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**GUJARAT COUNCIL OF VOCATIONAL TRAINING
GANDHINAGAR**

SYLLABUS FOR THE COURSE OF
“PROGRAMMABLE LOGIC CONTROLLER”

**UNDER
GUJARAT COUNCIL OF VOCATIONAL TRAINING**

YEAR

2011

By

Government of Gujarat

Directorate of employment & training

Block No. 1, 3rd Floor, Dr. Jivraj Mehta Bhavan,

Gandhinagar, Gujarat -382010

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GANDHINAGAR

1. Name of Course :

PROGRAMMABLE LOGIC CONTROLLER

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

2. Engineering OR Non-Engineering : Engineering
3. No.of students per batch : 16
4. Duration in hours /Month : 60 hrs / 3-Week
+ 10 hrs Soft Skill
5. Duration in Day : @ 4 Hours/ Day
6. Examination Scheme :

No.	Name of Subject	Teaching Hours during full course.	Maximum Marks. (Excluding Sessional)	Minimum Marks required for Passing (Excluding Sessional)	Sessional Marks if any.
Subject-1	Trade Theory	15	100	40	20
Subject-2	Practical	45	300	180	100

7. Entry Qualification for Trainee :

Minimum entry qualification (Essential):	S.S.C. Pass.
Desirable :	Degree / Diploma / ITI in Mech. / Electrical / Electronics/ Instrumentation Engineering or Sponsored Candidate from Industry.

8. Minimum Qualification for Trainer :

Minimum entry qualification (Essential):	Diploma Instrumentation with 1-year field experience.
Desirable :	B.E. Instrumentation or Guest Faculty from industry



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9. Syllabus Committee Members :

Sr. No	Name	Organization	Designation	Technical Qualification	Experience in Years	Signature
1	Shri C. H. Mehta	RIL, Vadodara	Asst. Vice President	B.E.(Instrumentation)	27	<i>C.H. Mehta</i>
2	Shri M. J. Sanghavi	Nirma Ltd., Vadodara.	Sr. Manager (Instrumentation)	B.E.(Instrumentation)	19	<i>M. J. Sanghavi</i>
3	Shri C. P. Soni	GSFC Ltd., Vadodara	Manager (Training)	M.Sc. (Physics)	30	<i>C. P. Soni</i>
4	Shri P. P. Patel	M.S. University, Vadodara.	Technical Assistant	D.Ch. E	35	<i>P. P. Patel</i>
5	Shri B. M. Chauhan	DE&T Gandhinagar	RDD Vadodara	B.E. (Automobile)	28	<i>B. M. Chauhan</i>
6	Shri R. P. Parmar	DE&T Gandhinagar	Principal ITI Dashrath	D.Ch. E	30	<i>R. P. Parmar</i>
7	Shri M. A. Vaghela	DE&T Gandhinagar	Principal ITC Tarsali	B.E. Textile	30	<i>M. A. Vaghela</i>
8	Shri K. N. Panchal	DE&T Gandhinagar	Principal ITI Chhotaudapur	D.M.E & D.E.E.	30	<i>K. N. Panchal</i>
9	Shri U. R. Thakkar	DE&T Gandhinagar	SI Mech.	B.E. (Mech.)	20	<i>U. R. Thakkar</i>

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

The trainee, after successful completion of training, will have following skill...

- 1 Independently install, configure and operate various PLCs
- 2 Understand and modify various programmes
- 3 Understand some aspects of maintenance of PLCs
- 4 Soft Skill –How to Face Interview & Personality Development.



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11. Approximate cost of Tools / Equipments / Machinery for starting one batch of the course: Rupees
25 Lacs Reference Year
2011-2012
12. Area required Practical / Workshop for one batch : 96 Sq.Meter
13. Minimum Power connection required : 15 HP
- 14.1 No. of items in Standard list of Machinery : List Attached
14.1.1 Page No. form...1..... to1.....
- 14.2 No. of items in Standard list of Shop Outfit : List Attached
14.2.1 Page No. form...1..... to1.....
- 14.3 No. of items in Standard list of Trainee Toll-Kit : No Requirement
14.3.1 Page No. form..... to

***** For official use *****

Approved by GCVT in Governing Body meeting on: 17-04-2012.

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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Standard List of Machinery-Equipment for

Trade :- Programmable Logic Controller

Sr. No.	Description if Item with detailed specifications	Item Type i.e. Machinery / Equipment	Quantity Required per Batch of Students	Quantity Require d Per one Batch of Student for Instruct or	Total Quantity Required (Total of previous two columns)
1	PROGRAMMABLE LOGIC CONTROLLERS OF different controllers like Allen Bradley, Siemens etc.	Machinery	4 Unit	0	4 Unit
2	Multi User Compatible licensed Educational Software like Rockwell, Siemens etc.	Software	8	0	8
3	Computer having Higher version Processor, LED Monitor, etc.	Machinery	8	0	8
4	Laptop With i770 Intel Processor, 8GB RAM, 1 TB HDD, Wi-Fi with license Operating System and Antivirus	Machinery	0	1	1
5	LAN Switch for 15 Hub	Equipment	1	-	1
6	LCD Projector	Equipment	1	-	1
7	Screen for LCD Projector	Equipment	1	-	1
8	Vacuum Cleaner	Equipment	1	-	1
9	Servo Voltage Control Stabilizer, Single Phase, 2KVA, 9A	Equipment	1	-	1
10	Network MONOCHROME Laser Printer	Equipment	-	1	1
11	Air Conditioners 1.5 Ton	Equipment	3	-	3



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Standard List of Shop-outfit for

Trade:- Programmable Logic Controller

Sr. No	Description if Item with detailed specifications	Item Type i.e. Shop Outfit	Quantity Required per Batch of Students	Quantity Required Per one Batch of Student for Instructor	Total Quantity Required (Total of previous two columns)
1	Computer Table	Furniture	8	1	9
2	Computer Table Chair	Furniture	16	1	17
3	Office Table & Chair	Furniture	-	1 Set	1 Set
4	Steel Cupboard Large Size	Furniture	-	1	1
5	White Board 6' x 4'	Furniture	-	1	1
6	Display board for samples Size 3' X 2' X 10" Deep with glass door & Lighting point	Furniture	2	-	2



Syllabus For Programmable Logic Controller

NAME : PROGRAMMABLE LOGIC CONTROLLER

SECTOR : ENGINEERING

TERMINAL COMPETANCY : The successful candidates should be able to....

- Independently install, configure and operate various PLCs
- Understand and modify various programmes
- Understand some aspects of maintenance of PLCs

Theory	Practical
<ul style="list-style-type: none">• Introduction and Safety• Definition• Necessity• Advantages• Application• PLC Architecture• PLC Operation• Logic Gates• Programming Fundamentals (Ladder, Addressing, Basic Instructions)• Timer Function• Counter Function• Math Function• Search Function	<ul style="list-style-type: none">• PLC Hardware Detail like input card wiring, output card wiring, power supply and back plane arrangement etc.• Processor Files Detail• Software Detail• Configuration• Programme Entering, Downloading and Testing• Programme Practice for various functions like Logical, Timer, Counter etc.

Machinery:

- 1) PROGRAMMABLE LOGIC CONTROLLERS OF different controllers like Allen Bradley, Siemens etc.
- 2) Multi User Compatible licensed Educational Software like Rockwell, Siemens etc.

