

**MAHARASHTRA STATE BOARD OF VOCATIONAL EDUCATION EXAMINATION,
MUMBAI -51**

1	Name of Syllabus	C. C. In Crane Operator (304109)																																															
2	Max.Nos of Student	25 Students																																															
3	Duration	6 Months																																															
4	Type	Part Time																																															
5	Nos Of Days / Week	6 Days																																															
6	Nos Of Hours /Days	4 Hrs																																															
7	Space Required	Workshop = 200 Sq feet Class Room = 200 Sq feet TOTAL = 400 Sq feet																																															
8	Entry Qualification	S.S.C. Pass																																															
9	Objective Of Syllabus/ introduction	To train the students with maximum skill to operate a crain																																															
10	Employment Opportunity	Can work as a crane operator.																																															
11	Teacher's Qualification	Diploma in Mechanical / Electrical Engg. With crane operation certificate																																															
12	Training System	Training System Per Week <table><tr><td>Theory</td><td>Practical</td><td>Total</td></tr><tr><td>6 Hours</td><td>18 Hours</td><td>24 Hours</td></tr></table>						Theory	Practical	Total	6 Hours	18 Hours	24 Hours																																				
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13	Exam. System	<table><tr><th>Sr. No.</th><th>Paper Code</th><th>Name of Subject</th><th>TH/PR</th><th>Hours</th><th>Max. Marks</th><th>Min. Marks</th></tr><tr><td>1</td><td>30410911</td><td>Crane Operation</td><td>TH-1</td><td>3 hrs</td><td>100</td><td>35</td></tr><tr><td>2</td><td>30410912</td><td>Crane Maintenance</td><td>TH-2</td><td>3 hrs</td><td>100</td><td>35</td></tr><tr><td>3</td><td>30410921</td><td>Crane Application</td><td>PR-1</td><td>3 hrs</td><td>100</td><td>50</td></tr><tr><td>4</td><td>30410922</td><td>Crane Maintenance</td><td>PR-2</td><td>3 hrs</td><td>100</td><td>50</td></tr><tr><td></td><td></td><td>Total</td><td></td><td></td><td>400</td><td>170</td></tr></table>						Sr. No.	Paper Code	Name of Subject	TH/PR	Hours	Max. Marks	Min. Marks	1	30410911	Crane Operation	TH-1	3 hrs	100	35	2	30410912	Crane Maintenance	TH-2	3 hrs	100	35	3	30410921	Crane Application	PR-1	3 hrs	100	50	4	30410922	Crane Maintenance	PR-2	3 hrs	100	50			Total			400	170
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4	30410922	Crane Maintenance	PR-2	3 hrs	100	50																																											
		Total			400	170																																											

Theory-I – Crane Operation	
	Introduction to crane application constructions of crane etc.
	Tower crane its components , working mechanism of tower crane .
	Technical specification of crane maximum boom reach , maximum higher under hook , hoisting winch , hoisting speed motor , slewing speed etc.
	Do's & don'ts of erection site. Safe requirement of site.
	Preparation of site , space requirement tracks , rail stop earthling etc.
	Ropes, cables, strands, lubricants sleeves pulleys & their opportunities .

SR. NO	Theory-II – Crane Maintenance
1)	Electrical arrangements for tower crane. Electrical connections ,at functions place . Wires fuses etc. Auto electrician systems .
2)	Hydraulic systems of tower crane precaution to be taken for hydraulic group connection .
3)	Telescopic arrangement signalling systems .While handling to tower crane installation of leads & rest platforms .
4)	Inspection of crane the key parameters, functions & sequential order of components working system of tower crane.
5)	Maintenance of tower crane .Periodic maintenance & routine maintenance tightening of bold. Safety devices & noist limit switches.
6)	Driving mechanism of tower crane .The car, the brake system operational do's & don't gear boy ,may load cut off & high speed limit switch .
7)	Electronics & computer systems used in tower crane their functioning & applications . (10)
8)	Safety & security of high rise streters, physical fitness, climbing of cranes & the stages involved in it.

SR. NO	Practical-I – Crane Application
1)	Practical regarding constructions of crane.
2)	Stony of components tower crane, working mechanism of tower crane.
3)	Technical specification of crane.
4)	Practical of safe requirement of site.
5)	Practical regarding the preparation of site. Space requirements tracks , rail stop earthling etc.
6)	Study of ropes ,cables ,strands ,lubricants , sleeves pulley's & their Opportunities.

Practical-II – Crane Maintenance (100 marks)	
	Electrification of crane.
	Study of the precaution to be taken for hydraulic crane.
	Study telescopic arrangement signalling systems . Installation of leader & rest platforms.
	Practical of inspection of the crane.
	Practical of maintenance of tower crane .Periodic & routine maintenance ,use safety devices & noist limit switches.
	Study of driving mechanism of tower crane & various parts.
	Functioning & applications electronics & computer system of tower crane.
	Study of safety & security at high rise stretchers of climbing of crane.
