



SHRI VILE PARLE KELAVANI MANDAL'S

Shri Bhagubhai Mafatlal Polytechnic

Irla-Juhu Road, Vile Parle (West),
MUMBAI - 400 056.
Tel. No. 4233 6000



BRIEFING STUDENTS
on
THE EVE OF INPLANT TRAINING
2012



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ON
THE EVE OF INPLANT TRAINING

Dear Students,

I am very happy today - to be with you prior to your joining industry for Inplant Training during Vth Semester. I wish all of you good luck during your Inplant Training. The purpose of meeting you today is to make you familiar with various aspects of Inplant Training and to apprise you about our expectations and obligations so that maximum benefits are gained from the same.

BACKGROUND :

Our Institute was started by Shri Vile Parle Kelavani Mandal in 1963 for conducting the conventional Diploma Courses in Civil Engineering, Mechanical Engineering and Electrical Engineering. Courses in Industrial Electronics, Chemical Engineering, Plastics Engineering and Digital Electronics were subsequently added to cater to the needs of Industry. The Polytechnic was granted 'Academic Freedom' in 1969-70 for the then Civil, Mechanical and Electrical Engineering Diploma Courses. Effective 1978-79 all seven courses are under Academic Freedom Scheme. We started sandwich Inplant Training in 1971-72. This scheme has become popular and has received acceptance both from the Government and the Industry. Sandwich training is gaining importance in view of rapid advances in Science and technology.

Students passing from Technical Institutes with Sandwich Practical training are able to visualise and appreciate work situations better and find it easier to adapt to factory working later. Through Sandwich Practical training, students are able to study relevant discipline subjects better and integrate teaching and training for

gainful employment. Subsequent on-the-job training period is also reduced in case of such students.

Starting with 90 students in 1971, we have been able to establish contacts with more than 200 Organisations and have been able to place over 17000 student from various disciplines till Nov. 2011. The training was initially supported by the Government of India. We have taken initiative to develop Sandwich training. The scope of Apprenticeship Act was widened in 1973 and it gave a boost to our efforts.

We have been able to establish policies and procedures covering all aspects of training and communicate effectively with Industry, Industry Associations and Professional Societies. Students who go through training programme and later enter Industry, establish a link between S.B.M. Polytechnic and Industry. Your performance therefore is very important to sustain our relationship and image. Each one of you can help improve the same.

Faculty members and Department Heads who are involved in supervision, placement and evaluation can likewise promote and help improve established norms and standards of training. They are our spokesmen.

We are able to get our training seats year after year due to our team effort coupled with positive support from Directorate of Apprenticeship Training and the Directorate of Technical Education. We cannot just claim seats under Apprenticeship Act year after year by right. It is the rapport established with individual units on one-to-one basis with top, middle and operating levels that generates proper response to our request for training facilities. It is the performance of students, faculty supervisors and promotional efforts from Departments and Management that attracts more and more companies to join hands with S.B.M. Polytechnic.

I am stressing these points to convey to you **what responsibilities you have, when you go out to industry as a proud student of S.B.M. Polytechnic.** Industry and Governments (Central & State) spend substantial amount every year towards stipends and supervision

WHY TRAINING ?

Jawaharlal Nehru has said "It's good to have Goodwill; It's good to have enthusiasm; But it is essential to have training." Training can be in all walks of life. We shall talk of Inplant Training today.

The Objective of Inplant Training is to correlate - theory and practice. Through Inplant Training.

- (1) Students are exposed to industrial environment which cannot be simulated in the Polytechnic.
- (2) Students work under factory discipline.
- (3) Students understand the psychology of the workers, their habits, attitudes and approach to problems along with the practices followed - either at factory or at site.
- (4) Students get familiarised with various materials, processes, products and their applications along with relevant aspects of shop management.
- (5) Students realise the size and scale of operations in industry.
- (6) Students get opportunity to use their knowledge in problem solving and in project assignment.
- (7) Students are able to understand relevant application-oriented subjects better in subsequent semester.
- (8) Students understand various constraints of time and cost within which goods are produced and services rendered in specified quantum.
- (9) Students appreciate need for co-ordinated effort of various persons at different levels in different departments in achieving set goals and targets, and
- (10) Students understand the scope, functions and job responsibilities in various departments of an organisation.

It must be clarified that inplant training does not aim at specialisation in any specific area of technology or management. **It provides opportunity to learn under a different environment.**

YOUR GAIN FROM TRAINING :

A technician is more useful to industry after training since subsequent on-the-job training period is curtailed. Our experience over these years indicates that

- (1) Students have given excellent account of themselves and responded to the training programmes and work assignments.
- (2) Students have better employment opportunities on completion of studies.
- (3) Rate of progress subsequently is better.
- (4) Students are able to appreciate work situations at shop floor or at site and tackle problems involving men, machinery, materials and processes, though work situations differ widely depending on size of company, scale of operation. Organisational structure and management philosophy.

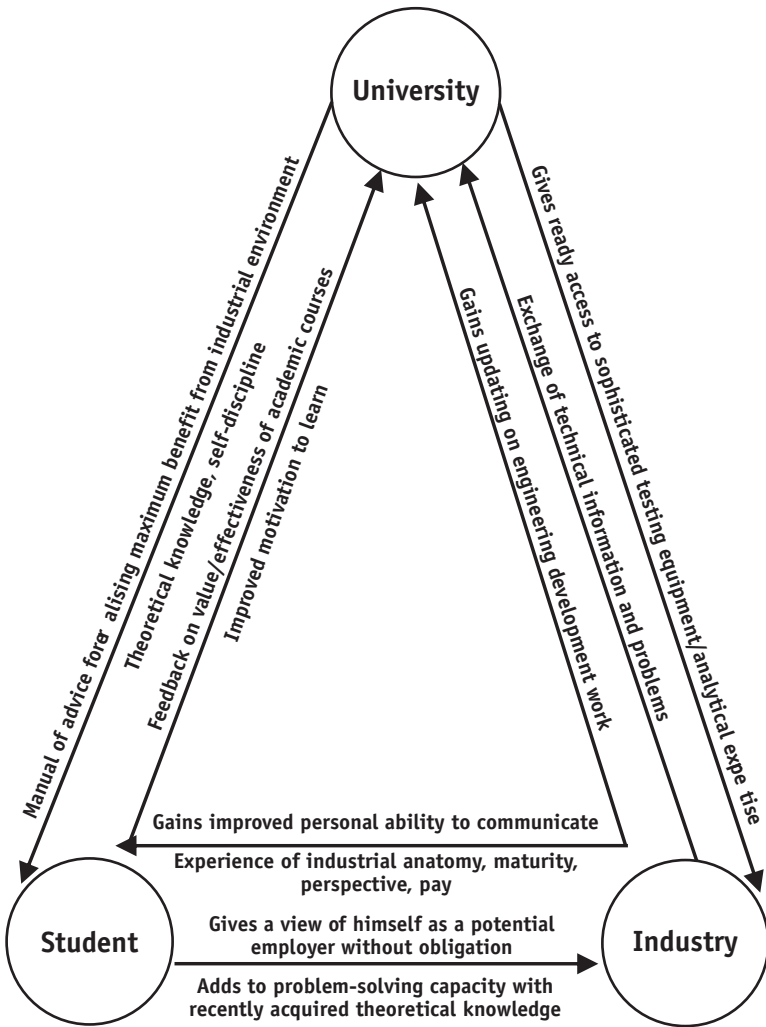
While Inplant Training provides an opportunity to learn, students' gain is dependent on positive attitudes and approach to training, keenness and inquisitiveness to learn.

APPRENTICESHIP ACT REGISTRATION :

Inplant Training is generally organised under 'Apprentices (Amendment) Act 1973' and students are required to sign contract forms and register themselves with the Board of Apprenticeship Training (WR).

The Act has been enacted in 1961 for the regulation and control of Apprentices in various trades and subsequently amended in order to cover graduate and technician apprentices. The act has made is 'Statutory' for industries to provide training in various departments.

If any dispute arises between the apprentice and the employer, it is dealt with as per the provisions of this Act. Termination of contract from either side on any account also will be effected as per the Apprentices Act.



A summary of the benefits arising from a well structured and monitored co-operative programme

Under this Act, both employers as well as Apprentices have certain obligations. However, the certification of training during Vth and VIIIth Semester is granted by Principal as per established norms and rules. Students can appear for Vth and VIIIth Semester Examinations only after due certification of terms.

For further details refer Appendix-I/ (See page 23)

PLACEMENT PROCEDURE :

Training is organised in one or more areas, such as, production, processing, maintenance service, construction, engineering and development.

Relevant information about different firms participating in training scheme can be had from the following sources :

- (1) Library
- (2) Respective Heads of Departments and
- (3) Training and Placement Officer.

Eligible Students can seek guidance from Head of Department, Faculty Members and Training and Placement Officer for selection of firms.

Students should give choice of firms in order of preference, to the Training and Placement Officer through concerned Head of Department (keeping in view facilities available and individual's interests).

A student can also be placed in a new establishment, which has adequate training facilities if specific request for approval is made prior to the start of placement activities.

Some companies interview and select the candidates. The interviews may be conducted in the Company premises or in our institute. Students will be given chance to appear for interview if they satisfy the minimum requirements laid down by the particular establishment. **Once selected, no student will be allowed to appear for subsequent interviews with other establishments.**

Students will be placed at other available establishment depending upon the availability of seats, choice and merit. Students are required to be in touch with their Department and finalise their placement.

Once placed into a particular establishment, **students are not allowed to change that establishment on any account.** Factors like closeness to residence, rate of stipend paid, etc. will have to be taken into account only at the beginning of training in the larger interest of

the Polytechnic.

Approval from your guardian is required on specified form before you go to Inplant Training. You should collect all forms and letter to company after submitting the approval. Report to the Personnel Manager/Officer or Training Manager/Officer or to the Officer who is incharge of apprentices. In a small firm, this officer may be one of the Directors himself.

Students are required to :

- (1) Fill in the 'Joining Repoif of our Institute in duplicate and get it endorsed by the concerned Officials. Fill in the "Joining Report', if any, of the organisation also.
- (2) Request the concerned Officer to fill in the Contract & APP Form in duplicate and submit it to the authority within 10 days, if training is under Apprentices Act. Submit the contract form in duplicate along with bonafide certificate to the concerned Officer for signature of the employer.
- (3) Request the concerned officer to explain to you the rules, regulations and procedures of the organisation and to take you around the plant so as to get an overview of the company's facilities, products, processes and organisation.
- (4) Get introduced to all the concerned persons of the organisation. Request for a "Training Programme" for you, if not already prepared.
- (5) Submit all forms duly filled in to our Polytechnic Supervisor. The industry and Polytechnic Supervisors will jointly draw up a training programme, if not already drawn up.

TRAINING PROGRAMME :

Organising a rigid and identical training programme for each student in a discipline is not possible. The training programme has to be around facilities available in an individual unit and must fit in the philosophy and thinking of the training organisation. We come across medium and targe industries which have organised training departments, industries interested in absorbing the students later in their expansion programme, industries having one-off, batch and

mass production activities, industries having a few processes and also industries which have sophistication.

We find that some believe in on-the-job training, some take all six months to give the students understanding of products and processes in their complex, multiplant organisation, some give assignments, while others give meaningful projects and responsible tasks.

One very important aspect, however, is an understanding for meaningful training which fits in the framework of both our curriculum and organisation's philosophy.

Training programmes have to be structured around the student, the curriculum, facilities and the thinking about how to train. Every task provides an opportunity to learn through observations, doing, reading and discussion around the task/assignment/problem or project.

Students who are modest and inquisitive, who take initiative, keep their eyes and ears open and demonstrate better attitudes for learning gain most. Only when one sets up a frame of reference, one realises what is right and what should be done. Exact repetition of tasks like copying or memorising does not provide learning of skills or knowledge.

Typical Programme of Inplant Training is given in Appendix - IV (see page 36).

SUPERVISION :

We have organised a well-planned system for supervision of our students while they are in training. A member of staff is assigned to a group of students and firms. He/She visits each students once a fortnight on the average (10 visit in six months) and maintains close liaison with his/her counterpart in the organisation. In case of any problem or difficulty, students have to contact their Polytechnic supervisor and communicate. **All reports, quiz tests, records and project work are to be submitted through this polytechnic supervisor.** Respective Heads of Department of concerned disciplines are in charge of satisfactory operation of the scheme including placement, supervision, evaluation and problem solving. Overall co-

ordination of the programme is effected by Principal's Office and Training and Placement Officer.

In case of strike/lockout or urgency, students should contract Training and Placement Officer and concerned Head of Department.

WORK DIARY :

You are required to maintain the record of day-to-day work done by you. Such records are called 'Work Diaries' or 'Progress Reports'. You have to write these reports regularly in the prescribed forms supplied to you. All days for the week should be accounted for clearly giving attendance, absenteeism, leave, holidays, etc. The concerned supervisors are required to check periodically these progress reports and also record proper remarks regarding progress, conduct, attitude and initiative. At the end of the training, the supervisors will allot marks out of 50 to be incorporated in 'Evaluation of Training'.

ATTENDANCE CERTIFICATION :

Every month, you have to get your attendance certified by the Training Officer of the organisation in the prescribed form supplied to you. You have also to put your signature on this form and submit it to the Polytechnic Supervisor, who will further sign it and submit it to the Principal for necessary action. Regularity in attendance and submission of reports will be duly considered while giving the marks, you may remember here that **you are allowed a maximum of 9 days leave during your 6 months training period.** If, at any stage, this leave is exceeded, the employer may take such action as stopping of payment of stipend. Principal will extend the training period in marginal cases. He may cancel the training with consequent loss of complete semester, in specific cases.

PROJECT REPORT:

In addition to the work diary, you are required to submit (a) a comprehensive report on training and (b) a project report along with details of the organisation/factory, where you have received training.

Fifth semester students need not undertake project work in Industry. They need to submit a detailed report of their training in the industry incorporating study of plant/product/process/construction along with intensive in-depth study on any one of the topics such as (1) Processes (2) methods (3) tooling (4) construction (5) equipment highlighting aspects of Quality, Productivity, and System. Student should take notes throughout his training period and prepare a framework in consultation with factory and polytechnic supervisor. The final report should be completed in last fortnight/week of the training period. **Any data, drawings, etc should be incorporated with the consent of the firm.**

Eighth semester Students may select a topic for the project which may be useful to the organisation. If this is not possible, they can select a suitable topic for writing in consultation with the supervisors. This report will carry 50 marks. Guidelines set up for assigning and evaluation of the topic/project work for the students are as per Appendix-II (see page 33). Rules relating to passing of the Seventh Semester Diploma Examination and award of Classes at the Final Year Diploma Examination are as per appendix-III (see page 35)

TYPE OF INFORMATION TO BE STUDIED AND PROCESS OF STUDY :

- product / activities
- customers
- the numbers employed, what are their categories turnover capital employed
- competitors
- export achievements
- technologies it relies on
- is the company quoted on the Stock Exchange, locally, internationality? If so, how has their share price varied during your time with the company?
- manufacturing process/ construction process
- the materials and their specification
- the type, variety, age specification and manufacture of the machinery in use
- the oils, greases, coolants, ect. specified for use in or on this machinery

-
- plant office layout and floor area required
 - maintenance programmes
 - the energy requirements of the company vis-a-vis machinery, lighting, heating and /or air conditioning
 - the use of computers in the company
 - value and system analysis
 - marketing, packing and advertising
 - purchasing
 - budgetary control and cost analysis
 - quality control and stock control
 - the engineering services needed by a company, such as for example electricity, water, vacuum, compressed air, gas, effluent treatment, etc.
 - the advice given to ensure the safety and good health at work of all employees
 - the organisation of work.
 - personnel problems, recruitment and resignations
 - what do you think could be done in the particular areas you work in:
 - to improve communication?
 - to increase the competitiveness of your firm?
 - to encourage good design?
 - to improve standards of quality?

All problems at any point in the decision-making process can be studied from six angles or facets, each of the six contributing to the job as a whole. Failure to consider one or more of these six facets during some point in the design process is one of the main reasons for inferior designs.

These facets are:

Achievements:	Time :
What has to be done?	When has it to be done?
Why has it to be done?	Why has it to be done then?
What else might be done?	When might it be done?
What should be done?	When should it be done?

<p>Place :</p> <p>Where is it to be done? why is it to be done there? Where else might it be done? Where should it be done?</p>	<p>Resources:</p> <p>Who will do it? Why does that person have to do it? Who else might do it? Who should do it?</p>
<p>Method:</p> <p>How is it to be done? Why is it to be done that way? How Should it be done?</p>	<p>Jusification:</p> <p>Why are we doing it? Purpose causes, consequences? Why should it to be done?</p>

Satisfactory answers to each 'should ' question will produce the alternatives ideas; progressive simplification then results from continually asking the following questions.

How can we :

Innovate Eliminate, Combine, Standardize, Transfer, Modify, Simplify.

The continual criticising or questioning of each decision as it is taken will often simplify the overall project solution dramatically. Bear in mind that the addition of even a bolt to a layout is a decision (a decision as to the fact that a bolt is needed). Before the bolt is added it must be asked if it is really necessary, is it the right size, can its job be transferred to an adjacent bolt, why not use a stud, etc. It is important that the overall and intermediate decision stages receive the same rigorous attention, particularly those critical decisions which once taken will have a major effect.

The question must also be applied by the designer when he considers the life stages of his product, i.e. Design, Develop, Manufacture, Test, Inspect, Store Transfer, Install, Use, Maintain.

The application of the question to these life stages will produce requirements that must be met by the design in order to produce a satisfactory solution to the problem and a marketable product.

More specifically questions such as :

- Could it be made of another (and cheaper) material?
- Why all this (excess) material on the product?
- Must it be painted? If so, Why?
- Is it sufficiently heat resistant?
- Must it be weatherproof?
- Is it as safe as it should be?
- Can it be lifted easily and safely?
- Is there more expenditure on the product than we actually require?
- Must the product have the same element of strength and durability all the way through?
- Will it need to be cleaned? If so, can it be done easily?
- Is the shape saleable-does it look attractive?
- Is our company identified anywhere on it?
- If there is a printed design - is it a clear, attractive one?
- Does it open easily?
- Does it shut easily?
- Could it operate more smoothly?
- Must we have all those stud-holes?
- Let's go over every single inch of the product and ask, 'Why is this necessary?'

Always remember that an engineer is essentially a creator and innovator. He should be by nature a great enquirer. He must use the words 'How?', 'When?' and 'Why?' constantly to obtain an understanding of men, materials, machines and their dependence on each other. It is only when this curiosity is encouraged that progress in technology will take place.

Furthermore, in his profession career he will be accountable to his management for economy in design and manufacture; to the provider of capital for design the means of earning adequate returns; to the customer for the design of useful, reliable, high quality, cost effective products; and to society at large for the impact of his products and associated manufacturing process have on the environment,

consumption of materials resources and the quality of life.

QUIZ TESTS :

Quiz tests are planned to check the gains through observation, library work and discussions during Inplant Training. If you are just roaming about and loitering in the plant or on the site, you will not be able to perform well in these tests. Five tests, one at end of every month, are prescribed. Each test should have about 5 questions. -The questions will be set assessed by the Industry/ Polytechnic Supervisor when he visits your organization. **These will be based on factory products and processes, general functioning of the factory organisation and /or construction site details.** The questions will be short and quiz type involving short description and sketches wherever necessary. Each test will be given marks out of 10 so that marks will be awarded out of 50 for 5 quiz tests in 'Evaluation of Training'.

DISCIPLINE:

You are required to follow the rules and regulation of the organization. Your attitude and discipline should be exemplary. You should remember that you are an ambassador of our institute when you are working as a trainee. Training of our students in future will depend upon the image created by you.

Maintain good relations with the company authorities.

Your behavior may create positive, negative or neutral response and subsequent batches of students will be affected by the same . It may spoil your job prospects too. The following acts are highly undesirable and may result in severe punishment and cancellation of the terms. Such instants have been observed and properly dealt with in the past. Students were punished for the same after proper investigation :

- (1) Offending behavior with the supervisors, colleagues and workers.
- (2) Refusal to work if a job / problem is given.
- (3) Mixing with the workers and involving in labour union activities

-
- (4) Threatening staff of the company and also instigating worker against staff and superiors.
 - (5) Not remaining on the job assigned.
 - (6) Grouping with other trainees and whiling away time.
 - (7) Loitering outside sitting in the canteen during working hours.
 - (8) Asking someone else to sign for him on the muster or punch his card.

SOME COMMON DOUBT CLARIFIED :

Doubt:

- (1) I am just made to observe the working and I am not allowed to operate the machines independently.

Clarification :

First try to understand, what is training. Please try to reply the questionnaire which is supplied to you in the beginning. It would automatically give you better insight in various aspects of Inplant Training and the expectation thereof.

DO+DO (Gain skill suitable to ITI workers)

DO+ Think /observe (Gain knowledge)

(Use of reference books etc.)

Observe + Project (Gain Problem solving ability)

Observe + Department work (Responsibility, Accountability, Job orientation).

You can learn from being involved in:

- (1) Project work
- (2) Specialised work
- (3) Routine work
- (4) Repetitive work

Stress on manual work only, will lead to a skilled worker and not a technician. At the same time don't feel shy to work on any machine **after getting clear instructions regarding operation and safety**, if you are confident that you can do the job independently, During VIIIth Semester training, you may choose the work which will

develop your problem solving ability and your job prospects. Our aim of the Inplant Training is (i) to improve understanding of application subjects, (ii) to get practice orientation, (iii) to develop confidence in attacking industry problems and (iv) to improve employment prospects.

- (2) D. I am made to work on only one machine / process.
- C. Your training should have a broader scope and not limited one. Request your superiors in a polite language to rotate you through various plants as per the training programme. If training programme is not at all prepared or followed, request your Polytechnic Supervisor to do the needful. He normally visit your organisation every fortnight.
- (3) D. Nobody is teaching me anything in the factory, Everybody is busy in one's own work.
- C. This is not our Polytechnic where a teacher will come and teach you as per schedule. **You have to learn yourself by observation and by doing.** In industry, many a times, workers are not aware of How and Why of things. Planning is done by Engineering Department whereas the Execution is done in shops.

You may ask questions to the plant Supervisor / Foreman if they are responding well. They may try to answer your queries, you should not expect them to come to you and teach.

- (4) D. I am asked to solve a problem on which I don't have any knowledge.
- C. No one is expected to have all answers. Nobody is perfect in this world. You can't be blamed for your lack of knowledge. But you will be cent percent blamed if you don't try to search for that knowledge and approach the problem with positive attitude. Take guidance of Polytechnic Supervisor when he visits you. Refer to library books at Industry as well as at the Polytechnic. Consult faculty members, Head of Department and knowledgeable persons. Such situations will have to be faced by you later also. There may be many alternative

solution to a problem.

All are not experts and a solution has to be developed through discussion/judgments. A solution can be evolved through team-effort or brainstorming.

All are not following the right practices. You will have to be your own judge and put relevant facts together.

- (5) D. I am not paid stipend regularly.
- C. Request your industry authority for the same. You may report to your Polytechnic Supervisor, who will try to assess the problems, if any. However, delayed payment of stipend should not affect your training. Stipend is not a salary.
- (6) D. There is strike/lockout in my factory.
- C. You should report to the Polytechnic and contact your Supervisor or Department Head. If normalcy is not restored, say, within a week, steps will be initiated to place you in another organisation. This will require approval of Regional Apprenticeship Advisor (Western Region).
- (7) D. Due to a situation beyond my control say e. g. strike / lockout / labour agitation in the factory or illness, many days are wasted.
- C. These details will be considered by Training and Placement officer/Department Head for certification of Training. Your training period will be extended after considering your attendance and progress and causes of shortage in attendance.

Punctuality:

You should be regular and punctual. You must avoid the following :

- (1) Late going to or coming early from the organisation without permission or proper reason
- (2) Taking leave without prior sanction
- (3) Habitual absenteeism

-
- (4) Taking leave in excess of what is allowed.

If required to stay away, report immediately with reasons to officer in-charge and Polytechnic Supervisor and Head of Department.

SAFETY :

Remember the slogan '**Safety first, always and last.**' If you are safe, then only the question of further training comes. You should not operate a machine without permission. You must familiarise with the job requirements/method/sequence of operation and safe practices. You may be injured or may cause injuries to others or damage to the property.

The following are some of the cases where our students met with accidents in the past:

- (1) Finger cut on press operation
- (2) Grinding wheel gave way while working
- (3) Simultaneous operation by operator and trainee on Boring machine resulting in jamming and damage to machine.
- (4) A machine was under erection and its limit switch was not adjusted. The trainee pressed the button resulting in damage to machine.
- (5) Falling from false roof/ceiling while doing maintenance work.
- (6) Palm crushed on injection moulding machine.

These are mentioned to you so that you should be careful and avoid Hazards.

ACCESS TO INFORMATION :

Companies need to maintain secrecy regarding their design/product/process. You should co-operate with the company in maintaining this secrecy. You should not present any company information/sketches/calculations, etc., without prior permission of the company officials. You should attach therefore a '**No Objection Certificate**' from the company in your project report. No company would like such information to go to their competitors. Proper identity regarding student/guardian background should be revealed

to the company before start of the training so that later on problems do not arise.

CHANGE OVER TO OTHER COMPANY :

Once placed in a company, **no change is allowed during the training period.** You should not change the companies amongst yourself. Similarly, you should not join any company on your own you have to join the company where you are placed by the Polytechnic.

If you wish to take training in any company not on our list, you may apply to Training and Placement Officer and get a request letter. Specific approval of company has to be obtained well in advance. The company should be willing to extend training to other S.B.M. Polytechnic students also and should permit our supervision. Training Supervisor/ Department Head from our institute will then visit the company. If he is satisfied that adequate training facilities and staff are available, then only you will be placed in that factory. Students have earlier made requests for training in small establishment, trading companies, bogus companies, etc. but having found that proper training can't be given, such requests were rejected.

Once you are placed, we do not allow change on any account, and **you are required to adopt to work situations.** If you change the company on your own, your training will not be approved and you will have to repeat the term.

CLARIFICATION OF TRAINING SEMESTER :

- (1) Make sure that you have acquired some skills, gained experience, observed practices, visualised work situation and thus learnt something and you have some doubts or queries about product process etc. You will surely gain when you try to correlate theory and practice.
- (2) See that all progress or work diaries are written, countersigned and submitted to the Polytechnic Supervisor.
- (3) See that your Project Report is completed, duly cleared by the Company and duly signed by your Supervisor.
- (4) Take care that all the quiz tests are already submitted to the

Polytechnic Supervisor.

- (5) Hand over instruments, Books, reference materials, keys, identity cards, bus pass, etc. to the company official.
- (6) Get your last attendance signed.
- (7) Request for training certificate from the company officials.
- (8) Visit the Polytechnic and report to your supervisor regarding completion of your training and submit two copies of project report for assessment.
- (9) Be in touch with your Department for your Inplant Training Examination

EVALUATION :

Evaluation of your Training' is done on completion and carries marks out of 200. These marks are divided into four subheads as follows and each subhead carries 50 marks:

- (1) Attendance and Progress Report.
- (2) Quiz Tests
- (3) Project Report.
- (4) Oral based on Project Report/ Training or Presentation

Details of this Inplant Training Evaluation are given in Appendix-II, (see page 33).

Well, my young friends, I have given you sufficient idea about the requirements of Inplant Training Scheme. You may judge and decide what you should and should not do so as to gain thorough training and improve our image. There is no one to teach. You have to learn . Only opportunities are available. Every work situation provides learning. The real test is, whether you can work independently with confidence or not. There should not be any problem coming in your way, while you are in industry.

Once again, I wish you best luck and happy time during your Inplant Training.

Mr. U. M. Kantute
Principal

**Abstract from Apprentices Act, 1961
(as amended in 1973)**

- Contract Registration Form
- Form for claiming the reimbursement of stipend
- Form for termination of contract
- Registration of contract and Claim for reimbursement of stipend:

Registration of Contract and claim for reimbursement of stipend

- (1) Forward duly filled and signed contract registration forms (in duplicate), certificate (bona fide) and record of progress of apprentice (2nos.) to

The Director of Training,

Board of Apprenticeship (B.O.A.T.), (W.R.),
New Admn. Building, 2nd floor, A.T.I. Campus,
Sion-Trombay Road, Sion , Mumbai-400 022

Website : www.apprentce-engineer.com

Note: The B.O.A.T. (W.R.) will register the contract and will return the same to you with Contract Registration Number.

- (2) Fill Contract Registration Form (Proforma given).
- (3) Fill form for claiming the Reimbursement of Stipend (Proforma)
- (4) Send Claim Form along with covering letter and Advance receipt (duly filled and signed on revenue stamp) to B.O.A.T.(W.R)

P.S.: The B.O.A.T. will send you a cheque of re-imbusement amount on processing your details.

CONTRACT REGISTRRTATION FORM

Graduate apprentice <input type="checkbox"/> Technician apprentice <input type="checkbox"/> Technician (vocational) apprentice <input type="checkbox"/> <hr/> (1) (a) Whether sandwich course student or not state Yes/No <hr/> (1) (b) Male <input type="checkbox"/> Female <input type="checkbox"/>	Affix a passport size photograph here
(2) Name of Apprentice (in capital letters as given in Examination Marksheet) <hr/> (3) (a) Permanent Address <hr/> <hr/> <hr/> (3) (b) Present Address <hr/> <hr/> (3) (c) Whether belongs to : Schedule Caste Yes/No. Schedule Tribe Yes/No. Physically Handicapped Yes/No. Minority Community Yes/No. (Specify minority community)	<p style="text-align: center;">Registration No.</p> <p style="text-align: center;">Registered Under Section 4 of the Apprenticeship Act.</p> <p style="text-align: center;">Regional / Central apprenticeship adviser</p> <p style="text-align: center;">Board of apprenticeship training (W.R.) Mumbai</p>
(4) Date of Birth	

(5)	Educational Qualifications considered for Apprenticeship Training under the act.
	<hr/> <hr/>
	Name of the University / Board _____
	<hr/>
	Discipline / Branch _____
	Year & Month of passing _____
	Exam. Seat No. _____
(6)	Date of commencement of training _____
	<hr/>
	Period of training _____
	Rate of stipend (Rs. p.m.) _____
(7)	Name & Address of the Employer: _____
	<hr/>
	<hr/>
	<hr/>
(8)	Name & Address of the Surety : _____
	<hr/>
	<hr/>
	<hr/>

Note : To be forwarded to the Borad of Apprenticeship Training (W.R.), Mumbai.

We, the Employer, Apprentice, (the Guardian in the case of Minor Apperntice) and the Surety hereby declare that we have read the contents of the Apprenticeship Contract as per the Apprenticeship Rules, 1962, as amended from time to time and agree to abide by all provisions made hereunder. We also declare that all the provisions of the Apprenticeship Act, 1961, as amended from time to including those relating to Registration and Termination of Contract are binding on us.

	Signature of	Signature of	Signature of
	Employer	Apprentice/Guardian	Surety
Witness : (1)	(1).....	(1).....	(1).....
Witness : (2)	(2).....	(2).....	(2).....
(1)	In the event of termination of Contract through failure on the part of the Employer to, carry out terms and conditions after contract, he shall pay to the Apprentice, compensation of an amount equivalent to his/her 3 months' minimum stipend payable under Apprenticeship Act.		
(2)	In the event of termination of contract of Apprenticeship for failure on the part of the Apprentice to carry out the terms and conditions of the contract, the Surety at the request of the Apprentice hereby gurantees to the Employer and the Central Government, the payment of such amount as may be determined by the Central Apprenticeship Adviser as and towards the cost for training of the Apprentice.		
(3)	The liability of the Surety shall not at any time exceed an amount of 3 months' minimum stipend payable under Apprenticeship Act.		

DECLARATION / AFFIDAVIT

(to be obtained from the Student before joining as an apprentice)

I _____ aged _____
 Son/Daughter of _____ residing at _____
 _____ hereby solemnly affirm and state as under:

- (1) That I passed my Degree/Diploma/10+2 Vocational Higher Secondary Certificate Examination in _____
 from _____ Polytechnic/College/School
 at _____ in _____
 (State year & month of passing).
- (2) That after passing the above said examination,
 - (a) I did not have training or job experience for one year or more.
 - (b) I did not undergo apprenticeship training at any place under the Apprenticeship Act.

What is stated above is true to the best of my knowledge and belief.

Date : _____

Place : _____ Signature _____

(PROFORMA)

RECORD OF PROGRESS OF APPRENTICE

(To be submitted once a quarter in respect of graduate or technician apprentice)

Name _____

Registration No. _____

Subject field in Engineering or Technology _____

Under Training at _____

Date of Commencement: _____

Area of Training during the Quarter _____

Progress Report for Quarter _____ To _____

(i) Aptitude for Training _____

(ii) Performance during the quarter _____

(iii) Shortcomings, if any _____

(iv) Reaction of trainee to corrective action at (iii) above

(v) Assessment

Excellent/above Average/Average/ Below average (Strike

out those not applicable) _____

Signature of Officer/Executive

Incharge of Training _____

Remarks _____

Signature of Manager of the

Industry _____

Apprentices (Amendment) Act, 1973 - Form for

Cheque should be drawn in favour of " _____

Claims for Reimbursement and Statement of Accounts in
respect of apprentices under training with M/s. _____

Reg.No.	Date of Engagement	Name to the Apprentice	Rate of stipend	Govt share of stipend
(1)	(2)	(3)	(4)	(5)

Claiming the reimbursement of stipend (Proforma)

For the Quarter ending March/June/Sept./Dec, 20 _____

Total Period	Total amount payable	Deduction if any	Detailed reasons for deduction (indicate date & month of adsence)	Stipend amount actually paid to the apprentice	Stipend amount to be reimbursed by Govt.
(6)	(7)	(8)	(9)	(10)	(11)

CERTIFICATE
(Proforma)

Certified :

- (1) that net amount shown in Col. No. 10 against each apprentice has actually been paid, valid receipt for which is maintained in this office. The receipt will be produced for scrutiny of the Apprenticeship adviser as and when necessary.

- (2) that the amount claimed in Co. No. 11 is in accordance with the provisions of the Apprentices (Amendment) Act, 1973 and the claim preferred in this bill has not been drawn before.

Signature and designation with seal

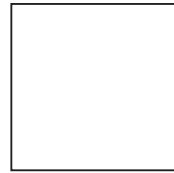
Address: _____

RECEIPT
(PROFORMA)

We hereby acknowledge the receipt of the amount stated below against our Bill.

Amount to be paid Rs. _____

Finally admitted for payment Rs. _____



Signature

Designation: _____

Address: _____

Note : Under 'reasons' in Col. No. 9, the employer is required to quote the dates with month for which the stipend has not been paid and the Govt, share should also be reduced proportionately.

PROFORMA

Date _____

To,

The Director of Training,

Board of Appr. Training (W.R.),

New Admn. Building, 2nd floor, A.T.I. Campus,

Sion - Trombay Road, Sion , Mumbai-400 022.

Sub : Termination of Contract of

Shri/Smt/Ms. _____

Sir,

Submitted herewith a termination proforma to terminate the Apprenticeship Contract under the Apprenticeship (Amendment) Act, 1973.

Termination of contract	
(1) Name of Organisation/Establishment	:
(2) Name of the Apprentice	:
(3) Whether graduate or technician	:
(4) Registration No.	:
(5) Period of Training undergone	: From..... To.....
(6) Reason for termination of contract	:
(7) Whether apprentice has secured employment. If so, please enclose true copy of the appointment letter & resignation letter	:
(8) Whether recovery of cost of stipend is intended. Please see Note below.	:
(9) Address of the apprentice for correspondence	:

Yours faithfully

Place: _____

Date : _____ (Seal & signature of the employer)

*Note: The recovery of stipend is not to be effected, on the following grounds:

- (a) If the apprentice has secured employment.
- (b) If the apprentice is suffering from ill-health. In the case original medical certificate from Civil Surgeon should accompany this proforma

**Guidelines set up for assigning and evaluation
of the topic/project work For the students
undergoing inplant training**

Mode of assigning the topic/project

- (1) Fifth Semester students need not undertake any project in industry. They need submit a detailed report of their training in the industry, giving plant product / process details and intensive in-depth study on anyone of the processes / methods / tooling etc.
- (2) Eighth Semester students, as far as possible, should take up a project in mutual consultation with the Supervisor of the Polytechnic and organisation. In case a project is not feasible in a particular Company, a suitable topic for write up could be selected in consultation with the Supervisors. In either case, the subject selected should have relevance to the training.
- (3) The Trainee may seek guidance for the topic/ project from the officials of the organization or Institution supervisors/ library. The matter could be further supplemented by data based on personal observation, references from the Company Catalogues, Manuals, literature, etc. Direct transfer of material from books, periodicals, literature, etc. is not acceptable.

Presentation of the report:

- (1) There report should be submitted in the form of volumes in duplicate. The matter should be typed on bond papers, with double spacing and typing should be done on one side. The coverage shall be supplemented by diagrams / sketches / graphs, etc.
- (2) Trainees should not present any company information/ drawing sketches, etc. without the prior permission of the factory officials. They should therefore, attach a 'No Objection Certificate' from the Company in their report while presenting it for evaluation.
- (3) The report shall be presented in the following manner

-
- (0) Index
 - (1) Introduction. (Report/Project work)
 - (2) Company background - organisation and activities
 - (3) Training /Training areas
 - (4) Scope and object of the Study / Project / Topic project with diagrams sketches and relevant and authentic data based on literature survey / personal / observation, etc.
 - (5) Result/Inference/Conclusion
 - (6) Acknowledgements
 - (7) List of References (Library Books, Magazines and other sources)

Guidelines for evaluation of the report:

The report so submitted will be evaluated as under:

- | | |
|--|-----------------|
| (1) Introduction, acknowledgements, references | |
| (2) Company background activities | |
| (3) Training areas / Training details | 10 Marks |
| (4) General presentation, neatness and accuracy of the data furnished | 10 Marks |
| (5) Study/ Project contents, with data, graphs, drawing, etc. and observations | 20 Marks |
| (6) Results/ Inference/Conclusion | 10 Marks |
| | Total: 50 Marks |

Guidelines for Evaluation at oral examination :

50 marks are reserved for systematic presentation of the report giving scope and object of the project and approach.

- | | |
|---|-----------------|
| Student's presentation | 20 Marks |
| Questions and Answers to assess the depth of understanding | 20 Marks |
| Impression relating to practical application/ utility as conveyed by the Oral Examination | 10 Marks |
| | Total: 50 Marks |

**Rules relating to passing diploma examination
and award classes at the final year diploma
examination**

(A) Passing in theory papers :

Minimum marks for passing in theory papers is 40 %

(B) Inplant training grades:

Grade A - Corresponding to 70% and above marks

Grade B - Corresponding to 60% and less than 70% marks

Grade C - Corresponding to 50% and less than 60% marks

Grade D - Corresponding to 40% and less than 50% marks

The Grades will be converted in to appropriate Marks.

(C) Award of classes:

The Class at Final Year is awarded by undertaking into account marks of VII & VIII Semesters as follows : (as per the Scheme of Diploma courses)

First Class with Distinction 70% and above.

First Class..... 60% and above.

Second Class..... 50% and above.

Pass Class..... 40% and above.

N. B. :

This has been prepared as a guideline and should be interpreted in accordance with available resources at specific companies.

Typical Programme of Inplant Training (For Civil Engineering Students)**Part-I (Vth Semester)**

Sr. No.	Item No.	Orientation and familiarisation	Observation	Doing the work	Periods Total
		Periods in weeks			
(1)	Surveying recording and giving out line of works	1/2	1/2	1 1/2	2 1/2
(2)	Foundation works	1/2	1/2	2	3
(3)	Superstructure works : (1) Masonry (2) Formwork (3) Re-bearing (4) Concreting (5) Tiling (6) Plastering (7) painting (8) Roofing (9) Plumbing (10) Fixtures	1 1/2	1 1/2	7	10
(4)	Drawing and detailing	1/4	1/4	2 1/2	3
(5)	Measurement of works and estimating	1/2	1/2	3	4
(6)	General: (i) Material handling (ii) Testing (iii) Accounts (bills) (iv) Maintenance	1/2	1/2	2 1/2	3 1/2

Part - II (VIII* Semester)

* Training could be given in one of the fields of choice of student :

- (i) Building, (ii) Roads, (iii) Bridges, (iv) Bandhara,
- (v) Water supply works

(For Mechanical, Electrical, Civil, Plastics & Chemical Engineering, Industrial Electronics, and Digital Electronics)

Part - I (Vth Semester)

Phase - I

Orientation :

General appraisal of factory working and its products :

- (a) The company should apprise the trainees as regards :
 - (1) Industry/Organisation, its position vis-a-vis others and products/Services offered
 - (2) General appraisal of the company history and its importance
 - (3) Organisational policies and objectives
 - (4) Discipline rules
 - (5) General procedures
- (b) Students should visit each department and observe broadly :
 - (1) Flow of materials and components
 - (2) Various processes of operations carried out
 - (3) Assembly (Function and importance of components, assembly methods)
 - (4) Product and its application, testing, inspection, etc.

The above may take about two weeks or more depending on size of organisation and 'complexity of products' (Product ranges).

Students should be able to answer questions on the above categories.

Students must observe factory discipline/rules/timing and should be assigned to a responsible officer for further tracking and guidance at the end of the period.

Phase - II

The students will go for detailed study for longer periods in shops and departments, such as:

- (a) Plant Maintenance
- (b) Inspection and Quality Control
- (c) Drawing and Design Office
- (d) Materials (Procurement, storage, control, etc.)
- (e) Manufacturing Engineering
- (f) Production shops / Assembly shops
- (g) Industrial Engineering

The programme should be broad based and not job-oriented. Students can be placed from 2 to 6 weeks in one department.

Students can be assigned work with responsibility to improve their skill where possible. Elsewhere, they will learn through detailed observations under guidance of Industrial Institute tutors. Students should not be assigned too narrow jobs for long periods

Assessment will be carried out through viva-voce conducted by tutors/appointed examiners.

Detailed break-up of various aspects of study in departments is given here :

- (a) *Product shops :*
 - (1) Detailed facilities and their working
 - (2) Operations carried out - Processes
 - (3) Tooling and Methods used
 - (4) Planning and Methods used
 - (5) Planning/scheduling and control procedures
 - (6) Inspection-detailes
 - (7) Plant Layout
- (b) *Assembly shops :*
 - (1) Type of product:

-
- Production rate and assembly planning relevant to that.
- (2) Assembly-work place layout:
- Tools and aids
 - Testing and Inspection (Stage and Final)
 - Material flow
 - Work - place layout
 - Finishing operations (painting, packing, dispatching)
- (c) Inspection and quality control:
- (1) Organisation for quality control
 - (2) Association with Vendor Inspection/Shop Inspection/Laboratory testing/Production Inspection/Performance testing.
 - (3) Techniques and Tools (SQC / Metrology) used.
 - (4) Records and procedures.
 - (5) Rejection-analysis.
- (d) Plant Engineering/Plant Maintenance :
- Association with
- (1) Plant maintenance, activities at various shops.
 - (2) Maintenance Planning (Records and procedures).
 - (3) Association with erection work (if any) and extension of facilities.
 - (4) Use of tools and equipment for maintenance work.
 - (5) Evaluation of performance.
- (e) Manufacturing Engineering and Drawing and Design office :
- Familiarity with working drawing.
 - Design of Tools/Jigs/Fixtures
 - Design and drawing of components and assemblies.
 - Estimation of materials and cost.
 - Preplanning
-

Documentation, coding and retrieval of information.

(f) Industrial Engineering :

Work under supervision for data collection, analysis and interpretation on various projects relating to cost and productivity improvement.

Work place design Standardisation

Work study and related techniques

(g) Material (Procurement, Storage, Control):

Appropriate duration of training in various shops/departments can be :

	Weeks
Orientation.....	2 / 4
Production shop and Assembly shop.....	4 / 8
Inspection and Quality Control.....	2 / 6
Plant Engg. / Plant Maintenance.....	4 / 6
Mfg. Engg. / Drg. and Design.....	4 / 6
Industrial Engg.....	4 / 6
Materials.....	4 / 6
Total:	<u>26</u>

Phase - III:

(Problem oriented work)

Students should be assigned a small project (need based) based on either solution of problems at shop-level or in Industrial Engineering / Production Engineering/Product Testing.

The student should be able to collect relevant information, both from shops and library, interpret the same and present it at the end of training period, for assessment.

The problems should be application-oriented and should have some utility and relevance to training.

This phase could be started along with phase II training. Work should be done under guidance of the Supervisors assigned. Any material/ information included in the project will require approval of Company. The project topic should be fixed at earlier stage and project submitted through training supervisor.

Part II (VIIIth Semester)

Students have received further academic instructions in related application subjects during ,Vth and VIIIth semester at the Polytechnic. Phase I of Part -1 training programme (orientation) should be repeated if the place of training is a new one.

The rest of the training can be given in one or more departments and made more intensive. Work/Supervisory tasks can also be assigned. Phase III of Part -1 is also to be carried out by students.

In case of organisers wishing to employ students, job-oriented training can be organised with clear understanding regarding subsequent employment.

NOTES

Shri Bhagubhai Mafatlal Polytechnic

Principal	Mr. U. M. Kantute
I/c Dean (Administration)	Mr. Y. I. Shah
Training & Placement Officer	Dr. A. G. Patil
Controller of Examinations	Mr. S. T. Khelkar
Head, Civil Engg. Dept.	Mr. V. B. Vanvari
Head. Mech. Engg. Dept.	Mr. A. K. Chore
I/C Head, Elect. Engg. Dept.	Mrs. S. R. Komath
Head, Plastics Engg. Dept.	Mr. D. M. Karad
Head, Chemical Engg. Dept.	Mr. R. D. Shimpi
Head, Electronics Dept.	Mrs. A. A. Kulkarni
Registrar	Mrs. P. S. Khire
Libraian	Mrs . S. R. Desai

Price : ₹ 50/-