

Maharashtra State Board Of Technical Education, Mumbai
Learning and Assessment Scheme for Post S.S.C Diploma Courses

Programme Name		: Diploma In Medical Laboratory Technology																					
Programme Code		: ML										With Effect From Academic Year					: 2023-24						
Duration Of Programme		: 6 Semester										Duration					: 16 WEEKS						
Semester		: Sixth										NCrF Entry Level : 4.0					Scheme : K						

Sr No	Course Title	Abbreviation	Course Type	Course Code	Total IKS Hrs for Sem.	Learning Scheme					Credits	Assessment Scheme													
						Actual Contact Hrs./Week			Self Learning (Activity/ Assignment /Micro Project)	Notional Learning Hrs /Week		Paper Duration (hrs.)	Theory			Based on LL & TL				Based on Self Learning		Total Marks			
						CL	TL	LL																	
FA-TH	SA-TH	Total	FA-PR	SA-PR		SLA																			
Max	Max	Max/Min	Max/Min	Max/Min	Max	Min	Max	Min	Max	Min															

(All Compulsory)																								
1	INTERNSHIP (16 WEEKS)	IN26	INP	316002	-	-	-	-	-	40 - 48	16	-	-	-	-	-	100	40	100#	40	-	-	200	
2	CAPSTONE PROJECT	CP01	SEC	334001	-	-	-	2	4	6	3	-	-	-	-	-	50	20	50#	20	100	40	200	
3	SEMINAR COURSE	SEMC	AEC	324011	-	-	-	1	1	2	1	-	-	-	-	-	25	10	50@	20	25	10	100	
Total								3	5		20		0	0	0		175		200		125		500	

Abbreviations : CL- Classroom Learning , TL- Tutorial Learning, LL-Laboratory Learning, FA - Formative Assessment,SA -Summative Assessment, IKS - Indian Knowledge System, SLA - Self Learning Assessment
Legends : @ Internal Assessment, # External Assessment, *# On Line Examination , @\$ Internal Online Examination
Note :
1. FA-TH represents average of two class tests of 30 marks each conducted during the semester.
2. If candidate is not securing minimum passing marks in FA-PR of any course then the candidate shall be declared as "Detained" in that semester.
3. If candidate is not securing minimum passing marks in SLA of any course then the candidate shall be declared as fail and will have to repeat and resubmit SLA work.
4. Notional Learning hours for the semester are (CL+LL+TL+SL)hrs.* 15 Weeks
5. 1 credit is equivalent to 30 Notional hrs.
6. * Self learning hours shall not be reflected in the Time Table.
7. * Self learning includes micro project / assignment / other activities. **Note:** Notional learning hours for **internship represents the student engagement hours.**
Course Category : Discipline Specific Course Core (DSC) , Discipline Specific Elective (DSE) , Value Education Course (VEC) , Intern./Apprenti./Project./Community (INP) , AbilityEnhancement Course (AEC) , Skill Enhancement Course (SEC) , GenericElective (GE)

Programme Name/s

Programme Code

Semester

Course Title

Course Code

: Architecture Assistantship/ Architecture and Interior Design/ Architecture/ Bamboo Technology/ Fashion & Clothing Technology/ Dress Designing & Garment Manufacturing/ Food Technology/ Instrumentation & Control/ Instrumentation/ Interior Design & Decoration/ Interior Design/ Medical Laboratory Technology/ Medical Electronics/ Printing Technology/ Polymer Technology/ Surface Coating Technology/ Textile Technology/ Travel and Tourism/ Textile Manufactures

: AA/ AD/ AT/ DBT/ DC/ DD/ FC/ IC/ IS/ IX/ IZ/ ML/ MU/ PN/ PO/ SC/ TC/ TR/ TX

: Sixth

: INTERNSHIP (16 WEEKS)

: 316002

I. RATIONALE

Globalization has prompted organizations to encourage skilled and innovative workforce. Internships are educational and career development opportunities, providing practical/ hands-on experience in a field or discipline. Summer internship is an opportunity for students to get accustomed to modern industry practices, apply the knowledge and skills they’ve acquired in the classroom to real-world situations and become familiar with industry environments before they enter the professional world. Keeping this in mind, industrial training is incorporated to all diploma programmes as it enables the student to get equipped with practical skills, soft skills and life skills.

II. INDUSTRY / EMPLOYER EXPECTED OUTCOME

The aim of this course is to help the student to attain the following industry identified competency through various teaching learning experiences: Apply skills and practices to industrial processes.

III. COURSE LEVEL LEARNING OUTCOMES (COS)

Students will be able to achieve & demonstrate the following COs on completion of course based learning

- CO1 - Observe time/resource management and industrial safety aspects/Professional aspects.
- CO2 - Acquire professional experience of industry environment.
- CO3 - Establish effective communication in working environment.
- CO4 - Prepare report of assigned activities and accomplishments.

IV. TEACHING-LEARNING & ASSESSMENT SCHEME

Course Code	Course Title	Abbr	Course Category/s	Learning Scheme					Credits	Assessment Scheme											Total Mark			
				Actual Contact Hrs./Week	SL		H	NL		Paper Duration	Theory			Based on LL & TL				Based on SL						
														Practical										
											CL	TL	LL	FA-TH	SA-TH	Total		FA-PR		SA-PR		SLA		
																Max	Min	Max	Min	Max		Min	Max	Min
316002	INTERNSHIP (16 WEEKS)	IN26	INP	-	-	-	-	40 - 48	16	-	-	-	-	-	100	40	100#	40	-	-	200			

***Credits for Industrial Training are in-line of guidelines of NCrF :**

\$\$ The industrial Training is of 16 weeks considering 40-48 hours per week engagement of students (as per Guidelines of GR of Maharashtra Govt.) under Self Learning with guidance of industry supervisor/Mentor

V General guidelines for organizing Industrial training

The Industry/organization selected for Industrial training/ internships shall be Government/Public Limited/ Private limited / Startup /Centre of Excellence/Skill Centers/Skill Parks etc.

1. Duration of Training - 16 weeks students engagement time
2. Period of Time slot - 6th semester (16 weeks) i.e., commencement of internships will be immediately following the 5th semester exams.
3. Industry area - Engineering Programme Allied industries of large, medium or small-scale, Organization/Govt./ Semi Govt Sectors.

Table of activities to be completed for Internship

S.No	Activity	Suggested Schedule WEEKS
1	Collection of information about industry available and ready for extending training with its offered capacity of students (Sample Format 1)	1 st to 3 rd week of 5 th Semester
2	Allocations of Student and Mentor as per availability (Mentor: Student Ratio (1:15))	4 th to 6 th week of 5 th semester
3	Communication with Industry and obtaining its confirmation Sample letter Format	6 th to 8 th week of 5 th semester
4	Securing consent letter from parents/guardians of students (Sample Format 2)	Before 10 th week of 5 th semester
5	Enrollment of Students for industrial training (Format 3)	Before 12 th week of 5 th semester
6	Issue of letter to industry for training along with details of students and mentor (Format 4)	Before 14 th week of 5 th Semester
7	Organize Internship Orientation session for students	Before end of 5 th Semester
8	Progressive Assessment of industry training by Mentor	Each week during training period
9	Assessment of training by institutional mentor and Industry mentor	6 th Semester ESE

VI Role(s) of Department at the Institute:

Following activities are expected to be performed by the concerned department at the Polytechnics.

Note: Read industry as Architectural professional firm for the programme - AA/ AT/ IX/ IZ

Suggestions-

1. Department can take help of alumni or parents of students having contact in different industries for securing placement.
2. Students would normally be placed as per their choices, in case of more demand for a particular industry, students would be allocated considering their potentials. However, preference for placement would be given to students who have arranged placement in company with the help of their parents or relatives.
3. Principal/HOD/Faculty should address students about industrial safety norms, rules and discipline to be maintained in the industry during training before relieving students for training.
4. The faculty members during the visit to industry or sometimes through online mode will check the progress of the student in the training, student attendance, discipline, and project report preparation each week.

Note: Read industry as Architectural professional firm for the programme - AA/ AT/ IX/ IZ

VII Roles and Responsibilities of students:

1. Students may interact with the mentor to suggest choices for suitable industry, if any. If students have any contact in industry through their parents or relatives then the same may be utilized for securing placement for themselves and their peers.
2. Students have to fill the forms/formats duly signed by institutional authorities along with a training letter and submit it to a training officer/mentor in the industry on the first day of training.
3. Students must carry with him/her Identity card issued by the institute during the training period.
4. Students should follow industrial dressing protocols, if any. In absence of specific protocol students must wear college uniform compulsorily.
5. Students will have to get all necessary information from the training officer/mentor at industry regarding schedule of training, rules and regulation of the industry and safety norms to be followed. Students are expected to observe these rules, regulations and procedures.
6. Students must be fully aware that if they disobey any rule of industry or do not follow the discipline then non-disciplinary action will be taken.
7. Students must maintain a weekly diary (**Format 6**) by noting daily activities undertaken and get it duly signed from industry mentor or Industrial training in charge.
8. In case students face any major problems in industry such as an accident or any disciplinary issue then they should immediately report the same to the mentor at the institute.

9. Prepare a final report about the training for submitting to the department at the time of presentation and viva-voce and get it signed from a mentor as well as industry training in charge.

10. Students must submit the undertaking as provided in **Format 5**.

Note: Read industry as Architectural professional firm for the programme - AA/ AT/ IX/ IZ

VIII Typographical guidelines for Industry Training report

Following is the suggestive format for preparing the training report. Actual report may differ slightly depending upon the nature of industry. The training report may contain the following

1. The training report shall be computer typed (English- British) and printed on A4 size paper.
2. Text Font -Times New Roman (TNR), Size-12 point
3. Subsection heading TNR- 12 point bold normal
4. Section heading TNR- 12 capital bold
5. Chapter Name/ Topic Name – TNR- 14 Capital
6. All text should be justified. (Settings in the Paragraph)
7. The report must be typed on one side only with double space with a margin 3.5 cm on the left, 2.5 cm on the top, and 1.25 cm on the right and at bottom.
8. The training report must be hardbound/ Spiralbound with a cover page in black color. The name of the candidate, diploma (department), year of submission, name of the institute shall be printed on the cover.
9. The training report, the title page should be given first then the Certificate followed by the acknowledgment and then contents with page numbers.
10. For Architectural Programme- AA/ AT/ IX/ IZ students should prepare portfolio (Minimum A3 Size) of containing drawings/documentation work etc prepared during internship period.

IX Suggestive format of industrial training report

Following format may be used for training report. Actual format may differ slightly depending upon the nature of Industry/ Organization.

- Title Page
- Certificate
- Abstract
- Acknowledgement
- Content Page

Chapter 1	Organization structure of Industry and general layout.
Chapter 2	Introduction to Industry / Organization (history, type of products and services, turn over and number of employees etc.)

Chapter 3	Types of Major Equipments/raw materials/ instruments/machines/ hardware/software used in industry with their specifications, approximate cost, specific use and routine maintenance done
Chapter 4	Processes/ Manufacturing techniques and methodologies and material handling procedures
Chapter 5	Testing of Hardware/Software/ Raw materials/ Major material handling product (lifts, cranes, slings, pulleys, jacks, conveyor belts etc.) and material handling procedures.
Chapter 6	Safety procedures followed and safety gears used by industry.
Chapter 7	Particulars of Practical Experiences in Industry/Organization if any in Production/Assembly/Testing/Maintenance
Chapter 8	Detailed report of the tasks undertaken (during the training).
Chapter 9	Special/challenging experiences encountered during training if any (may include students liking & disliking of workplaces).
Chapter 10	Conclusion
Chapter 11	References / sources of information

For Architectural Programme - AA/ AT/ IX/ IZ

Chapter 1	Introduction and overview of architecture firm practice management and professional ethics as per COA norms
Chapter 2	Architecture design and project management (Agreement between client, consultants and contractors, Municipal approval process, management of the design process to maintain integrity of design objectives)
Chapter 3	Importance of site study and preparation of site analysis report
Chapter 4	Project planning and design
Chapter 5	Study of structural drawings and MEP Services
Chapter 6	Project development and documentation
Chapter 7	Site visit and preparation of report
Chapter 8	Particulars of Practical Experiences in Industry/Organization
Chapter 9	Detailed report of the tasks undertaken (during the training).
Chapter 10	Special/challenging experiences encountered during training if any (may include students liking & disliking of workplaces).
Chapter 11	Conclusion

X Suggested learning strategies during training at Industry

- Students should visit the website of the industry where they are undergoing training to collect information about products, processes, capacity, number of employees, turnover etc.
- They should also refer to the handbook of the major machines and operations, testing, quality control and testing manuals.
- Students may also visit websites related to other industries wherein similar products are being manufactured.

Note: Read industry as Architectural professional firm for the programme - AA/ AT/ IX/ IZ

XI Tentative week wise schedule of Industry Training

Industrial training is a common course to all Diploma programmes , therefore the industry selection will depend upon the nature of the programme and its related industry. The training activity may vary according to nature and size of industry.

The following table details of activities to be completed during industrial training.

Details of Activities to be completed during Industry training
Introduction of Industry and departments.
Study of Layout of Industry, Specifications of Machines , raw materials, components available in the industry (For architectural programme - AA/ AT/ IX/ IZ study of layout of Architect's office /Firm)
Study of setup and manufacturing processes (For architectural programme - AA/ AT/ IX/ IZ study of office administration)
Execute given project or work assigned to the students, study of safety and maintenance procedures (For architectural programme - AA/ AT/ IX/ IZ prepared different types of drawings of given architectural project)
Validation from industry mentor regarding project or work allocated
Report writing

XII CO-PO Mapping Table to be created by respective Department/faculty.**XIII. Formative Assessment of training : Suggested RUBRIC**

(Note : Allot the marks in proportion of presentations and outcome observed.)

Week No	Task to be assessed	Outcome Achievement - Poor	Outcome Achievement - Moderate	Outcome Achievement - High		Week-wise total Marks
		Poor	Average	Good	Excellent	
		Marks	Marks	Marks	Marks	

1	Introduction of Industry	Minimal Knowledge of Departments, processes, products and work culture of the company (For architectural programme - AA/ AT/ IX/ IZ minimal knowledge of office administration and work culture of the architectural firm.) (Marks –1)	Moderate Knowledge of Departments, processes, products and work culture of the company (For architectural programme - AA/ AT/ IX/ IZ Moderate knowledge of office administration and work culture of the architectural firm.) (Marks –2)	Good Knowledge of Departments, processes, products and work culture of the company (For architectural programme - AA/ AT/ IX/ IZ Good Knowledge of office administration and work culture of the architectural firm.) (Marks – 3/4)	Extensive Knowledge of Departments, processes, products and work culture of the company (For architectural programme - AA/ AT/ IX/ IZ Extensive knowledge of office administration and work culture of the architectural firm.) (Marks –5)	5
2-3	Presentation of Layout of Industry, Specifications of Machines, raw materials, components available in the industry (For architectural programme - AA/ AT/ IX/ IZ preparation of report of stages of architectural design stages and project management)	Minimal w.r.t. tasks (Marks –1)	Moderate w.r.t. tasks (Marks –2)	Good w.r.t. tasks (Marks –3/4)	Extensive w.r.t. tasks (Marks –5)	5
4-6	Participation in setup and manufacturing processes/platforms (For architectural programme - AA/ AT/ IX/ IZ preparation of site analysis report)	Minimal Participation with poor understanding (Marks –1-8)	Moderate Participation with poor understanding (Marks –9-12)	Good Participation with poor understanding (Marks –13-17)	Extensive Participation with poor understanding (Marks –18-20)	20

7 to 13	Execution of given project or work to the students, Follow of safety and maintenance procedures (For architectural programme - AA/ AT/ IX/ IZ preparation of execution drawings and issuance for building construction of a project)	Minimal Participation with poor understanding (Marks –1-8)	Moderate Participation with lower level understanding (Marks – 9-12)	Good Participation with Good understanding (Marks – 13-17)	Extensive Participation with excellent understanding (Marks – 18-20)	20
14-15	Validation by industry mentor regarding project or work allocated	Minimal Participation with poor performance (Marks –1-10)	Moderate Participation with acceptable performance (Marks – 11-15)	Good Participation with Good performance (Marks – 16-20)	Extensive Participation with excellent performance (Marks – 21-25)	25
16	Diary writing and Report presentation	- Results are not Presented properly, - Project work is summarized and concluded not acceptable - Future extensions are not specified (Marks –1-10)	- Results are Presented just casually - Project work is summarized and concluded casually - Future extensions are casually specified (Marks –11-15)	- Results are Presented well and properly, - Project work is summarized and concluded to a Good level - Future extensions are well specified (Marks –16-20)	- Results are Presented exhaustively - Project work is summarized and elaborated in excellent manner , concluded - Future extensions are excellently specified (Marks –21-25)	25
Total Out of :100						

Marks for (FA) are to be awarded for each week considering the level of completeness of activity observed as per table specified in Sr.No. XIII above, from the daily diary maintained . Feedback from industry supervisor shall also be considered.

XIV Summative Assessment (SA) of training:

Academic year : 20 -20

i) Suggested RUBRIC for SA

Enrollment Number	Observations from Orals				Presentations				Total (100)
	Tasks undertaken (20)	Overall Understanding (20)	Creativity /Innovation demonstrated (10)	Knowledge acquired (10)	Speech Clarity (10)	Body Language (10)	Presentations (10)	Diary , Report writing and / Product (10)	

Name of mentor:
Signature of Mentor

XV FORMATS**Format-1: Collecting Information about Industry/Organization available for training along with capacity**

- 1) Name of the industry/organization:
- 2) Address/communication details with email :
- 3) Contact person details:
 - a) Name:
 - b) Designation:
 - c) Email
 - d) Contact number/s:

4) Type:

Govt / PSU / Pvt /

Large scale / Medium scale / Small scale

5) Products/services offered by industry:

6) a) Whether willing to offer Industrial training facility during May/ June for Diploma in _____ students: **Yes / No.**

b) If yes, whether you offer 16 weeks training: **Yes/No**

Possible Industrial Capacity:

Students	Programme Name/ Title					Total
	Architecture	Chemical	Travel	Others		
Male						
Female						
Total						

7) Whether accommodation available for interns **Yes / No.**

If yes capacity: _____

8) Whether internship is charged or free:

If charged please specify amount per candidate: _____

Signature of responsible person at Industry:



Format-2: Obtaining Consent Letter from parents/guardians

(Undertaking from Parents)

To,
The Principal,

Subject: Consent for Industrial Training.
Sir/Madam,

I am fully aware that -

i) My ward studying in _____ semester at your _____ institute has to undergo 16 weeks of Industrial training for partial fulfillment _____ towards completion of Diploma in _____.

ii) For this fulfillment he/she has been deputed at _____ industry, located at _____ for Industrial training /internship _____ for the period from _____ to _____.

With respect to above I give my full consent for my ward to travel to and from the mentioned industry. Further I undertake that –

- a) My ward will undergo the training at his/her own cost and risk during training and/or stay.
- b) My ward will be entirely under the discipline of the organization where he/she will be placed and will abide by the rules and regulations in face of the said organization.
- c) My ward is NOT entitled to any leave during the training period.
- d) My ward will regularly submit a prescribed weekly diary, duly filled and countersigned by the training supervisor of the organization to the mentor faculty of the polytechnic.

I have explained the contents of the letter to my ward, who has also promised to adhere strictly to the requirements. I assure that my ward will be properly instructed to take his own care to avoid any accidents/injuries in the industry. In case of any accident neither industry nor the institute will be held responsible.

Signature :

Name : _____

Address : _____

Phone Number :





Format-4: Issue Letter to the Industry/Organization for the training along with details of students and mentors

To,
The HR Manager,

Subject: Placement for Industrial training of ____ weeks in your organization....

Reference: Your consent letter no:

Sir,

With reference to the above we are honored to place the following students from this institute for Industrial training in your esteemed organization as per the arrangement arrived at.

The purpose of this training is to equip the student with some essential skills relevant to the demands of the industry and world of work, as well as to provide exposure to the professional environment and work culture. It is hoped that this training may enhance his/her employability and livelihood opportunities. In view of the above, we kindly request your support in facilitating this Industrial Training for the student. He/she has been adequately oriented and guided on the expectations of this training, including the maintenance of a daily diary during the training period. Additionally, the institute has secured the necessary consent and undertaking from the parent/guardian regarding the guidelines for exit training. In view of all the above industry shall refrain from involving students into the mundane and housekeeping activities. Your cooperation in this regard will be highly appreciated.

Diploma programme in _____ Engg.

Sr.No	Enrollment No	Name of Student	Name and designation of Mentor

Diploma programme in _____.

Sr.No	Enrollment No	Name of Student	Name and Designation of Mentor

Kindly extend all possible cooperation to the students for above.

Thanking you

Yours sincerely,

(Principal)
Name of the Institute:
with Seal

Cc- To HoD/Mentor

Format-5: Undertaking by the students

TO

Principal

Subject: Undertaking regarding Placement for Industrial training of 12/16/18 weeks duration

IReg No:..... S/o/D/o.

.....Studying in ----- at -----
-Institute at -----fully aware of the Industrial Training requirement and related responsibilities
and participation in the, Industrial training between From:
To.....

I assure you that I will be of good behavior and be obedient to the staff and mentor during the
...../Industrial training. I will also abide and will not participate in all activity. I will also discipline
myself within the rules and regulations of the Institution. I am also aware that I am participating in the
..... at my own risk and I will not hold the -----Institute responsible in any way in any
eventuality namely Accident /Injury/death or whatever mishap and I myself will be solely responsible for my
safety.

Place :Signature of the student

Date :Reg. No.

Format-5: Undertaking by the students

TO

Principal

Subject: Undertaking regarding Placement for Industrial training of 12/16/18 weeks duration I

.....Reg

No:..... S/o/D/o.

.....Studying in at

Institute at----- fully aware of the Industrial Training requirement and related responsibilities

and participation in the, Industrial training between From:

To.....

I assure you that I will be of good behavior and be obedient to the staff and mentor during the

..... /Industrial training. I will also abide and will not participate in all activity. I will also discipline

myself within the rules and regulations of the Institution. I am also aware that I am participating in the

..... at my own risk and I will not hold the----- Institute responsible in any way in any

eventuality namely Accident /Injury/death or whatever mishap and I myself will be solely responsible for my safety.

Place :Signature of the student

Date :Reg. No.

Format-6: Internships Daily Diary

Name of the Student: _____

Name of the mentor (Faculty) : _____

Enrollment Number: _____

Semester: _____

Academic Year _____

Week	Day & Date	Discussion Topics/Activity	Details of Work Allotted Till Next Session /Corrections Suggested/Faculty Remarks	Signature of Industry Mentor
Week 01	Mon, Date			
	Tue, Date			
	Wed, Date			
	Thu, Date			
	Fri, Date			
	Sat, Date			
	Mon, Date			
	Tue, Date			
	Wed, Date			
	Thu, Date			
	Fri, Date			
	Sat, Date			
Week n	Mon, Date			
	Tue, Date			
	Wed, Date			
	Thu, Date			
	Fri, Date			
	Sat, Date			

Programme Name/s	: Architecture Assistantship/ Architecture and Interior Design/ Agricultural Engineering/ Architecture/ Bamboo Technology/ Fashion & Clothing Technology/ Dress Designing & Garment Manufacturing/ Food Technology/ Hotel Management & Catering Technology/ Instrumentation & Control/ Instrumentation/ Interior Design & Decoration/ Interior Design/ Medical Laboratory Technology/ Medical Electronics/ Printing Technology/ Polymer Technology/ Surface Coating Technology/ Textile Technology/ Travel and Tourism/ Textile Manufactures
Programme Code	: AA/ AD/ AL/ AT/ DBT/ DC/ DD/ FC/ HM/ IC/ IS/ IX/ IZ/ ML/ MU/ PN/ PO/ SC/ TC/ TR/ TX
Year	: Fourth / Sixth
Course Title	: CAPSTONE PROJECT
Course Code	: 334001

I. RATIONALE

Projects at institute level provide opportunity towards practical training and help students demonstrate their ability to apply theoretical knowledge effectively. At the same time projects enhance creativity and practical problem-solving abilities, which are crucial for job roles. Thus projects offer practical experience, skill development, and a competitive edge in the job market and better employability.

II. INDUSTRY / EMPLOYER EXPECTED OUTCOME

The aim of this course is to help the student to attain the following industry identified competency through various teaching learning experiences:
Apply and Execute solutions for real field problems effectively as a team within a given time frame and present report.

III. COURSE LEVEL LEARNING OUTCOMES (COS)

- Students will be able to achieve & demonstrate the following COs on completion of course based learning
- CO1 - Identify field problem from the perspective of project work at institute.
 - CO2 - Carry out feasibility & viability analysis (data collection, experiments, resources, cost, support) of the project work.
 - CO3 - Apply the acquired knowledge and skills in providing solutions to the real field/industrial problems.
 - CO4 - Present Project and its output/ findings / achievements along with its exhibits.

IV. TEACHING-LEARNING & ASSESSMENT SCHEME

Course Code	Course Title	Abbr	Course Category/s	Learning Scheme					Credits	Assessment Scheme													
				Actual Contact Hrs./Week			SLH	NLH		Paper Duration	Theory				Based on LL & TL				Based on SL				Total Marks
				CL	TL	LL					Practical												
											FA-TH	SA-TH	Total		FA-PR		SA-PR		SLA				
													Max	Max	Max	Min	Max	Min	Max	Min	Max	Min	
334001	CAPSTONE PROJECT	CP01	SEC	-	-	2	4	6	3	-	-	-	-	50	20	50#	20	100	40	200			

V. General guidelines for PROJECT WORK

- The Project- problems must be related to the programme or may be interdisciplinary, based on the industry expected outcomes.
- The individual students have different aptitudes and strengths. Project work, therefore, should match the strengths of students. For this purpose, students should be asked to identify the type of project work they would like to execute.
- Project titles are to be finalized in co-ordination/consultation with the Faculty mentor. However, faculty may form a team of students as per specific roles- Literature survey/data collection, data Analysis, model/prototype developers, testers. Study type project is NOT advisable.
- Project must be assigned to a group of 3-4 students under the guidance of identified faculty mentor.
- Students are required to prepare a prototype/working model/software of the Project and simultaneously prepare a report.
- Students shall Submit One Hard copy and one Soft copy each of Project Report and soft-copy of the project code or the working model.
- Students must maintain a project execution diary having the progress steps and details. The concerned faculty should check the diary on a weekly basis and accordingly interact with students based on the progress shown and keep proper record with feedback if any.
- Project shall address National Thrust area such as Environment, Digitization, Automation, sustainability and similar applicable domains

VI. Project facilitation guidelines:

Once the project has been finalized and allotted to the students, the teacher's role is very important as guide, motivator, catalyser to promote learning and sustain the interest of the students. At the same time the teacher is not expected to guide the students on each step, otherwise it will curb the creativity of the students-group. The teacher has to work as a mentor. Following should be kept in mind while facilitating the project at the institute:

1. Project orientation cum -briefing: the project should be relevant to the curriculum of the programme. The project shall be cost effective taking safety aspects, ethical issues, environmental issues and confidentiality as per expectation of industry (if any) into consideration, The work may be industry sponsored.

2. Information search and data collection: the information and data should be realistic and relevant to the problem /project. Hypothetical data shall not be taken into consideration.

3. Implementation and Monitoring: The project must have important steps /milestones to achieve as per the time frame/action plan prepared by students and faculty. The monitoring mechanism such as daily/weekly dairy (**Annexure**) must be clearly explained and delineated for the students.

VII. Criteria of Assessment /Evaluation of Project work

A. Formative Assessment (FA) criteria

The assessment of the students under formative for 50 marks shall be done based on following criteria.

Suggestive Rubrics for Assessment of the team (30 marks)

Sr.No.	Criteria	Marks
1	Project Selection & Problem definition	05
2	Literature survey and data collection/ Gathering	05
3	Design / concept of project/ Working - Execution of Project	10
4	Stage wise progress as per Action plan/milestone	05
5	Quality Report Writing	05
Total		30

Suggestive Rubrics for Individual Assessment

Sr.No.	Criteria	Marks
1	Contribution as a team member	05
2	Depth of Knowledge	10
3	Presentation	05
Total		20

B. Summative Assessment Criteria

The summative assessment of the students in the End-Semester-Examination (ESE) for 50 marks shall be done based on following criteria. This assessment shall be done by the faculty.

Suggestive RUBRICS

Sr.No.	Criteria	Marks
1	Knowledge and skill-set developed	10
2	Quality & Potential level of project	10
3	Creativity, Innovation and Team work	10
4	Project design, development and Execution	10
5	Presentation of project	10

C. Self Learning Assessment

Max Marks -100

Sr.No.	Criteria	Max Marks	Marks Obtained
--------	----------	-----------	----------------

1	Project Selection & Problem definition	20	
2	Literature survey and data collection/ Gathering	10	
3	Design / concept of project/ Working - Execution of Project	30	
4	Stage wise progress as per Action plan/milestone	20	
5	Quality Report Writing	20	

VIII. CO-PO Mapping

CO-PO mapping will vary project wise and shall be prepared by concerned faculty for the given project

IX. Typographical instructions/guidelines for Project report writing

Following is the suggestive format for preparing the training report. Actual report may differ slightly depending upon the nature of industry. The training report may contain the following.

- The PROJECT report shall be computer typed (English- British) and printed on A4 size paper.
- Text Font -Times New Roman (TNR), Size-12 point
- Subsection heading TNR- 12 point bold normal
- Section heading TNR- 12 capital bold
- Chapter Name/ Topic Name – TNR- 14 Capital
- All text should be justified. (Settings in the Paragraph)
- The report must be typed on one side only with double space with a margin 3.5 cm on the left, 2.5 cm on the top, and 1.25 cm on the right and at bottom.
- The training report must be hardbound/ Spiralbound with cover page in black colour. The name of the candidate, diploma (department), year of submission, name of the institute shall be printed on the cover [Refer sample sheet (outer cover)]
- The training report, the title page [Refer sample sheet (inner cover)] should be given first then the Certificate followed by the acknowledgment and then contents with page numbers.

X. Project Report

On completion of the project work, every student will submit a project report which should cover the following points:

- Cover Page (as per annexure 1)
- Title page (as per annexure 2)
- Certificate by the Guide (as per annexure 3)

4. Acknowledgment (The candidate may thank all those who helped in the execution of the project.)
5. Abstract (It should be in one page and include the purpose of the study; the methodology used.)
6. Table of Contents (as per general guidelines): Detailed description of the project (This should be split in various chapters/sections with each chapter/section describing a project activity in totality).
- Chapter–1 Introduction (background of the Industry or User based Problem/Task)
- Chapter–2 Literature Survey (to finalize and define the Problem Statement)
- Chapter–3 Scope of the project
- Chapter–4 Methodology/Approach, if any
- Chapter-5 Details of designs, working and processes
- Chapter-6 Results and Applications
7. Conclusion
8. References (The listing of references should be typed 2 spaces below the heading “REFERENCES” in alphabetical order in single spacing left – justified. It should be numbered consecutively (in square [] brackets, throughout the text and should be collected together in the reference list at the end of the report. The references should be numbered in the order they are used in the text. The name of the author/authors should be immediately followed by the year and other details).

NOTE: Project report must contain only relevant and short mentioned – technology or platform or tools used. It must be more focussed on project work carried out and its implementation

Annexure-I**Project Report****“Project Title-----”****as a partial fulfilment of requirement of the
THIRD YEAR DIPLOMA IN****Submitted by****1)Name Of Student****Enrollment Number****2)Name Of Student****Enrollment Number****3)Name Of Student****Enrollment Number****4)Name Of Student****Enrollment Number****Are the bonafide on
FOR THE ACADEMIC YEAR****20-----20---****(H.O.D)****(Principal)****(Internal Guide)****(External Examiner)****Institute Name****(An Affiliated Institute of Maharashtra State Board of Technical Education)**

INDEX

Sr.No.	Chapter	Page No.
1.	Chapter-1 Introduction (background of the Project Problem)	1
2.	Chapter-2 Literature Survey (to finalize and define the Problem Statement)	5
3.	Chapter-3 Scope of the project	
4	Chapter-4 Methodology/Approach, if any	
5	Chapter-5 Details of designs, working and processes	
6.	Chapter-6 Results and Applications	
7.	REFERENCES	

***Students can add/remove/edit chapter names as per the discussion with their guide**

Annexure - II

PROJECT DIARY (Weekly/Daily)

Name of the Student : _____

Name of Guide (Faculty) : _____

Enrollment Number : _____ **Semester:** _____ **Project batch**
Number : _____

WEEK : _____

Date	Activity carried out (Details)	Achievement of mile stone/step as per plan	Remark of Faculty
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			

Dated Signature of Faculty

Dated Signature of HOD

Annexure- III

Project Assessment /Evaluation – Summative Assessment (Suggestive)

Roll No./ Enrol. No.	Name of Student	Criteria				
		Knowledge and skill-set developed Max Marks- 10	Quality & Potential level of project Max Marks- 10	Creativity, Innovation and Team work Max Marks- 10	Project design, development and Execution Max Marks-10	Presentation of project Max Marks-10

MSBTE
LOGO

Institute
Logo

Certificate

This is to certify that

Mr./Ms.

bearing examination seat No. has

Satisfactorily completed his/her **PROJECT** entitled

Along with his/her batchmates in partial fulfillment for the

Diploma Course in

< PROGRAMME NAME >

Of the Maharashtra State Board of Technical Education at our Polytechnic during the Academic Year 20 -20 .

The Project is completed by a group consisting of __ Persons under the guidance of the Faculty Guide

Faculty Name and Signature (Internal)	External Expert Name and Signature	HOD Name and Signature with Department Stamp
Date and Time		

Programme Name/s	: Architecture Assistantship/ Architecture and Interior Design/ Agricultural Engineering/ Architecture/ Bamboo Technology/ Fashion & Clothing Technology/ Dress Designing & Garment Manufacturing/ Food Technology/ Hotel Management & Catering Technology/ Instrumentation & Control/ Instrumentation/ Interior Design & Decoration/ Interior Design/ Medical Laboratory Technology/ Medical Electronics/ Printing Technology/ Polymer Technology/ Surface Coating Technology/ Textile Technology/ Travel and Tourism/ Textile Manufactures
Programme Code	: AA/ AD/ AL/ AT/ DBT/ DC/ DD/ FC/ HM/ IC/ IS/ IX/ IZ/ ML/ MU/ PN/ PO/ SC/ TC/ TR/ TX
Semester	: Fourth / Sixth
Course Title	: SEMINAR COURSE
Course Code	: 324011

I. RATIONALE

Most of the diploma graduates lack the confidence and fluency while presenting papers or interacting verbally and expressing themselves with a large gathering. Seminar presentation boosts the confidence of the students and prepares them precisely for facing the audience, interviews and group discussions. The course on seminar is to enhance student’s ability in the art of academic writing and to present it. It also helps broaden the minds of the participants. Through this course on Seminar, students will develop new ideas and perspectives of the subject /themes of emerging technologies and services of their area of studies.

II. INDUSTRY / EMPLOYER EXPECTED OUTCOME

The aim of this course is to help the student to attain the following industry identified competency through various teaching learning experiences: Interpret and present a seminar on the selected theme/area of study effectively and confidently to the specific audience and stakeholders.

III. COURSE LEVEL LEARNING OUTCOMES (COS)

Students will be able to achieve & demonstrate the following COs on completion of course based learning

- CO1 - Identify topics of seminar presenting to the large gathering at the institute/conference.
- CO2 - Collect relevant and updated data and information to prepare a paper of seminar presentation.
- CO3 - Apply presentation skills.
- CO4 - Create conducive environment for learning and discussion through seminar presentation.

IV. TEACHING-LEARNING & ASSESSMENT SCHEME

Course Code	Course Title	Abbr	Course Category/s	Learning Scheme					Credits	Assessment Scheme												Total Marks
				Actual Contact Hrs./Week			SLH	NLH		Paper Duration	Theory			Based on LL & TL				Based on SL				
														Practical								
				CL	TL	LL					FA-TH	SA-TH	Total	FA-PR		SA-PR		SLA				
							Max	Min		Max				Min	Max	Min	Max	Min				
324011	SEMINAR COURSE	SEMC	AEC	-	-	1	1	2	1	-	-	-	-	-	25	10	50@	20	25	10	100	

V. General guidelines for SEMINAR

- The seminar must be related to emerging trends in the specialised domain programme or may be inter/multi-disciplinary, based on the industry expected outcomes of the programme.
- The individual students have different aptitudes and strengths. Therefore, SEMINAR should match the strengths of students. For this purpose, students shall be asked to select the TITLE (Theme) of SEMINAR they would like to prepare and present.
- Seminar titles are to be finalized in consultation with the faculty mentor.
- Seminar must involve logic development of applications of various technologies/ processes applicable in industry.
- Seminar must be assigned to the single student. However, support of other students may be sorted while presenting the seminar
- Students are required to prepare using relevant software tools, write ups for presentation
- Students shall Submit One Hard copy and one Soft copy each of the presentation and may be encouraged to keep a recorded copy of the presentation made during the seminar.

VI. Guidelines for Seminar preparation and presentation :

Once the title/topic of a seminar has been finalized and allotted to the student, the teacher's role is important as guide, mentor and motivator, to promote learning and sustain the interest of the students.

Following should be kept in mind while preparing and presenting the seminar:

- **Seminar Orientation cum -briefing:** the seminar topics/themes should be innovative, novel and relevant to the curriculum of the programme, and also aligned to the expectations of industry.
- **Seminar Literature survey:** Information search and data collection: the information and data should be authentic, realistic and relevant to the curriculum of the programme.
- **Seminar Preparation, and presentation:** The seminar shall be present with suitable software tools and supporting handout/notes. The presentation of seminar should not be more than 20 minutes including Q-A session.

VII. Criteria of Assessment /Evaluation of Seminar

A. Formative Assessment (FA) criteria

The assessment of the students for Progressive Assessment (PA) of 25 marks shall be done based on following criteria.

Suggestive RUBRICS

Sr. No.	Criteria	Marks
1	Selection Topic/Theme of seminar	05
2	Literature review and data presentation	03
3	Quality of Preparation and innovativeness	05
4	Q-A handling	05
5	Time Management	02
6	Seminar Presentation report	05
	Total	25

B. Summative Assessment criteria/

The summative assessment of the students End-Semester-Examination (ESE) for 50 marks shall be done by the faculty based on following criteria.

Suggestive RUBRICS

Sr. No.	Criteria	Marks
1	Quality of information/Knowledge presented in SEMINAR	10
2	Creativity, Innovation in SEMINAR presentation	10
3	Response to the question during seminar presentation	10
4	Coverage of Topic	10
5	Neatness in Dressing	05
6	Oratory Skills : Confidence, statement building practice	05
	Total	50

C. Self Learning Assessment

Following RUBRICS shall be used for Self Learning Assessment.

Seggestive Rubrics

Sr. No.	Criteria	Marks
1	Maintenance of Seminar Diary	10
2	Literature Survey	5
3	Practice with Presentation and Language	5
5	Timely Submissions	5
	Total	25

VIII. Suggestive CO-PO Mapping

Course Outcomes (COs)	Programme Outcomes (POs)							Programme Specific Outcomes* (PSOs)	
	PO-1 Basic and Discipline Specific Knowledge	PO-2 Problem Analysis	PO-3 Design/ Development of Solutions	PO-4 Engineering Tools	PO-5 Engineering Practices for Society, Sustainability and Environment	PO-6 Project Management	PO-7 Life Long Learning	PSO-1	PSO-2
CO-1	3	1	0	-	2	2	3		
CO-2	2		2	-	2	1	3		
CO-3	3	1	1	2	1	2	3		
CO-4	2	0	0	2	1	2	3		

IX. Typographical instructions/guidelines for seminar preparation & presentation

- The seminar PPT shall be computer typed (English- British)
- Text Font -Times New Roman (TNR), Size-12 point
- Subsection heading TNR- 12 point bold normal
- Section heading TNR- 12 capital bold
- Chapter Name/ Topic Name – TNR- 14 Capital
- All text should be justified. (Settings in the Paragraph)
- Different colors text/diagrams /tables may used
- The name of the candidate, diploma (department), year of submission, name of the institute shall be printed on the first slide of PPT.

X. Seminar Report

On completion and presentation of Seminar, every student will submit a brief report which should contain the following:

1. Cover Page (as per annexure 1)
2. Title page (as per annexure 2)
3. Certificate by the Guide (as per annexure 3)
4. Acknowledgment (The candidate may thank all those who helped in the execution of the project)
5. Abstract of Paper presented in the seminar (It should be in one page and include the purpose of the seminar & methodology if any .)
6. Index

7. List of Figures
8. Introduction
9. Literature Review
10. Information/Chapters related to Seminar topic
11. Advantages and Disadvantages
12. Conclusion
13. References

NOTE: Seminar report must contain only relevant details of related technology or platform.

Details of Softcopy :

The soft copy of seminar presentation is required to be provided on the back cover of the seminar report in clear packet, which should include the following folders and contents:

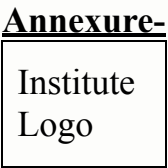
1. Presentation (should include a PPT about project in not more than 15 slides)
2. Documentation (should include a word file of the project report)

NOTE: Soft copy must be checked for any harmful viruses before submission.

Annexure-



SEMINAR Report



“SEMINAR Title _____”

as a partial fulfilment of requirement of the

YEAR / SEMESTER DIPLOMA of



Submitted by

Name of Student

Enrollment Number

FOR THE ACADEMIC YEAR 20__20__

(H.O.D)

(Principal)

(Internal Guide)

(External Examiner)

