



Gujarat Council of Vocational Training
Gandhinagar



1. Name of Course:

Machine Operator (Industrial Laser)

3139.10

3139.90

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

2. Engineering OR Non-engineering: Engineering

Engineering

3. No. of students per batch: 20 trainees

Sahajanand Laser Technology Limited
E-30, GIDC Electronics Estate,
Sector-26,
Gandhinagar-382028

4. Duration in Hours. : 400 Hours

5. Duration in Month: 2 Month

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	Theory	100	100	40%	
Subject-2	Practical	300	100	60%	
Subject-3					
Subject-4					

7. Entry qualification for Trainee:

Minimum entry qualification (Essential):	ITI (Electronics Mechanic/ Fitter/ Assembly Fitter)/ Diploma (EC, Mechanical, Mechatronics, Computer, IC)
Desirable:	Interested in Laser Automation

3. Minimum qualification for Trainer:

Minimum qualification (Essential):	B. E. Mechanical/Mechatronics/ EC
Desirable:	Experienced





9. Syllabus Committee Member:

Sl. No.	Name	Organization	Designation	Technical Qualification	Experience	Signature
1	Dr. Arvind Patel	Sahajanand Laser Technology (SLTL)	Chairman & MD	PhD in Laser Application, BE EC	Above 30 yrs	<i>F. Patel</i>
2	Mr. Ram Ginoya	SLTL	General Manager	M.Sc. Electronics	30 yrs	<i>Ram Ginoya</i>
3	Mr. Ritesh Mistry	SLTL	Ass. General Manager	BE Mechanical	10 yrs	<i>Ritesh Mistry</i>
4	Mr. Maitrik Trivedi	SLTL	Sr. Manager	Diploma Electronics	11 yrs	<i>Maitrik Trivedi</i>
5	Mr. Mukesh Patel	SLTL	Sr. Manager	B.SC, MLW	14 yrs	<i>Mukesh Patel</i>
6	Mr. A V Chaudhary	ITI	AAA	Diploma Mechanical	13 yrs	<i>A.V. Chaudhary</i>
7	Mr. M M Rathod	ITI	AAA	Diploma EC	13 yrs	<i>M.M. Rathod</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 skills...

1. Laser Machine Assembly.
2. Laser Machine Operating.
3. Laser Machine Maintenance.
4. Laser Machine –in process- Testing.

11. Approximate cost of Tools / Equipments / Machinery for Starting one batch of the course:

Rupees 100000/-

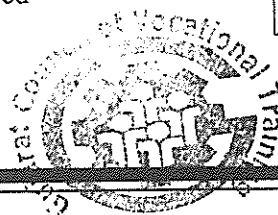
Reference Year
FY 15 -16

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

...100..... Sq. Meter

13. Minimum Power connection required

.....66..... K.W.





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14.1 No of items in Standard list of Machinery:

Page No 4 to 5

Sheet Attached

~~30~~ 9

OP

14.2 No of items in Standard list of Shop outfit:

Page No 4 to 5

Sheet Attached

~~30~~ 21

OP

14.3 No of items in Standard list of Trainee Toll-Kit:

Sheet Attached

Nil

OP

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

Approved by GCVT in Governing Body meeting on

: 30-9-2015

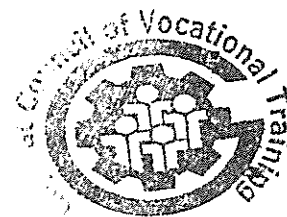
Syllabus implemented w.e.f. admission session

: Next session

Revision History :

1. Revision No..... Revision Date.
2. Revision No..... Revision Date.
3. Revision No..... Revision Date.

OP





Standard List of Machinery - Equipment / Shop-outfit / or Trainee Toolkit
For Trade of Machine Operator (Industrial Laser).

Sr. No.	Description of Item with detailed specifications	Item type i.e. Machinery / Equipment OR Shop Outfit OR Trainee Toolkit	Quantity Required per one Batch of Students	Quantity Required per one Batch of Students for Instructor	Total Quantity Required (Total of previous two columns)
1.	Drilling machine-Hand	Machinery	01	-	01
2.	Filing	Machinery	01	-	01
3.	Tester	Machinery	01	-	01
4.	Battery charger 6v- 18 v	Machinery	01	-	01
5.	Millimeter	Machinery	01	-	01
6.	Vernier caliper	Machinery	02	-	02
7.	Scale	Machinery	01	-	01
8.	Measure tap	Machinery	01	-	01
9.	Desk top Computer	Machinery	01	01	02
10.	Allen key set	Shop-outfit	01	-	01
11.	Screw driver set	Shop-outfit	01	-	01
12.	Hacksaw frame adjustable for 30 cm blade	Shop-outfit	01	-	01
13.	Hand vice	Shop-outfit	01	-	01
14.	Drill Twist (assorted)	Shop-outfit	01	-	01
15.	Power meter	Shop-outfit	01	-	01
16.	Cutter	Shop-outfit	01	-	01
17.	Dial indicator to read 0.01 mm	Shop-outfit	01	-	01
18.	Circlip pliers Expanding and contracting type 15 cm and 20 cm each	Shop-outfit	01	-	01
19.	Player	Shop-outfit	01	-	01
20.	Tachometer	Shop-outfit	01	-	01





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21.	Battery 12 V	Shop-outfit	01	-	01
22.	Vernier Caliper 250 or 200 mm inside, outside & depth	Shop-outfit	01	-	01
23.	Bore gauge	Shop-outfit	01	-	01
24.	Dial-puppet	Shop-outfit	01	-	01
25.	Outside Micrometer 0-25 mm, 25-50 mm,	Shop-outfit	01	-	01
26.	Polarizer	Shop-outfit	01	-	01
27.	Piston ring filer	Shop-outfit	01	-	01
28.	Adjustable Spanner	Shop-outfit	01	-	01
29.	Surface plate	Shop-outfit	01	-	01
30.	Black anodize plate	Shop-outfit	01	-	01

Sr. Manager

Sahajanand Laser Technology Ltd.





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**GUJARAT COUNCIL OF VOCATIONAL TRAINING
GANDHINAGAR**

Name of Syllabus: Machine Operator (Industrial Laser)

Sector: Mechatronics

Terminal Competency: Able to assemble, integrate, test and operate Laser Machines.

Theory	Practical
<ul style="list-style-type: none">▪ Introduction▪ Laser Fundamentals▪ Terminology▪ Design of Laser▪ Laser History▪ Modes of Operation of Laser▪ Components of Laser▪ Laser Types and Operating Principles▪ Laser Applications▪ Industrial and Commercial application	<ul style="list-style-type: none">▪ Practice Health & Safety – select, use, maintain & store tools, equipments & clothing safely.▪ Identification of Tools, measuring instruments & equipments.▪ Measure any components by using the micrometer & dial gauge.▪ Calibrate machine using Vernier Caliper▪ Laser Safety▪ Introduction to Electronics Circuit Assembly and Analysis▪ Introduction to Laser source with electronics Connection▪ Laser Beam Alignments▪ Laser Beam performance measurements▪ Optics-component Inspection.

Signature:

