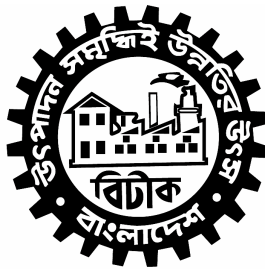


# TRAINING CALENDAR

## 2017-2018



**Bangladesh Industrial Technical Assistance Centre (BITAC)**  
**Tejgaon, Industrial Area, Dhaka-1208.**

## **1. INTRODUCTION**

### **1.1 Background**

Bangladesh industrial Technical Assistance Centre (BITAC) is an autonomous body under Ministry of Industries. It was established in 1962 by merging two other productivity-oriented organizations namely Industrial Research & Development Centre (IRDC) and Pakistan Industrial Productivity Services (PPIS). BITAC has five centers in Bangladesh at Dhaka (1964), Chittagong (1976), Chandpur (1983), Khulna (1993) and Bogra (2006).

### **1.2 Objectives of BITAC**

- To train up industrial personnel to upgrade their skill.
- To render technical advice to industries.
- To disseminate modern know-how and advanced techniques among industrial personnel
- To design and develop precision tools, die & mould, jigs & fixtures, gauges, machine components and develop such products and machines that will assist industries in increasing their productivity
- To promote utilization of indigenous raw materials and development the scope of indigenous technology.

### **1.3 Activities of BITAC**

- To upgrade the skill of the industrial personnel in technical fields.
- To advise industries primarily in the private sector on matters pertaining to industrial productivity.
- To disseminate modern technical know-how among industrial personnel through seminars, group discussions, demonstrations, publications, film show etc.
- To extend consulting services to industrial organization and industries mainly in the private sector.
- To co-operate with international and national organizations and agencies in activities for increasing industrial productivity and advance technical know-how.
- To adopt such measures and take such steps and do all such things as may be conducive to the promotion of cordial relations between the centre and person interested in the objectives of the centre.
- To secure the recognition of the centre in Bangladesh and other foreign countries. In conjunction with the upgrading program and to make it more effective, the BITAC shall:
  - ◇ Assist in the design and development of jigs & fixtures gauges, mould, die punches, tools and products (proto-type) for industries and agriculture;
  - ◇ Develop process and tools etc, to help industries in improving the quality, increasing production, reducing cost and utilizing indigenous raw materials and to increase the scope of indigenous develop;
  - ◇ Conduct productivity studies in such selected plants as may be determined and recommend ways and means for improvement.
- To do all such other lawful things as the center may think identical or conducive to the attainment of any or all the objectives of the center mentioned above

#### 1.4 **Advisory Committee**

Chairperson	:	Dr. Dilip Kumar Sharma, ndc Director General BITAC
Member	:	Dr. Md. Jalal Uddin Director Head Office, BITAC
	:	Md. Fazlul Karim Additional Director (Training) BITAC, Dhaka

#### 1.5 **Editorial Committee**

Chairperson	:	Dr. Sayed Md. Ihsanul Karim Director BITAC, Dhaka
Member	:	Tania Tanjin Executive Engineer BITAC, Dhaka

#### 1.6 **Course Conducting Committee**

Course Advisor	:	Director General BITAC
Course Director	:	Director BITAC, Dhaka
Course Coordinator	:	Additional Director Training Division BITAC, Dhaka

#### 1.7 **Governing Body of BITAC**

##### **Chairman**

Secretary, Ministry of Industries, Government of the people's Republic of Bangladesh

##### **MEMBER**

1. Director General, BITAC
2. Joint Secretary (Admin), Ministry of Industries
3. Director General, Directorate of Technical Education
4. Member, Board of Investment
5. President, Dhaka Chamber of Commerce & Industries
6. President, Chittagong Chamber of Commerce & Industries
7. Deputy Secretary, Ministry of Finance
8. Director, Directorate of Labour & Manpower

Secretary, BITAC acts as the Secretary of the Governing Body.

The above body formulates necessary policy guidelines related to the activities of training and development of training division of BITAC.

## TRAINING CALENDAR for 2017-2018

### 2. SCHEDULE OF THE TECHNICAL TRAINING PROGRAM

#### 2.1 Long Term Technical Training Program

Sl No.	Name of the Course	Course No.	Duration	Practicing Weeks	No. of seats
1.	Machine Shop	153	09 July 2017 to 19 Oct 2017	14	25
		154	05 Nov 2017 to 08 Feb 2018	14	25
		155	04 Mar 2018 to 07 June 2018	14	25
2.	Mechanical Drafting	153	09 July 2017 to 19 Oct 2017	14	10
		154	05 Nov 2017 to 08 Feb 2018	14	10
		155	04 Mar 2018 to 07 June 2018	14	10
3.	Electrical Maintenance	153	09 July 2017 to 19 Oct 2017	14	25
		154	05 Nov 2017 to 08 Feb 2018	14	25
		155	04 Mar 2018 to 07 June 2018	14	25
4.	Welding	153	09 July 2017 to 19 Oct 2017	14	25
		154	05 Nov 2017 to 08 Feb 2018	14	25
		155	04 Mar 2018 to 07 June 2018	14	25
5.	Pattern Making	153	09 July 2017 to 19 Oct 2017	14	5
		154	05 Nov 2017 to 08 Feb 2018	14	5
		155	04 Mar 2018 to 07 June 2018	14	5
6.	Foundry Practice	153	09 July 2017 to 19 Oct 2017	14	5
		154	05 Nov 2017 to 08 Feb 2018	14	5
		155	04 Mar 2018 to 07 June 2018	14	5
7.	Automobile	153	09 July 2017 to 19 Oct 2017	14	10
		154	05 Nov 2017 to 08 Feb 2018	14	10
		155	04 Mar 2018 to 07 June 2018	14	10
8.	Auto-electricity	153	09 July 2017 to 19 Oct 2017	14	10
		154	05 Nov 2017 to 08 Feb 2018	14	10
		155	04 Mar 2018 to 07 June 2018	14	10
9.	Heat Treatment	153	09 July 2017 to 19 Oct 2017	14	5
		154	05 Nov 2017 to 08 Feb 2018	14	5
		155	04 Mar 2018 to 07 June 2018	14	5
10.	Electroplating	153	09 July 2017 to 19 Oct 2017	14	5
		154	05 Nov 2017 to 08 Feb 2018	14	5
		155	04 Mar 2018 to 07 June 2018	14	5
11.	Machine Maintenance	153	09 July 2017 to 19 Oct 2017	14	25
		154	05 Nov 2017 to 08 Feb 2018	14	25
		155	04 Mar 2018 to 07 June 2018	14	25

## 2.2 Mid Term Technical Training Program

Sl No.	Name of the Course	Course No.	Duration	Practicing Weeks	No. of seats
1.	CNC Lathe Operation & Practice	53	09 July 2017 to 03 Aug 2017	4	4
		54	17 Sept 2017 to 12 Oct 2017	4	4
		55	26 Nov 2017 to 21 Dec 2017	4	4
		56	04 Feb 2018 to 01 Mar 2018	4	4
		57	01 April 18 to 26 April 2018	4	4
		58	20 May 2018 to 14 June 2018	4	4
2.	CNC Milling Operation & Practice	53	09 July 2017 to 03 Aug 2017	4	4
		54	17 Sept 2017 to 12 Oct 2017	4	4
		55	26 Nov 2017 to 21 Dec 2017	4	4
		56	04 Feb 2018 to 01 Mar 2018	4	4
		57	1 April 2018 to 26 April 2018	4	4
		58	20 May 2018 to 14 June 2018	4	4
3.	CNC Machining Center Operation & Practice	53	09 July 2017 to 03 Aug 2017	4	4
		54	17 Sept 2017 to 12 Oct 2017	4	4
		55	26 Nov 2017 to 21 Dec 2017	4	4
		56	04 Feb 2018 to 01 Mar 2018	4	4
		57	1 April 2018 to 26 April 2018	4	4
		58	20 May 2018 to 14 June 2018	4	4
4.	Die Sink EDM & Wire Cut EDM Operation & Practice	53	09 July 2017 to 03 Aug 2017	4	4
		54	17 Sept 2017 to 12 Oct 2017	4	4
		55	26 Nov 2017 to 21 Dec 2017	4	4
		56	04 Feb 2018 to 01 Mar 2018	4	4
		57	1 April 2018 to 26 April 2018	4	4
		58	20 May 2018 to 14 June 2018	4	4
5.	Steel Melting Induction Furnace Operation & Practice	53	09 July 2017 to 03 Aug 2017	4	4
		54	17 Sept 2017 to 12 Oct 2017	4	4
		55	26 Nov 2017 to 21 Dec 2017	4	4
		56	04 Feb 2018 to 01 Mar 2018	4	4
		57	1 April 2018 to 26 April 2018	4	4
		58	20 May 2018 to 14 June 2018	4	4
6.	Tool & Cutter Grinding Operation & Practice	53	09 July 2017 to 03 Aug 2017	4	4
		54	17 Sept 2017 to 12 Oct 2017	4	4
		55	26 Nov 2017 to 21 Dec 2017	4	4
		56	04 Feb 2018 to 01 Mar 2018	4	4
		57	1 April 2018 to 26 April 2018	4	4
		58	20 May 2018 to 14 June 2018	4	4

Sl No.	Name of the Course	Course No.	Duration	Practicing Weeks	No. of seats
7	Pantograph Milling Machine Operation & Practice	53	09 July 2017 to 03 Aug 2017	4	4
		54	17 Sept 2017 to 12 Oct 2017	4	4
		55	26 Nov 2017 to 21 Dec 2017	4	4
		56	04 Feb 2018 to 01 Mar 2018	4	4
		57	1 April 2018 to 26 April 2018	4	4
		58	20 May 2018 to 14 June 2018	4	4
8	Quality Control & Product Testing of Industrial Spare Parts	53	09 July 2017 to 03 Aug 2017	4	4
		54	17 Sept 2017 to 12 Oct 2017	4	4
		55	26 Nov 2017 to 21 Dec 2017	4	4
		56	04 Feb 2018 to 01 Mar 2018	4	4
		57	1 April 2018 to 26 April 2018	4	4
		58	20 May 2018 to 14 June 2018	4	4
9	Plastic Technology	53	09 July 2017 to 03 Aug 2017	4	5
		54	17 Sept 2017 to 12 Oct 2017	4	5
		55	26 Nov 2017 to 21 Dec 2017	4	5
		56	04 Feb 2018 to 01 Mar 2018	4	5
		57	1 April 2018 to 26 April 2018	4	5
		58	20 May 2018 to 14 June 2018	4	5
10	Auto CAD (2D & 3D)	53	09 July 2017 to 17 Aug 2017	6	4
		54	17 Sept 2017 to 26 Oct 2017	6	4
		55	26 Nov 2017 to 04 Jan 2018	6	4
		56	04 Feb 2018 to 15 Mar 2018	6	4
		57	1 April 2018 to 10 May 2018	6	4
		58	20 May 2018 to 28 June 2018	6	4
11	Refrigeration & Air Conditioning	53	09 July 2017 to 17 Aug 2017	6	20
		54	17 Sept 2017 to 26 Oct 2017	6	20
		55	26 Nov 2017 to 04 Jan 2018	6	20
		56	04 Feb 2018 to 15 Mar 2018	6	20
		57	1 April 2018 to 10 May 2018	6	20
		58	20 May 2018 to 28 June 2018	6	20
12	Electrical House Wiring	53	09 July 2017 to 17 Aug 2017	6	20
		54	17 Sept 2017 to 26 Oct 2017	6	20
		55	26 Nov 2017 to 04 Jan 2018	6	20
		56	04 Feb 2018 to 15 Mar 2018	6	20
		57	1 April 2018 to 10 May 2018	6	20
		58	20 May 2018 to 28 June 2018	6	20

<b>Sl No.</b>	<b>Name of the Course</b>	<b>Course No.</b>	<b>Duration</b>	<b>Practicing Weeks</b>	<b>No. of seats</b>
13	Manual Metal Arc Welding	53	09 July 2017 to 17 Aug 2017	6	20
		54	17 Sept 2017 to 26 Oct 2017	6	20
		55	26 Nov 2017 to 04 Jan 2018	6	20
		56	04 Feb 2018 to 15 Mar 2018	6	20
		57	1 April 2018 to 10 May 2018	6	20
		58	20 May 2018 to 28 June 2018	6	20

### 2.3 Short Term Technical Training Program

Sl No.	Name of the Course	Course No.	Duration	Practicing Weeks	No. of seats
1	Programmable Logic Controller (PLC)	50	09 July 2017 to 20 July 2017	2	20
		51	15 Oct 2017 to 26 Oct 2017	2	20
		52	10 Dec 2017 to 21 Dec 2017	2	20
		53	04 Mar 2018 to 15 Mar 2018	2	20
		54	15 April 18 to 26 April 2018	2	20
		55	10 June 18 to 21 June 2018	2	20
2	Boiler Operation & Maintenance	34	09 July 2017 to 13 July 2017	1	15
		35	15 Oct 2017 to 19 Oct 2017	1	15
		36	10 Dec 2017 to 18 Dec 2017	1	15
		37	04 Mar 2018 to 08 Mar 2018	1	15
		38	15 April 18 to 19 April 2018	1	15
		39	10 June 18 to 14 June 2018	1	15
3	Solar Energy & IPS Technology	4	09 July 2017 to 27 July 2017	3	15
		5	15 Oct 2017 to 02 Nov 2017	3	15
		6	10 Dec 2017 to 28 Dec 2017	3	15
		7	04 Mar 2018 to 22 Mar 2018	3	15
		8	15 April 18 to 03 May 2018	3	15
		9	10 June 18 to 28 June 2018	3	15

### 2.4 Attachment Technical Training Program

Sl No.	Name of the Course	Course No.	Duration	Practicing Weeks	No. of seats
1	Attachment Technical Training Program	-	As per stack holder's desire	4-12	As per demand



### 3 LONG TERM TECHNICAL TRAINING PROGRAM

#### 3.1 Machine Shop

<b>Name of the Course</b>	:	<b>Machine Shop</b>
Duration	:	14- Weeks
Date	:	09 July 2017 to 19 Oct 2017; 05 Nov 2017 to 08 Feb 2018; 04 Mar 2018 to 07 June 2018; for course No 153, 154, 155 respectively.
Nomination deadline	:	06 July 2017; 02 Nov 2017; 01 Mar 2018 for course No 153, 154, 155 respectively.
Number of Seats	:	25
Course fee	:	10,000/-
Target Group	:	Candidate having S.S.C. or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	<p>Square, Acme, Buttress and trapezoid thread cutting, form turning with Form tool and by combined longitudinal and Cross feed, Copy turning; Cam shaft, Crank shaft turning; Dee hole drilling, boring and Reaming to sizes, Gear Cutting; Helical, Bevel and worm gear; Cam milling; Grinding on punch shaft to standard dimensional accuracy and surface finishing; Effect to temperature of surface finish.</p> <ul style="list-style-type: none"> <li>• Understanding of mechanical engineering drawing;</li> <li>• Informing different machining parameters;</li> <li>• Identification on different metals;</li> <li>• Introducing design of tools/cutters and practicing;</li> <li>• Make capable of measuring using different measuring instrument;</li> <li>• Awareness of safety</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Technical Drawing</li> <li>• Basic Tool Design</li> <li>• Safety &amp; Maintenance</li> <li>• Shop Theory</li> <li>• Measuring Tools, fits &amp; Tolerances</li> <li>• Related Math.</li> <li>• Engineering Materials</li> <li>• Heat-Treatment</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

### 3.2 Mechanical Drafting

<b>Name of the Course</b>	:	<b>Mechanical Drafting</b>
Duration	:	14-week
Date	:	09 July 2017 to 19 Oct 2017; 05 Nov 2017 to 08 Feb 2018; 04 Mar 2018 to 07 June 2018; for course No 153, 154, 155 respectively.
Nomination deadline	:	06 July 2017; 02 Nov 2017; 01 Mar 2018 for course No 153, 154, 155 respectively.
Number of Seats	:	10
Course fee	:	6,000/-
Target Group	:	Candidate having S.S.C. or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	<ul style="list-style-type: none"> <li>• Introduction to and important of engineering drawing; drafting instrument and their uses;</li> <li>• Dimension-outside; inside, radius, angle, taper tolerance;</li> <li>• Practicing different types of conventional drawing;</li> <li>• Practicing geometric drawing-straight line, angle, square, polygon, circle, parabola, ellipse;</li> <li>• Practicing part/detail drawing, collective drawing, assembles drawing.</li> <li>• Practicing projection drawing, orthographic projection (1<sup>st</sup> &amp; 3<sup>rd</sup> angle projection), isometric projection and oblique projection. Detail parts drawing assemble drawing with symbols surface finish and tolerances.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Technical Drawing</li> <li>• Basic Tool Design</li> <li>• Safety &amp; Maintenance</li> <li>• Shop Theory</li> <li>• Measuring Tools, fits &amp; Tolerances</li> <li>• Related Math.</li> <li>• Engineering Materials</li> <li>• Heat-Treatment</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

### 3.3 Electrical Maintenance

<b>Name of the Course</b>	:	<b>Electrical Maintenance</b>
Duration	:	14-week
Date	:	09 July 2017 to 19 Oct 2017; 05 Nov 2017 to 08 Feb 2018; 04 Mar 2018 to 07 June 2018; for course No 153, 154, 155 respectively.
Nomination deadline	:	06 July 2017; 02 Nov 2017; 01 Mar 2018 for course No 153, 154, 155 respectively.
Number of Seats	:	25
Course fee	:	8,000/-
Target Group	:	Candidate having S.S.C. or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	<ul style="list-style-type: none"> <li>• To develop skill in domestic and industrial wiring.</li> <li>• To make control circuit and detecting faults and its maintenance</li> <li>• To identify various electronic components and understanding electronic circuit and making circuit</li> <li>• Detecting machine faults, machine winding and is repairing and maintenance;</li> <li>• Able of measure using various measuring tools and connect measuring instrument to a circuit.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Electrical Wiring</li> <li>• Control System</li> <li>• Industrial Electronics</li> <li>• Electrical Machine</li> <li>• Measuring Tools &amp; Electrical Instruments.</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

### 3.4 Welding

<b>Name of the Course</b>	<b>:</b>	<b>Welding</b>
Duration	:	14-week
Date	:	09 July 2017 to 19 Oct 2017; 05 Nov 2017 to 08 Feb 2018; 04 Mar 2018 to 07 June 2018; for course No 153, 154, 155 respectively.
Nomination deadline	:	06 July 2017; 02 Nov 2017; 01 Mar 2018 for course No 153, 154, 155 respectively.
Number of Seats	:	25
Course fee	:	10,000/-
Target Group	:	Candidate having S.S.C. or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	<ul style="list-style-type: none"> <li>• Introduction to different types of welding processes;</li> <li>• Identification of different metals;</li> <li>• Preparation of different types of welding joints;</li> <li>• Welding practice at positions;</li> <li>• Introduction different welding Parameter</li> <li>• Skill development in arc welding technique and gas welding technique;</li> <li>• Detecting welding defects and trouble shooting</li> <li>• Designing and making welding jigs fixtures;</li> <li>• Learning welding symbols;</li> <li>• Make capable of inspection and testing of well joints;</li> <li>• Safety awareness.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Welding Theory on Arc Welding</li> <li>• Heat Treatment</li> <li>• Gas Welding/Cutting</li> <li>• Safety &amp; maintenance</li> <li>• Engineering Materials</li> <li>• Technical Drawing Reading</li> <li>• Welding Hand tools / Measuring Tools</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

### 3.5 Pattern Making

<b>Name of the Course</b>	:	<b>Pattern Making</b>
Duration	:	14-week
Date	:	09 July 2017 to 19 Oct 2017; 05 Nov 2017 to 08 Feb 2018; 04 Mar 2018 to 07 June 2018; for course No 153, 154, 155 respectively.
Nomination deadline	:	06 July 2017; 02 Nov 2017; 01 Mar 2018 for course No 153, 154, 155 respectively.
Number of Seats	:	5
Course fee	:	6,000/-
Target Group	:	Candidate having S.S.C. or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	<ul style="list-style-type: none"> <li>• To operate wood lathe, wood planer, band saw, circular saw sand disc and different hand tools etc;</li> <li>• Understanding blue print reading;</li> <li>• Preparing a proper layout for pattern and core making;</li> <li>• Making complete pattern, core with core print and mold box as per layout, drawing and sample;</li> <li>• Determining and adding the appropriate allowance to the pattern depending on the different types of metals;</li> <li>• Taking different measurements using different measuring instruments;</li> <li>• Introducing sand mold preparation mould making, core pasting, metal melting, fettling etc.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Pattern making</li> <li>• Sand mould preparation &amp; practices</li> <li>• Safety &amp; Maintenance</li> <li>• Engineering Materials</li> <li>• Technical Drawing &amp; Reading</li> <li>• Welding Hand tools / Measuring Tools.</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

### 3.6 Foundry Practice

<b>Name of the Course</b>	:	<b>Foundry Practice</b>
Duration	:	14-week
Date	:	09 July 2017 to 19 Oct 2017; 05 Nov 2017 to 08 Feb 2018; 04 Mar 2018 to 07 June 2018; for course No 153, 154, 155 respectively.
Nomination deadline	:	06 July 2017; 02 Nov 2017; 01 Mar 2018 for course No 153, 154, 155 respectively.
Number of Seats	:	5
Course fee	:	6,000/-
Target Group	:	Candidate having S.S.C. or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	<ul style="list-style-type: none"> <li>• To operate induction furnace, cupola furnace, tilting furnace, pit furnace coke bed furnace, sand mixing machine, overhead crane, core drier, and use different hand tools etc.</li> <li>• Understanding blue print reading</li> <li>• Preparation of sand for mould and core making</li> <li>• Making mould/core, pasting, metal melting, fettling etc.</li> <li>• Identifying the different metals and alloys;</li> <li>• Melting different metals, handling the liquid metal and purify the liquid metal into the mold cavity;</li> <li>• Taking different measurement using different measuring instruments;</li> <li>• Introducing the heat treatment processes;</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Pattern making</li> <li>• Casting processes &amp; different types of furnace</li> <li>• Melting Processes &amp; Alloying of metals</li> <li>• Safety &amp; Maintenance</li> <li>• Engineering Materials</li> <li>• Technical Drawing &amp; Reading</li> <li>• Welding Hand tools / Measuring Tools.</li> <li>• Heat Treatment</li> <li>• Sand mould preparation &amp; practices</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

### 3.7 Automobile

<b>Name of the Course</b>	<b>:</b>	<b>Automobile</b>
Duration	:	14-week
Date	:	09 July 2017 to 19 Oct 2017; 05 Nov 2017 to 08 Feb 2018; 04 Mar 2018 to 07 June 2018; for course No 153, 154, 155 respectively.
Nomination deadline	:	06 July 2017; 02 Nov 2017; 01 Mar 2018 for course No 153, 154, 155 respectively.
Number of Seats	:	10
Course fee	:	6,000/-
Target Group	:	Candidate having S.S.C. or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	<ul style="list-style-type: none"> <li>• To introduce hand tools, machine tools and different measuring instruments;</li> <li>• To make capable of major overhauling of auto engine;</li> <li>• Troubles shooting and corrective measures;</li> <li>• Dismantling and assembling of gear box and clutch system.</li> <li>• To acquaint the participants with auto parts machining, denting and painting;</li> <li>• Repairing and maintenance of suspension and break system;</li> <li>• Selecting appropriate blue oil, fuel &amp; tyres for different type's vehicles.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Pattern making</li> <li>• Casting processes &amp; different types of furnace</li> <li>• Melting Processes &amp; Alloying of metals</li> <li>• Safety &amp; Maintenance</li> <li>• Engineering Materials</li> <li>• Technical Drawing &amp; Reading</li> <li>• Welding Hand tools / Measuring Tools.</li> <li>• Heat Treatment</li> <li>• Sand mould preparation &amp; practices</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

### 3.8 Auto-electricity

<b>Name of the Course</b>	:	<b>Auto-electricity</b>
Duration	:	14-week
Date	:	09 July 2017 to 19 Oct 2017; 05 Nov 2017 to 08 Feb 2018; 04 Mar 2018 to 07 June 2018; for course No 153, 154, 155 respectively.
Nomination deadline	:	06 July 2017; 02 Nov 2017; 01 Mar 2018 for course No 153, 154, 155 respectively.
Number of Seats	:	10
Course fee	:	6,000/-
Target Group	:	Candidate having S.S.C. or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	<ul style="list-style-type: none"> <li>● To introduce hand tools, machine tools and different measuring instruments;</li> <li>● To make capable of major overhauling of auto engine;</li> <li>● Troubles shooting and corrective measures;</li> <li>● Dismantling and assembling of gear box and clutch system.</li> <li>● To acquaint the participants with auto parts machining, denting and painting;</li> <li>● Repairing and maintenance of suspension and break system;</li> <li>● Selecting appropriate blue oil, fuel &amp; tyres for different type's vehicles.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>● Auto-Engine</li> <li>● Auto-Electricity</li> <li>● Power Transmission System</li> <li>● Auto-Parts Machining, Denting and painting</li> <li>● Measuring Tools</li> <li>● Suspension, Break, Fuel &amp; Fuel Injection Systems.</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>● Class-room lecture</li> <li>● Group discussion</li> <li>● Practical exercise</li> <li>● Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>● Observation</li> <li>● Question and answer</li> <li>● Individual exercise</li> <li>● Written test</li> <li>● Oral test</li> <li>● Overall performance.</li> </ul>



### 3.9 Heat Treatment

<b>Name of the Course</b>	<b>:</b>	<b>Heat Treatment</b>
Duration	:	14-week
Date	:	09 July 2017 to 19 Oct 2017; 05 Nov 2017 to 08 Feb 2018; 04 Mar 2018 to 07 June 2018; for course No 153, 154, 155 respectively.
Nomination deadline	:	06 July 2017; 02 Nov 2017; 01 Mar 2018 for course No 153, 154, 155 respectively.
Number of Seats	:	5
Course fee	:	6,000/-
Target Group	:	Candidate having S.S.C. or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	<ul style="list-style-type: none"> <li>• Demonstration and practicing on Annealing Normalizing, Hardening &amp; Tempering.</li> <li>• Introduction to different types of heat treatment furnaces;</li> <li>• Acquainting with different cooling media used for different metals and their alloys:</li> <li>• Identification of different type of metals;</li> <li>• Demonstration of quenching technique;</li> <li>• Practicing hardness measurement;</li> <li>• Preparing carburizing compound;</li> <li>• Demonstration of packaging of job into carburizing compound.</li> <li>• Awareness of safety.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Safety &amp; Maintenance</li> <li>• Engineering Materials</li> <li>• Fundamental of Heat Treatment</li> <li>• Furnace Design</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

### 3.10 Electroplating

<b>Name of the Course</b>	<b>:</b>	<b>Electroplating</b>
Duration	:	14-week
Date	:	09 July 2017 to 19 Oct 2017; 05 Nov 2017 to 08 Feb 2018; 04 Mar 2018 to 07 June 2018; for course No 153, 154, 155 respectively.
Nomination deadline	:	06 July 2017; 02 Nov 2017; 01 Mar 2018 for course No 153, 154, 155 respectively.
Number of Seats	:	5
Course fee	:	6,000/-
Target Group	:	Candidate having S.S.C. or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	<ul style="list-style-type: none"> <li>• Introduction to different types of surface preparation of metals and alloys;</li> <li>• Acquainting with different types of electroplating tank;</li> <li>• Identification of different types of lining materials;</li> <li>• Demonstration and practicing on buffing &amp; polishing;</li> <li>• Demonstration &amp; practicing on application of abrasive powder on grinding wheel.</li> <li>• Demonstration &amp; practicing on drying of electroplated job.</li> <li>• Practicing hardness measurement;</li> <li>• Demonstration &amp; practicing on electrolytic deposition of copper, nickel, bright chromium, hard chromium, zinc and cadmium on mild steel, cast iron and stainless steel;</li> <li>• Awareness of safety.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Fundamental of Electroplating</li> <li>• Process Control</li> <li>• Safety &amp; Maintenance</li> <li>• Engineering materials</li> <li>• Fundamentals of Heat-treatment</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

### 3.11 Machine Maintenance

<b>Name of the Course</b>	<b>:</b>	<b>Machine Maintenance</b>
Duration	:	14-week
Date	:	09 July 2017 to 19 Oct 2017; 05 Nov 2017 to 08 Feb 2018; 04 Mar 2018 to 07 June 2018; for course No 153, 154, 155 respectively.
Nomination deadline	:	06 July 2017; 02 Nov 2017; 01 Mar 2018 for course No 153, 154, 155 respectively.
Number of Seats	:	25
Course fee	:	6,000/-
Target Group	:	Candidate having S.S.C. or equivalent certificate along with technical experience, Merchant Navy Cadets, Defense civilian staff (army, air force and navy), TTC/VTI certificate holders, Diploma in Engineering.
Course Objects	:	<ul style="list-style-type: none"> <li>• Introduction to different machine tools such as lathe machine, milling machine, grinding machine, boring machine, planer machine, drill machine, hydraulic and mechanical press machine, rolling machine, shear machine.</li> <li>• Acquainting different types of mechanical compound and driving System;</li> <li>• Understanding of blue print reading;</li> <li>• Make capable of disassemble and assembly of different machine tools and components;</li> <li>• Replacement of lubricants, cutting oil, o-ring, gasket etc.</li> <li>• Awareness of safety and maintenance.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Machine elements</li> <li>• Mechanical component and driving system</li> <li>• General maintenance</li> <li>• Technical drawing reading</li> <li>• Hand tools / measuring tools</li> <li>• Safety &amp; maintenance</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

## 4 MID TERM TECHNICAL TRAINING PROGRAM

### 4.1 CNC Lathe Operation & Practice

<b>Name of the Course</b>	:	<b>CNC Lathe Operation &amp; Practice</b>
Duration	:	4-week
Date	:	09 July 2017 to 03 Aug 2017; 17 Sept 2017 to 12 Oct 2017; 26 Nov 2017 to 21 Dec 2017; 04 Feb 2018 to 01 Mar 2018; 1 April 2018 to 26 April 2018; 20 May 2018 to 14 June 2018; for course no. 53, 54, 55, 56, 57 & 58 respectively.
Nomination deadline	:	06 July 2017; 14 Sept 2017; 23 Nov 2017; 01 Feb 2018; 29 Mar 2018; 17 May 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Number of Seats	:	4
Course fee	:	7,500/-
Target Group	:	BSc. In Engineering, Diploma in Engineering TTC/HSC (Voc)
Course Objects	:	<ul style="list-style-type: none"> <li>• In depth exploration of ISO as related to lathe operation;</li> <li>• Detail lessons ranging from basic advanced programming; techniques using ISO and a representative lathe CNC control (Fagor)</li> <li>• Hands on machining practice under real-life shop environment.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Introduction &amp; Basic programming</li> <li>• ISO Code (G &amp; M code)</li> <li>• Machine parameter &amp; Function</li> <li>• Different operation &amp; ramming</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

## 4.2 CNC Milling Operation & Practice

<b>Name of the Course</b>	:	<b>CNC Milling Operation &amp; Practice</b>
Duration	:	4-week
Date	:	09 July 2017 to 03 Aug 2017; 17 Sept 2017 to 12 Oct 2017; 26 Nov 2017 to 21 Dec 2017; 04 Feb 2018 to 01 Mar 2018; 1 April 2018 to 26 April 2018; 20 May 2018 to 14 June 2018; for course no. 53, 54, 55, 56, 57 & 58 respectively.
Nomination deadline	:	06 July 2017; 14 Sept 2017; 23 Nov 2017; 01 Feb 2018; 29 Mar 2018; 17 May 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Number of Seats	:	4
Course fee	:	7,500/-
Target Group	:	BSc. In Engineering, Diploma in Engineering TTC/HSC (Voc)
Course Objects	:	<ul style="list-style-type: none"> <li>• In depth exploration of ISO as related to milling;</li> <li>• Detail lessons ranging from basic advanced programming; techniques using ISO and a representative milling CNC control (Haidenhein TNC-310)</li> <li>• Hands on machining practice under real-life shop environment.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>•</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

### 4.3 CNC Machining Center Operation & Practice

<b>Name of the Course</b>	:	<b>CNC Machining Center Operation &amp; Practice</b>
Duration	:	4-week
Date	:	09 July 2017 to 03 Aug 2017; 17 Sept 2017 to 12 Oct 2017; 26 Nov 2017 to 21 Dec 2017; 04 Feb 2018 to 01 Mar 2018; 1 April 2018 to 26 April 2018; 20 May 2018 to 14 June 2018; for course no. 53, 54, 55, 56, 57 & 58 respectively.
Nomination deadline	:	06 July 2017; 14 Sept 2017; 23 Nov 2017; 01 Feb 2018; 29 Mar 2018; 17 May 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Number of Seats	:	4
Course fee	:	7,500/-
Target Group	:	BSc. In Engineering, Diploma in Engineering TTC/HSC (Voc)
Course Objects	:	<ul style="list-style-type: none"> <li>• In depth exploration of ISO as related to milling and drilling oriented operations;</li> <li>• Detail lessons ranging from basic to advanced programming; techniques using ISO and a representative milling multi axis machining center CNC control (Fanuc-21); (Haidenhein TNC-310);</li> <li>• Hands on machining practice under real-life shop environment.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Introduction &amp; Basic programming</li> <li>• ISO Code (G &amp; M code)</li> <li>• Machine parameter &amp; Function.</li> <li>• Different operation &amp; ramming.</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

#### 4.4 Die Sink EDM & Wire Cut EDM Operation & Practice

<b>Name of the Course</b>	:	<b>Die Sink EDM &amp; Wire Cut EDM Operation &amp; Practice</b>
Duration	:	4-week
Date	:	09 July 2017 to 03 Aug 2017; 17 Sept 2017 to 12 Oct 2017; 26 Nov 2017 to 21 Dec 2017; 04 Feb 2018 to 01 Mar 2018; 1 April 2018 to 26 April 2018; 20 May 2018 to 14 June 2018; for course no. 53, 54, 55, 56, 57 & 58 respectively.
Nomination deadline	:	06 July 2017; 14 Sept 2017; 23 Nov 2017; 01 Feb 2018; 29 Mar 2018; 17 May 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Number of Seats	:	4
Course fee	:	7,500/-
Target Group	:	BSc. In Engineering, Diploma in Engineering TTC/HSC (Voc)
Course Objects	:	<ul style="list-style-type: none"> <li>• Understanding of EDM process and factors involved;</li> <li>• Rende3ring knowledge on die-sink &amp; wire cut EDM machines, their components and control systems;</li> <li>• Acquaintance with electrode (Properties, materials and machining), dielectric fluids (Properties, function)</li> <li>• Programming with ISO codes and a representative control language (Robostar);</li> <li>• Use of CAM and Simulation to facilitate programming;</li> <li>• Making workable mold cavities, dies and punches using die-sink &amp; wire-cut EDM process.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Basic programming (wire cut) &amp; operation</li> <li>• Basic operation</li> <li>• Application operation</li> <li>• NC programming.</li> <li>• My cam (Software)</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

#### 4.5 Steel Melting Induction Furnace3 Operation & Practice

<b>Name of the Course</b>	:	<b>Steel Melting Induction Furnace3 Operation &amp; Practice</b>
Duration	:	4-week
Date	:	09 July 2017 to 03 Aug 2017; 17 Sept 2017to 12 Oct 2017; 26 Nov 2017 to 21 Dec 2017; 04 Feb 2018 to 01 Mar 2018; 1 April 2018 to 26 April 2018; 20 May 2018 to 14 June 2018; for course no. 53, 54, 55, 56, 57 & 58 respectively.
Nomination deadline	:	06 July 2017; 14 Sept 2017; 23 Nov 2017; 01 Feb 2018; 29 Mar 2018; 17 May 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Number of Seats	:	4
Course fee	:	7,500/-
Target Group	:	BSc. In Engineering, Diploma in Engineering TTC/HSC (Voc)
Course Objects	:	<ul style="list-style-type: none"> <li>• Rendering knowledge on engineering materials and identifying different metals as required;</li> <li>• Introducing plumbing system;</li> <li>• Practicing ramming and patching of furnace crucible;</li> <li>• Imparting fundamentals of melting principles;</li> <li>• Awareness on safety and maintenance;</li> <li>• Acquainting mold and core making, pasting and pouring system.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Engineering materials</li> <li>• Cooling system</li> <li>• Ramming, patching and dismantling</li> <li>• Basic principles and power supply</li> <li>• Melting, alloying and pouring of metals.</li> <li>• Sand preparation and mold making</li> <li>• Furnace troubleshooting and maintenance.</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>



#### 4.6 Tool & Cutter Grinding Operation & Practice

<b>Name of the Course</b>	:	<b>Tool &amp; Cutter Grinding Operation &amp; Practice</b>
Duration	:	4-week
Date	:	09 July 2017 to 03 Aug 2017; 17 Sept 2017 to 12 Oct 2017; 26 Nov 2017 to 21 Dec 2017; 04 Feb 2018 to 01 Mar 2018; 1 April 2018 to 26 April 2018; 20 May 2018 to 14 June 2018; for course no. 53, 54, 55, 56, 57 & 58 respectively.
Nomination deadline	:	06 July 2017; 14 Sept 2017; 23 Nov 2017; 01 Feb 2018; 29 Mar 2018; 17 May 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Number of Seats	:	4
Course fee	:	3,500/-
Target Group	:	Diploma in Engineering, TTC/Vocational Trade Course/SSC & HSC (Voc)
Course Objects	:	<ul style="list-style-type: none"> <li>• Introduction to Tools and Cutters materials;</li> <li>• Imparting knowledge on different grinding machine and different attachments;</li> <li>• Understanding Nomen clature and different effective tools angles.</li> <li>• Calculating and determining Diametric Pitch (DP) and Module cutters;</li> <li>• Distinguishing different cutters such as side and face milling cutters, end mill cutters, singe point cutter, slab cutters;</li> <li>• Introducing different grinding wheels.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Engineering materials</li> <li>• Precision measuring tools</li> <li>• Different types of gauges</li> <li>• Tolerance and allowance</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

#### 4.7 Pantograph Milling Machine Operation & Practice

<b>Name of the Course</b>	:	<b>Pantograph Milling Machine Operation &amp; Practice</b>
Duration	:	4-week
Date	:	09 July 2017 to 03 Aug 2017; 17 Sept 2017 to 12 Oct 2017; 26 Nov 2017 to 21 Dec 2017; 04 Feb 2018 to 01 Mar 2018; 1 April 2018 to 26 April 2018; 20 May 2018 to 14 June 2018; for course no. 53, 54, 55, 56, 57 & 58 respectively.
Nomination deadline	:	06 July 2017; 14 Sept 2017; 23 Nov 2017; 01 Feb 2018; 29 Mar 2018; 17 May 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Number of Seats	:	4
Course fee	:	3,500/-
Target Group	:	Diploma in Engineering, TTC/VTI HSC (Voc)
Course Objects	:	<ul style="list-style-type: none"> <li>• Designing and enlarging / reducing the target object;</li> <li>• Making master/template (engraving/embossing);</li> <li>• Selecting appropriate material and cutting ratio;</li> <li>• Profiling cutting tool;</li> <li>• Introducing different cutting parameters.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Engineering materials</li> <li>• Precision measuring tools</li> <li>• Different types of gauges</li> <li>• Tolerance and allowance</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Written test</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

#### 4.8 Quality Control & Product Testing of Industrial Spare Parts

<b>Name of the Course</b>	:	<b>Quality Control &amp; Product Testing of Industrial Spare Parts</b>
Duration	:	4-week
Date	:	09 July 2017 to 03 Aug 2017; 17 Sept 2017 to 12 Oct 2017; 26 Nov 2017 to 21 Dec 2017; 04 Feb 2018 to 01 Mar 2018; 1 April 2018 to 26 April 2018; 20 May 2018 to 14 June 2018; for course no. 53, 54, 55, 56, 57 & 58 respectively.
Nomination deadline	:	06 July 2017; 14 Sept 2017; 23 Nov 2017; 01 Feb 2018; 29 Mar 2018; 17 May 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Number of Seats	:	4
Course fee	:	3,500/-
Target Group	:	Diploma in Engineering, TTC/VTI HSC (Voc)
Course Objects	:	<ul style="list-style-type: none"> <li>• Introducing units &amp; standards of measurement and types of measurement;</li> <li>• Hand on practice of measuring tools such as steel ruler, measuring tape, vernier caliper, micrometer, vernier micrometer, bevel protector, sine bar, gear tooth vernier, height, filler, surface, telescopic gauges etc.</li> <li>• Developing knowledge on purpose and necessity of quality control, Quality control (QC)</li> <li>• Make understanding terms; data; purpose, kind and correctness; data analysis; preparation and use of histogram; data dispersion and its occurrence.</li> <li>• Preparing quality control check sheet;</li> <li>• Analyzing function, production process distribution; defective item check, defect location check sheet, defect cause check sheet.</li> <li>• Check up confirmation check sheet etc.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Introduction to Quality Control</li> <li>• Factors Consider in Quality Control</li> <li>• Product Testing Criteria</li> <li>• Non-precision measuring tools</li> <li>• Different types of gauges</li> <li>• Tolerance and allowance.</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

#### 4.9 Plastic Technology

<b>Name of the Course</b>	:	<b>Plastic Technology</b>
Duration	:	4-week
Date	:	09 July 2017 to 03 Aug 2017; 17 Sept 2017 to 12 Oct 2017; 26 Nov 2017 to 21 Dec 2017; 04 Feb 2018 to 01 Mar 2018; 1 April 2018 to 26 April 2018; 20 May 2018 to 14 June 2018; for course no. 53, 54, 55, 56, 57 & 58 respectively.
Nomination deadline	:	06 July 2017; 14 Sept 2017; 23 Nov 2017; 01 Feb 2018; 29 Mar 2018; 17 May 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Number of Seats	:	5
Course fee	:	4,000/-
Target Group	:	Entrepreneur, technical staff working in the Plastic processing industries. TTC/VTI
Course Objects	:	<ul style="list-style-type: none"> <li>• To operate injection moulding machine, compression moulding machine, extruder machine, blow moulding and the plastic machinery;</li> <li>• Usage and maintenance of plastic mould;</li> <li>• Selection of appropriate plastic materials for products;</li> <li>• Maintenance and controlling of plastic machinery;</li> <li>• Testing procedure of plastic.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Plastic material</li> <li>• Plastic testing</li> <li>• Plastic processing machinery</li> <li>• Mold making</li> <li>• Heat treatment</li> <li>• Electroplating</li> <li>• Machine control system and maintenance.</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

#### 4.10 Auto CAD (2D & 3D)

<b>Name of the Course</b>	:	<b>Auto CAD (2D &amp; 3D)</b>
Duration	:	6-week
Date	:	09 July 2017 to 17 Aug 2017; 17 Sept 2017 to 26 Oct 2017; 26 Nov 2017 to 04 Jan 2018; 04 Feb 2018 to 15 Mar 2018; 1 April 2018 to 10 May 2018; 20 May 2018 to 28 June 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Nomination deadline	:	06 July 2017; 14 Sept 2017; 23 Nov 2017; 01 Feb 2018; 29 Mar 2018; 17 May 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Number of Seats	:	6
Course fee	:	7,500/-
Target Group	:	BSc. in Engineering, Diploma in Engineering, TTC/VTI HSC (Voc)
Course Objects	:	<ul style="list-style-type: none"> <li>• Understanding and practicing of working and assembly drawing;</li> <li>• Introducing the importance of computer aided design (CAD)</li> <li>• Make capable of computer aided designing.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Mechanical Drafting</li> <li>• Auto CAD-2D</li> <li>• Auto CAD-3D</li> <li>• Component drawing</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

#### 4.11 Refrigeration & Air Conditioning

<b>Name of the Course</b>	<b>:</b>	<b>Refrigeration &amp; Air Conditioning</b>
Duration	:	6-week
Date	:	09 July 2017 to 17 Aug 2017; 17 Sept 2017 to 26 Oct 2017; 26 Nov 2017 to 04 Jan 2018; 04 Feb 2018 to 15 Mar 2018; 1 April 2018 to 10 May 2018; 20 May 2018 to 28 June 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Nomination deadline	:	06 July 2017; 14 Sept 2017; 23 Nov 2017; 01 Feb 2018; 29 Mar 2018; 17 May 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Number of Seats	:	20
Course fee	:	5,000/-
Target Group	:	Candidates having passed at least class eight.
Course Objects	:	<ul style="list-style-type: none"> <li>• To make capable of repairing of domestic and industrial Air Conditioning system.</li> <li>• To make control circuit and detecting faults and its maintenance.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Fundamental of Refrigeration and air Conditioning</li> <li>• Control System</li> <li>• Brazing and soldering</li> <li>• Troubleshooting</li> <li>• Operation and Maintenance</li> <li>• Assembly and dismantling of components</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

#### 4.12 Electrical House Wiring

<b>Name of the Course</b>	:	<b>Electrical House Wiring</b>
Duration	:	6-week
Date	:	09 July 2017 to 17 Aug 2017; 17 Sept 2017 to 26 Oct 2017; 26 Nov 2017 to 04 Jan 2018; 04 Feb 2018 to 15 Mar 2018; 1 April 2018 to 10 May 2018; 20 May 2018 to 28 June 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Nomination deadline	:	06 July 2017; 14 Sept 2017; 23 Nov 2017; 01 Feb 2018; 29 Mar 2018; 17 May 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Number of Seats	:	20
Course fee	:	4,200/-
Target Group	:	Candidates having passed at least class eight.
Course Objects	:	<ul style="list-style-type: none"> <li>• To develop skill in domestic wiring.</li> <li>• To make control circuit and detecting faults and its maintenance.</li> <li>• To identify various electronic components and understanding electronic circuit and making circuit.</li> <li>• Detecting machine faults, machine winding and its repairing and maintenance;</li> <li>• Able to measure using various measuring tools and connect measuring instruments to a circuit.</li> <li>• Safety awareness.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Fundamental of Electrical Wiring.</li> <li>• House Wiring Basic</li> <li>• Electrical Instrument and Equipment</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

#### 4.13 Manual Metal Arc Welding

<b>Name of the Course</b>	:	<b>Manual Metal Arc Welding</b>
Duration	:	6-week
Date	:	09 July 2017 to 17 Aug 2017; 17 Sept 2017 to 26 Oct 2017; 26 Nov 2017 to 04 Jan 2018; 04 Feb 2018 to 15 Mar 2018; 1 April 2018 to 10 May 2018; 20 May 2018 to 28 June 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Nomination deadline	:	06 July 2017; 14 Sept 2017; 23 Nov 2017; 01 Feb 2018; 29 Mar 2018; 17 May 2018 for course no. 53, 54, 55, 56, 57 & 58 respectively.
Number of Seats	:	20
Course fee	:	5,000/-
Target Group	:	Candidates having passed at least class eight.
Course Objects	:	<ul style="list-style-type: none"> <li>• Introduction to different types of welding processes.</li> <li>• Identification of different metals.</li> <li>• Preparation of different types of welding profile.</li> <li>• Welding practice at different positions</li> <li>• Controlling different welding parameter.</li> <li>• Skill development in arc welding technique.</li> <li>• Detecting welding defects and troubleshooting.</li> <li>• Making welding jigs and fixtures</li> <li>• Make capable of inspection and testing of weld joints</li> <li>• Safety awareness.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Welding theory on Arc welding</li> <li>• Heat treatment</li> <li>• Gas welding/cutting</li> <li>• Safety &amp; Maintenance</li> <li>• Engineering materials</li> <li>• Technical Drawing Reading</li> <li>• Welding Hand tools/Measuring Tools.</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>



## 5 SHORT TERM TECHNICAL TRAINING PROGRAM

### 5.1 Boiler Operation and Maintenance

<b>Name of the Course</b>	:	<b>Boiler Operation and Maintenance</b>
Duration	:	1-week
Date	:	09 July 2017 to 13 July 2017; 15 Oct 2017 to 19 Oct 2017; 10 Dec 2017 to 18 Dec 2017; 04 Mar 2018 to 08 Mar 2018; 15 April 18 to 19 April 2018; 10 June 18 to 14 June 2018 for course no. 34, 35, 36, 37, 38 & 39 respectively
Nomination deadline	:	06 July 2017; 12 Oct 2017; 07 Dec 2017; 01 Mar 2018; 12 April 2018; 7 June 2018 for course no. 34, 35, 36, 37, 38 & 39 respectively
Number of Seats	:	15
Course fee	:	3,500/-
Target Group	:	Entrepreneur, technical staffs working in the industries like Sugar Mills, Textiles passed at least class eight.
Course Objects	:	<ul style="list-style-type: none"> <li>• Skill development on Boiler.</li> <li>• Hand on practice on maintenance of different circuits like fuel circuits, water circuit;</li> <li>• Developing knowledge on Acts, rules and regulations;</li> <li>• Awareness on Safety and maintenance.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Water circuit</li> <li>• Fuel circuit</li> <li>• Boiler construction</li> <li>• Boiler maintenance</li> <li>• Safety</li> <li>• Troubleshooting</li> <li>• Act, rules &amp; Regulations</li> <li>• Inspection &amp; regulations procedure</li> <li>• Control system</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

## 5.2 Programmable Logic Controller (PLC)

<b>Name of the Course</b>	:	<b>Programmable Logic Controller (PLC)</b>
Duration	:	2-week
Date	:	09 July 2017 to 20 July 2017; 15 Oct 2017 to 26 Oct 2017; 10 Dec 2017 to 21 Dec 2017; 04 Mar 2018 to 15 Mar 2018; 15; April 18 to 26 April 2018; 10 June 18 to 21 June 2018 for course no. 50, 51, 52, 53, 54 & 55 respectively
Nomination deadline	:	06 July 2017; 12 Oct 2017; 07 Dec 2017; 01 Mar 2018; 12 April 2018; 7 June 2018 for course no. 47, 48, 49, 50, 51 & 52 respectively
Number of Seats	:	20
Course fee	:	10,000/-
Target Group	:	Candidates having BSc. in Engineering and Graduation in Applied Physics, Diploma in Engineering.
Course Objects	:	<ul style="list-style-type: none"> <li>• To describe functions and of PLC.</li> <li>• To describe PLC program for industrial process.</li> <li>• To modify existing Relay Control System into PLC system</li> <li>• To install PLC system in a process plant</li> <li>• To maintain and troubleshoot the PLC system</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Introduction to PLC</li> <li>• Conventional Relay Control System</li> <li>• Functional description of PLC</li> <li>• Basic function block of plc</li> <li>• Introduction to programming</li> <li>• Sensors &amp; Actuators</li> <li>• Relay types instructions</li> <li>• Timer &amp; counter instruction</li> <li>• Loop creating sequencer instruction</li> <li>• Process operation by PLC at BITAC pilot plant.</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Industrial visit</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

### 5.3 Solar Energy & IPS Technology

<b>Name of the Course</b>	:	<b>Solar Energy &amp; IPS Technology</b>
Duration	:	3-week
Date	:	09 July 2017 to 27 July 2017; 15 Oct 2017 to 02 Nov 2017; 10 Dec 2017 to 28 Dec 2017; 04 Mar 2018 to 22 Mar 2018; 15 April 18 to 03 May 2018; 10 June 18 to 28 June 2018 for course no. 4, 5, 6, 7, 8 & 9 respectively
Nomination deadline	:	06 July 2017; 12 Oct 2017; 07 Dec 2017; 01 Mar 2018; 12 April 2018; 7 June 2018 for course no. 4, 5, 6, 7, 8 & 9 respectively
Number of Seats	:	20
Course fee	:	5,000/-
Target Group	:	Candidates having passed at least class eight.
Course Objects	:	<ul style="list-style-type: none"> <li>• Introducing production of electricity from different sources</li> <li>• To design solar and IPS system for domestic and commercial purpose.</li> <li>• To learn synchronization of different components of Solar and IPS system</li> <li>• To install Solar an IPS system in domestic as well as industrial sector.</li> <li>• To maintain and troubleshoot the solar and IPS system.</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Fundamental of electrical energy production systems</li> <li>• Making solar panel specification</li> <li>• Determination of capacity of charge controller, battery inverter and required load</li> <li>• Component design of charge controller, battery and inverter.</li> <li>• Circuit design for charge controller &amp; inverter.</li> <li>• Electrical measuring equipments &amp; hand tools.</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Class-room lecture</li> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Industrial visit</li> <li>• Demonstration</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Observation</li> <li>• Question and answer</li> <li>• Individual exercise</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>

## 6 INDUSTRIAL ATTACHMENT TECHNICAL TRAINING PROGRAM

<b>Name of the Course</b>	:	<b>INDUSTRIAL ATTACHMENT TECHNICAL TRAINING PROGRAM</b>
Duration	:	4-12 week
Date	:	At Any Time of The Year Depending on The Participating Institute
Nomination deadline	:	Depends on The Participating Institute
Number of Seats	:	As per demand
Course fee	:	As per government rule depending on the sending Institute
Target Group	:	Students of (BUET) Bangladesh University of Engineering and Technology (DUET) Dhaka University of Engineering and Technology (KUET) Khulna University of Engineering and Technology (CUET) Chittagong University of Engineering and Technology (RUET) Rajshahi University of Engineering and Technology (SUST) Shah Jalal University of Science and Technology Vocational Institute and Polytechnic Institute
Course Objects	:	<ul style="list-style-type: none"> <li>• Introducing different conventional machine tools such as lathe, milling, grinding planer, boring, shaper, shearing, drilling, ball press, power press etc and CNC &amp; Servo Control Machine tools such as lathe, milling center, die sink EDM, &amp; Wire cut EDM.</li> <li>• Comparing theoretical and practical operation systems of different traditional and CNC machine tool to develop spare parts or products.</li> <li>• Acquainting with different melting and heat treatment furnaces and their operation system and also different surface treatment including protective coating.</li> <li>• To make adapted in real life situation</li> <li>• Understanding estimation and controlling production system</li> <li>• Rendering practical know-how on plastic processing technology</li> </ul>
Course Contents	:	<ul style="list-style-type: none"> <li>• Welding and Fabrication</li> <li>• Conventional Machine Tool-lathe, milling grinder, planer, boring, shaper, shearing, drilling, ball press and power press machine etc.</li> <li>• CNC Machine Tool-lathe, milling machining center &amp; wire cut EDM.</li> <li>• Special Machine Tool-Copy milling, pantograph milling profile grinder, jig Boring &amp; jig Grinding, servo control die sink EDM</li> <li>• Tool and Cutter Grinding.</li> <li>• Light Forging.</li> </ul>

		<ul style="list-style-type: none"> <li>• Heat-treatment</li> <li>• Electroplating.</li> <li>• Pattern</li> <li>• Foundry</li> <li>• Plastic Possessing machinery</li> </ul>
Training Methodology	:	<ul style="list-style-type: none"> <li>• Group discussion</li> <li>• Practical exercise</li> <li>• Class Study</li> </ul>
Evaluation System	:	<ul style="list-style-type: none"> <li>• Group Exercise</li> <li>• Individual exercise</li> <li>• Discussion</li> <li>• Oral test</li> <li>• Overall performance.</li> </ul>