</li> <li>• Operating Trolley</li> <li>• Operating RTG</li> <li>• Operating hoisting system</li> <li>• Flippers</li> <li>• Hoisting containers</li> <li>• Transporting containers</li> <li>• Stacking containers (up to 5 high) &amp; maximum hoist limit</li> <li>• Sway control (with and without anti sway device)</li> <li>• Securing trolley position</li> <li>• All Emergency buttons</li> </ul>	-	90



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	<ul style="list-style-type: none"> <li>• PLC malfunction</li> <li>• Loading containers on Truck</li> <li>• Parking collision free</li> <li>• Hazardous containers &amp; IMDG code</li> <li>• Safe Height operation</li> <li>• Hot seat changeover of RTG operators</li> <li>• Safe working load – SWL</li> <li>• Trim List Skew – TLS</li> <li>• Touch Screen – TS</li> <li>• Hand signals</li> <li>• Yard Lay out</li> <li>• Yard Change over</li> <li>• Storm procedure</li> <li>• Reporting of incident</li> <li>• Engine off and securing trolley</li> <li>• Hooking up to external electrical system</li> <li>• Vehicle Mounted transponder (VMT) operations</li> <li>• Terminal Operating System (TOS)</li> <li>• Yard Feeding</li> <li>• ICD movement from yard</li> <li>• Transshipments</li> </ul>		
10	<p><b>Anchoring RTG</b> Practice:-</p> <ul style="list-style-type: none"> <li>• Demonstration of proper Handling RTG controls at Simulator and OJT</li> <li>• Safe operating practice at Simulator and OJT</li> </ul>	-	90
11	<p><b>Guidelines for Assessment :-</b> The student should be assessed for the following :-</p> <ul style="list-style-type: none"> <li>• He can identify tags</li> <li>• He can identify containers and well aware of yard layout</li> <li>• He can perform pre &amp; post operational checks</li> <li>• He can safely operate RTG within yards and between yards</li> <li>• He can anchor RTG while non - operation</li> </ul>	8	36



**Standard List of Machinery:**

Sr. No.	List of Machinery	Item type i.e. machinery/equipment or shop outfit or trainee tool kit	Quantity required per one batch of students	Quantity required per one batch of students for instructor	Quantity per Batch
*1.	Crane Simulator	Machinery/ Equipment	01	-	01
*2.	RTG Crane	Machinery/ Equipment	01	-	01

All \* Machinery/ Equipment are available at nearest industry

**Standard List of Trainee Tool-Kit:**

Sr. No.	List of Trainee Tool-Kit	Item type i.e. machinery/equipment or shop outfit or trainee tool kit	Quantity required per one batch of students	Quantity required per one batch of students for instructor	Quantity per Batch
1.	Safety Shoes	Toolkit	12	01	13
2.	Safety Jacket	Toolkit	12	01	13
3.	Safety Helmet	Toolkit	12	01	13

