

**Government Polytechnic, Mumbai**

**Department of Computer Engineering**



**Semester VI**  
**(Course Contents)**

**For P-19 Curriculum**

**Programme Diploma in Computer Engineering**  
**(Sandwich Pattern)**

**GOVERNMENT POLYTECHNIC MUMBAI**  
(Academically Autonomously Institute, Government of Maharashtra)  
**Teaching and Examination Scheme (P19)**  
**With effect from AY 2019-20**

**Programme: Diploma in Computer Engineering (Sandwich Pattern)**

**Term / Semester - VI**

Course Code	Course Title	Teaching Hours/Contact Hours				Credits	Examination Scheme (Marks)						
		L	P	TU	Total		Theory			PR	OR	TW	Total
							TH	TS1	TS2				
CO19315	In Plant Training	--	40	--	40	20	--	--	--	--	100*	100	<b>200</b>
	<b>Total</b>	--	<b>40</b>	--	<b>40</b>	<b>20</b>	--	--	--	--	<b>100</b>	<b>100</b>	<b>200</b>
Student Centered Activity(SCA)					--								
Total Contact Hours					<b>40</b>								

Abbreviations: L- Theory Lecture, P-Practical, TU-Tutorial, TH- Theory Paper TS1 & TS2- Term Tests, PR-Practical, OR-Oral, TW: Term Work (progressive assessment)

\* Indicates assessment by External Examiner else internal practical skill test , # indicates Self, on- line learning Mode, @ indicates on line examination

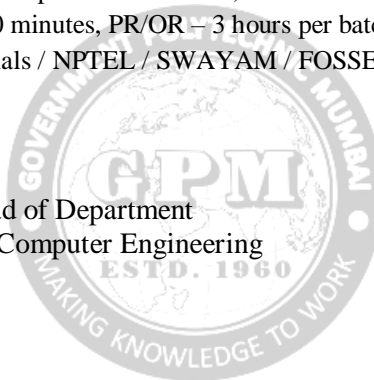
Note: Duration of Examination--TS1&TS2 -1 hour, TH- 2 hours 30 minutes, PR/OR – 3 hours per batch, SCA- Library - 1 hour, Sports- 2 hours, Creative Activity-2 hours  
Self, on- line learning Mode through MOOCs /Spoken Tutorials / NPTEL / SWAYAM / FOSSEE etc.

Department Coordinator,  
Curriculum Development,  
Dept. of Computer Engineering

Head of Department  
Dept. of Computer Engineering

In-Charge  
Curriculum Development Cell

Principal



sProgramme : <b>Diploma in Computer Engineering(Sandwich Pattern)</b>										
Course Code: <b>CO19315</b>				Course Title: <b>In Plant Training</b>						
Compulsory / Optional: <b>Compulsory</b>										
Teaching Scheme and Credits				Examination Scheme						
L	P	TU	Total	TH (2 Hrs) 30 Mins	TS1 (1 Hr)	TS2 (1Hr)	PR	OR	TW	Total
--	<b>40</b>	--	<b>40</b>	--	--	--	--	<b>100*</b>	<b>100</b>	<b>200</b>

Abbreviations: L- Theory Lecture, P-Practical, TU-Tutorial, TH- Theory Paper TS1 & TS2- Term Tests, PR- Practical, OR-Oral, TW: Term Work (progressive assessment) , \* Indicates assessment by External Examiner else internal practical skill test , # indicates Self, on- line learning Mode, @ indicates on line examination  
 Note: For Minimum passing marks under various heads, refer, examination rule AR26. Two practical skill test are to be conducted. First skill test at midterm and second skill test at the end of the term

### Rationale:

The purpose of Industrial Training is to expose students to real work of environment experience and at the same time, to gain the knowledge through hands on observation and job execution. From the industrial training, the students will also develop skills in work ethics, communication, management and others. Moreover, this practical training program allows students to relate theoretical knowledge with its application in the manufacturing industry.

It is an organized method or activity of enhancing and improving skill set and knowledge of engineering students which boost their performance and consequently helping them to meet their career objectives. Industrial training helps learners to acquire the latest techniques, skills, methodologies and to build a strong foundation for their career growth. In a nutshell, we can say that it helps in boosting career of students, since by the end of this training; students are turned into professionals in their specialized area.

Industrial training is especially essential for students of computer science. Computer science students have a lot to do with different technologies like .Net, PHP, Web designing, digital marketing, android application development, and many more. After every six months, new technology gets introduced in the market. So, industrial training for students of computer science is crucial. Students may not get job opportunities in the market without practical knowledge which they can only get from industrial training. So, industrial training is vital.

**Course Outcomes:** Student should be able to

CO1	Demonstrate competency in computer engineering field through problem identification, formulation and solution.
CO2	Generate a report based on the experiences and projects carried out with the ability to apply knowledge of Mathematics, Science, and Engineering Fundamentals
CO3	Use communication skills, in oral, in writing and multimedia tools effectively.
CO4	Demonstrate to work as an individual and in group with the capacity to be a leader or manager as well as an effective team member.
CO5	Demonstrate social, cultural, global and environmental responsibility as an engineer.
CO6	Demonstrate enthusiasm for self-improvement through continuous professional development and life-long learning

## Guidelines for Students

- Students would interact with the identified faculty of the department to suggest his/her choices for suitable industry/service center.
- Students have to fill the forms, duly sealed and signed by authorities along with training order letter and submit it to training officer in the industry on the first day of training.
- Students must carry his/her Identity card issued by institute during training period.
- He/she will have to get the entire necessary information from the training officer regarding schedule of the training, rules and regulations of the industry. Student is expected to follow these rules, regulations, procedures etc obediently.
- During the training period students has to keep record of all the useful information in note book (daily diary) and maintain the daily, and weekly diary
- Prepare an industrial training report finally about the whole training for submitting to the department at the time of final presentation and viva.

**Course Content Details:**

Unit No	Topics / Sub-topics
	<p>Computer Engineering students study various courses that enable them to work in number of fields related to Computer engineering like Software Development, Network engineering, Computer Security, System Administration, Web designing and development ,Machine Learning and Cloud Computing etc. Student will be placed as a trainee in different industries, organizations etc. for In-plant training. During In-plant training, students may work as supporting member of project team, assist in production work, small tasks, observe the procedures, collect the information etc. at supervisory level pertaining to the following broad areas*:</p> <p>(*- Following areas are suggestive and not limited to the list. It may be changed by the Department as per the requirement of the Industry/ Current trends)</p>

**1. Software Development and Engineering**

Software Characteristics, Software Applications ,Software ,Types of Software  
Software Development Generic Process Framework, Typical Umbrella Activities.  
Identifying A Task Set, Product and Process ,Module and Software Components  
,Deliverables and Milestones

**2. Software Requirement Engineering**

Software Engineering Practices and its importance, Core principles.  
Communication Practices, Planning Practices, Modelling Practices ,  
Requirement Engineering: Requirement Gathering and Analysis,  
Types of Requirements (Functional, Product, organizational, External Requirements),  
Eliciting Requirements, Developing Use cases, Building requirement models,  
Requirement Negotiation, Validation.  
Software Requirement Specification: Need of SRS, Format and its Characteristics.

**3. Web Designing & Scripting**

HTML 5 , CSS 3, JavaScript, XML, XSLT, Scripting and Styling – Panache Controller  
Designing( Live Website Creation, CSS , Web Integration – Basics to Advanced Hands-  
on )

**4. CCNA / Networking**

Networking Commands , Protocol Creations , IP Addressing  
( Live Implementation / Training )

**5. Machine Learning – Python & R-Programming**

Machine Learning Algorithm Implementation, Supervised reduction, Prediction and  
Detection techniques  
( Artificial Intelligence based Machine Learning Hands-On )

**6. IOT (Internet of Things) / Cloud Computing**

IOT Programming, Cloud Configurations, Cloud Integration, Hardware Implementation,  
IOT Project Creation  
( Live Implementation / Training – Coding with AI Supervised logics)

**7. Project management**

- Project planning, -organizing and -control
- Scheduling and network planning
- Resource allocation , work division
- Design and implementation of management information systems and data  
warehousing and processing systems

	<p><b>8.Digital Marketing</b></p> <p>Introduction to Digital Marketing , Understanding Basics of HTML          What is Keywords ,Research of keywords With Google Planner          How to select Domain Name, Naming of Pages and Folder , How to use pictures for Digital Marketing</p>
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### CO Vs PO and CO Vs PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3
CO1	3	3	3	2	2	2	2	3	3	3
CO2	3	3	3	3	2	2	2	3	3	3
CO3	2	2	2	2	3	3	3	3	3	3
CO4	2	2	2	2	3	3	3	2	3	3
CO5	2	2	3	3	3	3	3	2	2	3
CO6	2	2	3	3	3	3	3	3	3	3

### Industry Consultation Committee:

Sr. No	Name	Designation	Institute/Organisation
1	Mrs Poonam Jadhav	Senior System	HP, Bangalore
2	Mrs. Suvarna Thakare	I/C HOD, Information Tech Dept.	Thakur Polytechnic Mumbai
3	Smt Varsha M Aswar	I/C HOD Computer Engg Dept	Govt. Polytechnic Mumbai
4	Mrs. Neha Vachani	Lecturer in Computer Engg	Govt. Polytechnic Mumbai

Coordinator,  
 Curriculum Development,  
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I/C, Curriculum Development Cell

Principal