Finishing School Program (Online Internship)-2020

Name of Department	**Department of Civil Engineering**
Module Name	**Structural Design of a Two Storey RC Building**
Module Coordinator	**Sarvesh Kumar Jain**
Pre requisite	Knowledge of Design of Reinforcement Concrete Building Elements
Module Content	The module consists of concepts and theories involved in understanding the building plan and structural planning; estimation of design loads on different elements; design and analysis of different building elements and preparing design details.
Module Outcome/ Impact	Upon completion of the program, the student will be able to: 1) Understand various aspects of Structural Design 2) Apply recommendations of Indian Standard Codes for estimating Design loads. Design various elements for the estimated loads as per IS Code provisions
Duration	20 days

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Finishing School Program (Online Internship)-2020

Day Wise Schedule				
	Date	**Day**	**Module Contents to be covered/Interactive Session/Assignment/Quiz/Exercises/Daily practice sheets (DPP)/Tutorial/Project etc (10:00 AM onward, 1-2 Hrs/ Day)**	**Faculty**
Week 1	**18/05/ 2020**	Mon	Understanding the Building Plan and its Structural Planning	Sarvesh Kumar Jain
	19/05/ 2020	Tue	Understanding the Building Plan and its Structural Planning	Sarvesh Kumar Jain
	20/05/ 2020	Wed	Estimation of Design Loads on various Elements	Sarvesh Kumar Jain
	21/05/ 2020	Thu	Estimation of Design Loads on various Elements	Sarvesh Kumar Jain
	22/05/ 2020	Fri	Estimation of Design Loads on various Elements	Sarvesh Kumar Jain
Week 2	**25/05/ 2020**	Mon	Estimation of Design Loads on various Elements	Sarvesh Kumar Jain
	26/05/ 2020	Tue	Analysis of different elements for estimated design loads	Sarvesh Kumar Jain
	27/05/ 2020	Wed	Analysis of different elements for estimated design loads	Sarvesh Kumar Jain
	28/05/ 2020	Thu	Analysis of different elements for estimated design loads	Sarvesh Kumar Jain
	29/05/ 2020	Fri	Analysis of different elements for estimated design loads	Sarvesh Kumar Jain
Week 3	**01/06/ 2020**	Mon	Designing the building elements for design variables	Sarvesh Kumar Jain
	02/06/ 2020	Tue	Designing the building elements for design variables	Sarvesh Kumar Jain
	03/06/ 2020	Wed	Designing the building elements for design variables	Sarvesh Kumar Jain
	04/06/ 2020	Thu	Designing the building elements for design variables	Sarvesh Kumar Jain
	05/06/ 2020	Fri	Designing the building elements for design variables	Sarvesh Kumar Jain
Week 4	**08/06/ 2020**	Mon	Designing the building elements for design variables	Sarvesh Kumar Jain
	09/06/	Tue	Preparing design details	Sarvesh Kumar

Finishing School Program (Online Internship)-2020

	2020			Jain
	10/06/ 2020	Wed	Preparing design details	Sarvesh Kumar Jain
	11/06/ 2020	Thu	Preparing design details	Sarvesh Kumar Jain
	12/06/ 2020	Fri	Preparing design details	Sarvesh Kumar Jain
Details			Total Lectures + Practical sessions = 20 hours Total hours of home assignment= 5 hours Total number of hours= **25**	
Module Coordinator Email Id and Mobile Number			Dr. Sarvesh Kumar Jain Professor PdF, Ph.D.IIT Roorkee, M.E., B.Sc. Engg. (Civil) E-Mail: Dr.skjain@mitsgwalior.in Mobile: +91 94798 02595	

Eligibility and Important Instructions

1. The Online Finishing School Program (Online training/Internship) is designed only for Pre-final & Final Year students of Civil Engineering Department.
2. This online module will be conducted under the Finishing School Program which will be considered equivalent to Online Internship of Pre-final year students who could not get any Internship during this situation.
3. There is no fee for the participants of Pre-final & Final year students of MITS, Gwalior.
4. The participants outside the Institute may also join the Program on payment basis.
5. Duration of this program will be of two weeks which is equivalent to summer Internship period as per AICTE and our Institute policy. Daily no. of hours of online training may be flexible.
6. Certificates will be issued to candidates who have *attendance 75*% or more and also *score more than 60% in the test*.

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Finishing School Program (Online Internship)-2020

Name of Department	**Department of Civil Engineering**
Module Name	**Microsoft Project**
Module Coordinators	**Prof. Mohit Aggarwal**
Module Objective	MS Project training Program will teach you about planning and designing your own projects by using Microsoft Project. In this program, you will explore standardized best practices for project management using Microsoft project. You will gain skills and hands-on expertise in project planning, resource pooling, customizing reports, troubleshooting, and more through real-time industry use cases. By the end of the training, you will develop better insights into the Project management tool and will be able to manage complex projects effectively in real-life.
Module Content	Introduction Materials and Files for Course Important Task Fields Important Resource Fields Setting Up Your View Creating a Work Breakdown Structure Creating Tasks in Microsoft Project Adding Resources to Your Project Linking Tasks Adding Project Milestones Adding and Deleting Tasks within the Schedule **How to View Your Project Plan and Resources** Introduction - Project Views The Critical Path Additional Gantt Type Views The Network Diagram Customizing the Network Diagram Using Split Views Views focused on Resources **Additional Work With Project Resources in Microsoft Project** Project Resources Introduction Removing Resources Replacing Resources Resource Special Schedules Resolving Resource Overallocations Using Automatic Leveling

Finishing School Program (Online Internship)-2020

	–How to Work with Costs and Budgets using Microsoft Project Introduction - Project Budgeting Adding Costs to Resources Determining the Project's Cost Determining the Project's Budget **How to Update the Progress and Status of Your Schedule** Project Statusing Introduction Fields in Microsoft Project for Status Proper Method for Updating Status Fixing Issues with Status Updates **How to Use Project Reports and Data Exports** Define the Reports and Print Outs Printable Reports and Project Comparison Visual Reports and Data Exports **–How to Link Microsoft Project with Other Applications** Intoduction - Linking Microsoft Project How to Show My Schedule in a Presentation Linking with Microsoft Excel **Final Thoughts - Best Practices**
Module Outcome/ Impact	• Learn all You Need to Manage Your Project Using Microsoft Project • Create Your Own Project Plan using Microsoft Project • Add and Manage Resources within Your Project • Work with Budget, Costs, and Material in Microsoft Project • Understand Views and even Customize Your Own Views • Update Status within Your Schedule and Determine Work Remaining • Use Earned Value Analysis in Microsoft Project • Create Reports and Export Data to Other Applications
Duration	3 Days

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Finishing School Program (Online Internship)-2020

Day Wise Schedule				
	Date	**Day**	**Module Contents to be covered/Interactive Session/Assignment/Quiz/Exercises/Daily practice sheets (DPP)/Tutorial/Project etc (12:00 PM onward, 2-3 Hrs/ Day)**	**Faculty**
Week 1	**15/06/2020**	Mon	Getting Started with Microsoft Project Building Your Project Plan within Microsoft Project	Prof. Mohit Aggarwal
	16/06/2020	Tue	How to View Your Project Plan and Resources Additional Work With Project Resources in Microsoft Project How to Work with Costs and Budgets using Microsoft Project	Prof. Mohit Aggarwal
	17/06/2020	Wed	How to Update the Progress and Status of Your Schedule How to Use Project Reports and Data Exports How to Manage Earned Value in Microsoft Project How to Link Microsoft Project with Other Applications	Prof. Mohit Aggarwal
Module Coordinators Email Id and Mobile Number			Prof. Mohit Aggarwal Assistant Professor M.Tech (MNNIT Allahabad) E-Mail: mohijvg@mitsgwalior.in Mobile: 9643392665	

Finishing School Program (Online Internship)-2020

Eligibility and Important Instructions :-

1. The Online Finishing School Program (Online training/Internship) is designed only for Pre-final & Final Year students of Civil Engineering Department.

2. The students may apply online.

3. The Online Finishing School Program/ Summer Internship Program is free for the participants of Pre-final & Final year students of MITS, Gwalior.

4. The participants outside the Institute may also join the Program on payment basis.

5. This online module will be conducted under the Finishing School Program which will be considered equivalent to Online Internship of Pre-final year students who could not get any Internship during this situation.

6. Duration of this program will be of two weeks which is equivalent to summer Internship period as per AICTE and our Institute policy. Daily no. of hours of online training may be flexible.

7. Certificates will be issued to candidates who have attendance 75% or more and also score more than 60% in the test.

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Finishing School Program (Online Internship)-2020

Name of Department	**Department of Civil Engineering**
Module Name	**Matrix Analysis of Structures**
Module Coordinators	Dr. Sanjay Tiwari
Module Objective	Nowadays almost all moderate size real life structures are analysed using computers. The objective of this online internship is to develop an understanding of the basic principles of the matrix methods of structural analysis, so that they can be efficiently implemented on modern computers. For practical sessions student have to install trial version of required software e.g. MATLAB/STAAD all by themselves in case they do not have a licensed version.
Module Content	Review of Structural Analysis and Matrix Algebra, Basics of displacement method, member stiffness matrices for different type of structural members, Analysis of two-dimensional framed structures: Trusses, Beams, Frames Hands on Session on modelling, applying loads, defining supports and analysis using Software.
Module Methodology	The program will start with various aspects of structural analysis such as equilibrium, compatibility of deformation and constitutive laws, stiffness expressions and displacement method. Further, Various hands-on session is scheduled on freeware trial version of software used in structural analysis like STAAD/MATLAB.
Module Outcome/ Impact	• Identify, formulate and solve engineering problems with stiffness matrices as applied to continuous beams, rigid frames and trusses. • Calculate deflections, reactions and internal forces for trusses, beams and frames using analytical and computer-based procedures • Be able to interpret computer output and validate results using hand calculations
Duration	5 Weeks (30 days)

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Finishing School Program (Online Internship)-2020

Day Wise Schedule				
	Date	**Day**	**Module Contents to be covered/Interactive Session/Assignment/Quiz/Exercises/Daily practice sheets (DPP)/Tutorial/Project etc (10:00 AM onward, 2-3 Hrs/ Day)**	**Faculty**
Week 1	**19/05/2020**	Tue	Introduction to module: Basic concepts of structural analysis-1:	Dr. Sanjay Tiwari
	20/05/2020	Wed	Equilibrium equations, compatibility conditions	Dr. Sanjay Tiwari
	21/05/2020	Thu	Force displacement relations	Dr. Sanjay Tiwari
	22/05/2020	Fri	Internal actions and end displacements	Dr. Sanjay Tiwari
	23/05/2020	Sat	Introduction to stiffness and flexibility	Dr. Sanjay Tiwari
	25/05/2020	Mon	Review of conventional methods	Dr. Sanjay Tiwari
Week 2	**26/05/2020**	Tue	Introduction to matrices	Dr. Sanjay Tiwari
	27/05/2020	Wed	Definition and types of matrices	Dr. Sanjay Tiwari
	28/05/2020	Thu	Matrix operations	Dr. Sanjay Tiwari
	29/05/2020	Fri	Gauss Jordon elimination method	Dr. Sanjay Tiwari
	30/05/2020	Sat	Introduction to MATLAB	Dr. Sanjay Tiwari
	01/06/2020	Mon	Hands on Session on matrix operations in MATLAB-1	Dr. Sanjay Tiwari and Dr. Pankaj Kumar
Week 3	**02/06/2020**	Tue	Hands on Session Matrix operations in MATLAB-2	Dr. Sanjay Tiwari and Dr. Pankaj Kumar
	03/06/2020	Wed	Plane Trusses: Degree of freedom	Dr. Sanjay Tiwari
	04/06/2020	Thu	Global and Local coordinate system	Dr. Sanjay Tiwari
	05/06/2020	Fri	Member stiffness relations in local and global coordinate system	Dr. Sanjay Tiwari
	06/06/2020	Sat	Procedure for analysis of trusses	Dr. Sanjay Tiwari
	08/06/2020	Mon	Introduction to Structural analysis softwares	Dr. Sanjay Tiwari
Week 4	**09/06/2020**	Tue	Analysis of Beams: Degree of freedom	Dr. Sanjay Tiwari
	10/06/2020	Wed	Hands-on session – 3: on analysis of trusses using software: Input data and Interpretation of results	Dr. Sanjay Tiwari and Dr. Pankaj Kumar
	11/06/2020	Thu	Member stiffness relations for beam member in local and global system	Dr. Sanjay Tiwari

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Finishing School Program (Online Internship)-2020

	12/06/2020	Fri	Procedure for analysis of beams	Dr. Sanjay Tiwari
	13/06/2020	Sat	Modelling of beams in softwares: Input data and result interpretations	Dr. Sanjay Tiwari
	15/06/2020	Mon	Hands-on session – 4: on analysis of beams using software: Input data and Interpretation of results	Dr. Sanjay Tiwari and Dr. Pankaj Kumar
Week 5	**16/06/2020**	Tue	Introduction to Plane Frame member	Dr. Sanjay Tiwari
	17/06/2020	Wed	Member stiffness matrices for local and global coordinate system	Dr. Sanjay Tiwari
	18/06/2020	Thu	Procedure of analysis for beams	Dr. Sanjay Tiwari
	19/06/2020	Fri	Hands on Session-5: on analysis of frames using software: Input data and Interpretation of results	Dr. Sanjay Tiwari and Dr. Pankaj Kumar
	20/06/2020	Sat	Concluding Remarks	Dr. Sanjay Tiwari and Dr. Pankaj Kumar
Module Coordinators Email Id and Mobile Number			1) Dr. Sanjay Tiwari– stiwari.fce@mitsgwalior.in (9406587811) 2)Dr. Pankaj Kumar– pankaj437@mitsgwalior.in (9968270408)	

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Finishing School Program (Online Internship)-2020

Eligibility and Important Instructions :-

1. The Online Finishing School Program (Online training/Internship) is designed only for Pre-final & Final Year students of Civil Engineering Department.
2. The student shall have some background of elementary matrix algebra and a keen interest in structural engineering with a prerequisite of at least one course in structural analysis at their prefinal level.

3. The students may apply online.

4. The Online Finishing School Program/ Summer Internship Program is free for the participants of Pre-final & Final year students of MITS, Gwalior.

5. The participants outside the Institute may also join the Program on payment basis.

6. This online module will be conducted under the Finishing School Program which will be considered equivalent to Online Internship of Pre-final year students who could not get any Internship during this situation.

7. Duration of this program will be of four weeks which is equivalent to summer Internship period as per AICTE and our Institute policy. Daily no. of hours of online training may be flexible.

8. Certificates will be issued to candidates who have attendance 75% or more and also score more than 60% in the test.

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Finishing School Program (Online Internship)-2020

Name of Department	**Department of Civil Engineering**
Module Name	**Environmental Engineering Design of Sewage Treatment Plant**
Module Coordinators	1)Prof. Deepak Rastogi 2)Prof. Neha Singh
Module Objective	Design of Sewage Treatment Plant is an important part of Civil Engineering field which effectively involves waste water treatment principles . The objective of this online internship is to give the basic idea about designing and functioning of conventional sewage treatment plant.
Module Content	Introduction of sewarage scheme . Characteristics of sewage . Treatment of sewage , Primary treatment , Secondary or Biological treatment , Tertery treatment . Design of various treatment units i. e. Screening unit , Grit chamber , Primary settling thank . Design of biological treatment units i.e. Trickling filter , Activated Sludge Process , Oxidation Pond , Rotating biological contractor . Design of Tertery treatment units like Removal of Phosphorus and Sulphur . Disinfection of sewage . Layout of sewage treatment plant and its economical design.
Module Methodology	The workshop will start with various aspects of sewage treatment plant design such as primary treatment units designing , design of biological treatment units and Tertery treatment units design and their suitability espect and economics .
Module Outcome/ Impact	• Understand the design aspect of various treatment units used in the Sewage Treatment Plant. • Understand the various design requirements of Sewage manual • Understand the design methods of various treatment units. • Able to design and analyse the economy of the plant.
Duration	5 Weeks (30 days)

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Finishing School Program (Online Internship)-2020

Day Wise Schedule				
	Date	**Day**	**Module Contents to be covered/Interactive Session/Assignment/Quiz/Exercises/Daily practice sheets (DPP)/Tutorial/Project etc (10:00 AM onward, 2-3 Hrs/ Day)**	**Faculty**
Week 1	**19/05/2020**	Tue	Introduction to sewarage scheme .	Prof. Deepak Rastogi
	20/05/2020	Wed	Characteristics of Sewage	
	21/05/2020	Thu	Quantity of Sewage estimation.	
	22/05/2020	Fri	Verious types of treatment units and their purpose	
	23/05/2020	Sat	Design of primary treatment units	
	25/05/2020	Mon	Designing of Grit chamber	
Week 2	**26/05/2020**	Tue	Design of Trickling filter	Pro Deepak Rastogi
	27/05/2020	Wed	Design of Oxidation Pond	Prof.Neha Singh
	28/05/2020	Thu	Design of Activated Sludge Process	Prof. Deepak Rastogi
	29/05/2020	Fri	do.	do.
	30/05/2020	Sat	Design of Rotating biological contractor	do.
	01/06/2020	Mon	do.	do.
Week 3	**02/06/2020**	Tue	Layout of conventional sewage treatment plant	Prof. Neha Singh
	03/06/2020	Wed	Tertery treatment of sewage	Prof. Deepak Rastogi
	04/06/2020	Thu	Removal of Phosphorus and Sulphur from sewage	Prof. Neha Singh
	05/06/2020	Fri	do.	do.
	06/06/2020	Sat	Economy of design	Prof. Deepak Rastogi
	08/06/2020	Mon	do	do.
Week 4	**09/06/2020**	Tue	Practical session for problem solving.	Prof. Deepak Rastogi
	10/06/2020	Wed	do	do.
	11/06/2020	Thu	do	do.
	12/06/2020	Fri	do	do.

Finishing School Program (Online Internship)-2020

	13/06/2020	Sat	do	do.
	15/06/2020	Mon	do	do.
Week 5	**16/06/2020**	Tue	Preparation of the drawings	Prof. Neha Singh
	17/06/2020	Wed	do	Prof Neha Singh
	18/06/2020	Thu	I. do.	do
	19/06/2020	Fri	Finalization of design and drawings of Sewage Treatment Plant	Prof. Deepak Rastogi
	20/06/2020	Sat	Concluding Remarks by all Faculties	All faculty
Module Coordinators Email Id and Mobile Number			1)Prof. Deepak Rastogi deepakrastogi@mitsgwalior.in (9826333895) 2) Prof. Neha Singh. nehasingh@mitsgwalior.in the	

Eligibility and Important Instructions :-

1. The Online Finishing School Program (Online training/Internship) is designed only for Pre-final & Final Year students of Electrical Engineering Department.

2. The students may apply online.

3. The Online Finishing School Program/ Summer Internship Program is free for the participants of Pre-final & Final year students of MITS, Gwalior.

4. The participants outside the Institute may also join the Program on payment basis.

5. This online module will be conducted under the Finishing School Program which will be considered equivalent to Online Internship of Pre-final year students who could not get any Internship during this situation.

6. Duration of this program will be of four weeks which is equivalent to summer Internship period as per AICTE and our Institute policy. Daily no. of hours of online training may be flexible.

7. Certificates will be issued to candidates who have attendance 75% or more and also score more than 60% in the test.

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Civil Engineering Department

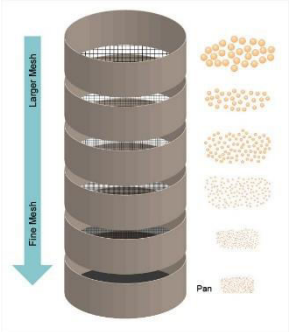
Summer Internship Programme May- June 2020 (B.Tech III Year)

On

"Field Outlook in Geotechnical Engineering Projects"

(Duration: 5 Weeks)

Department of Civil Engineering		
Module Name	**Field Outlook in Geotechnical Engineering Projects**	
Module Discipline	Civil Engineering	
Module Faculty Coordinator	**Dr. Pratibha Singh** **(Specialisation: Geotechnical Engineering)**	
Pre requisite	Basic knowledge of Geotechnical properties of Soil and Foundations	
Max. number of students allowed	40	
Students Workload	Online Lectures	**50 minutes/ Day (For 24 Days)**
Module objective and competence to be acquired	Upon completion of the internship student will be able to:- 1) **Understand** the application of various soil properties in for different projects 2) **Apply** codal provisions in field 3) **Identify** the common causes of errors during field and lab tests 4) **Evaluate** the methods to reduce/ rectify errors at construction site 5) **Understand** different Ground improvement Techniques 6) **Analyse** various problems in construction site and provide suitable improvement technique 7) **Understand** the safety norms in field projects	
Module Description	This internship is intended to impart knowledge about importance of field and lab testing of soils on a construction site. It is designed to keep in mind the need of undergraduate students of Civil Engineering who have enthusiasm to learn the fundamental concepts of field practices in soil mechanics with the help of case studies. A special emphasis has been laid to elaborate points which are generally misunderstood and often causes errors during lab/field tests. Various approach to rectify those errors has also been discussed. A section is devoted to Ground improvement techniques for problematic construction sites. This training course	

<table>
<tr><td colspan="2"></td><td>shall cover both theoretical as well as practical aspects which will help students to see the practical side (actual site conditions) of Geotechnical Engineering.</td></tr>
<tr><td colspan="2">Module content</td><td>❖ Field Tests on soils at a glance
❖ Lab Tests on soils at a glance
❖ Common problems faced during field/lab tests and their solutions
❖ Causes of Errors in field and lab testing
❖ Methods to rectify errors
❖ Application of Lab/ Field Tests in various Geotechnical Engineering projects
❖ Ground Improvement Techniques
❖ Application of codal provisions in Construction site
❖ Case studies on various Geotechnical Engineering Projects
❖ Safety norms in field projects</td></tr>
<tr><td colspan="2">Module methodology</td><td>Online lectures supported by assignment, Virtual lab exercise and homework</td></tr>
<tr><td>Day</td><td>Contact period</td><td>Module contents</td></tr>
<tr><td>1-2</td><td>4</td><td>Laboratory Tests on soils
 
 
1. Moisture Content Determination
2. Grain Size Analysis
3. Liquid & Plastic Limit Tests.
4. Specific Gravity Tests.
5. Permeability Tests
6. Compaction Test.
7. Unconfined Compression Test.
8. Direct Shear Test.
9. Triaxial Shear Test
10. Consolidation test
11. Vane Shear Test
  </td></tr>
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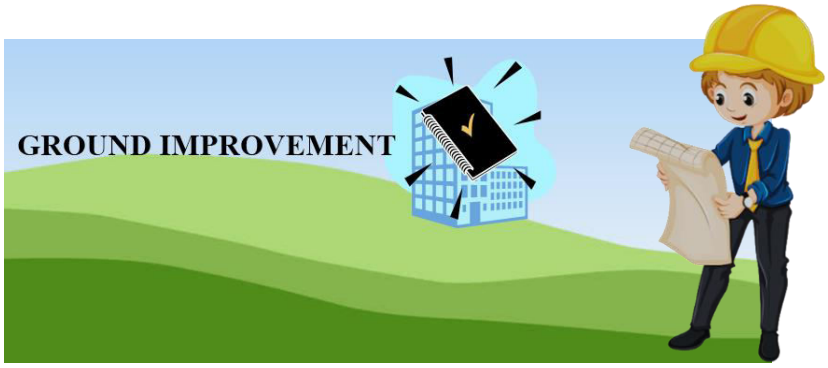
3-4	4	**Field Tests** on soils 1. Field Density and Void ratio Tests 2. Standard penetration test 3. Static cone test 4. Permeability 5. Dynamic cone test 6. Plate Load Test 7. California Bearing 8. Vane Shear Test 9. Soil Investigation/ exploration 10. Field test on Piles 
5-7	6	**Common problems** faced during field/lab tests and their solutions  • Introduction to common problems faced during field and lab testing • Important corrective measures to tackle common problems
8-10	6	**Causes of Errors** in field and lab testing • Causes of errors in Lab tests • Causes of errors while execution of plans on field in projects like Railway embankment, Dams, Bridges, Roads, Foundations of Structures 
11-14	8	Various **Approaches to rectify Errors**  • Rectification methods in Field tests • Various approaches to rectify Errors on field in projects like Railway embankment, Dams, Bridges, Roads, Foundations of Structures with the help of case studies (India and Worldwide)

15-19	10	**Ground Improvement Techniques**  • Introduction to Soil exploration methods • Introduction to basic concept of ground improvement and also know its different techniques • Problematic soils/ sites for construction • Suitable ground improvement Technique
20	2	Essential **Codal provisions** in Soil Mechanics • An introduction of Codes and thumb rules in soil mechanics • Application of these codes in various geotechnical engineering projects मानकः पथप्रदर्शकः Bureau of Indian Standards
20-24	10	**Case Studies** Importance of Geotechnical properties of soil and role of Geotechnical Engineer in different Projects  • Slopes • Foundations Important structures • Pavement Layers • Dams • Railway Embankment

24	2	**Safety norms** in field projects    • Introduction to Safety instructions to be followed at construction site
Total-24	**20 Hrs**	
Assessment/ Evaluation& Grading system		Attendance, Assignments, Quiz, Online Group activities
Module Policy:		All the students are requested to follow the rules and guidelines provided by institute during the internship:
Registration		-------
Dates to remember		Last date of online registration…….
Address for communication		**Dr. Pratibha Singh** Assistant Professor Department of Civil Engineering Madhav Institute of Technology & Science Gola ka Mandir-474005 Mobile-8077138901 Email: pratibhasinghcivil@gmail.com

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Finishing School Program (Online Internship)-2020

Name of Department	**Department of Civil Engineering**
Module Name	**Energy Efficient Building Planning, Design and Evaluation**
Module Coordinators	**1) ANIL KUMAR SAXENA** **2) ALMAS SIDDIQUI**
Module Objective	The planning and design of a building forms an intrinsic phase in constructing a building. The energy consumed by a building can be assessed through many ways. The concept of energy efficient buildings and grading systems have different guidelines in different places. The theme of the module is to know how to evaluate and grade a building based on its energy efficiency with planning concepts and case studies.
Module Content	The module consists of principles of planning like aspect, prospect, etc.; orientation; sun path; features of energy efficient buildings; evaluation methods; guidelines by GRIHA, SVA GRIHA, etc.; practical sessions on how to plan a building keeping these concepts and guidelines in mind, home assignments and discussions on case studies.
Module Outcome/ Impact	The participants will understand the planning concepts of a building with an insight on energy efficiency. The case studies and practical sessions will help them to know about the field practices and real-life problems that occur while constructing or converting a building into an energy efficient building.
Duration	2 WEEKS

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Finishing School Program (Online Internship)-2020

Day Wise Schedule				
	Date	**Day**	**Module Contents to be covered/Interactive Session/Assignment/Quiz/Exercises/Daily practice sheets (DPP)/Tutorial/Project etc (11:00 AM onward, 1-2 Hrs/ Day)**	**Faculty**
Week 1	**18/05/ 2020**	Mon	Principles of Planning (2 hrs L + 2 hrs P + 2 hrs HA) (Aspect, Prospect, Grouping, Privacy, Furniture Requirements)	Anil K. Saxena
	19/05/ 2020	Tue	Principles of Planning (2 hrs L + 2 hrs P + 2 hrs HA) (Roominess, Circulation, Sanitation, Elegance, Flexibility)	Anil K. Saxena, Almas Siddiqui
	20/05/ 2020	Wed	Orientation (2 hrs L + 1 hr P) (Factors affecting orientation, various examples of orientation)	Anil K. Saxena
	21/05/ 2020	Thu	Sun path & Design of sun shades (1 hr L)	Almas Siddiqui
	22/05/ 2020	Fri	Features of Energy Efficient Buildings (2 hrs L) (Energy envelope, features, case study)	Almas Siddiqui
Week 2	**25/05/ 2020**	Mon	Features of Energy Efficient Buildings (2 hrs P) (Energy envelope, features, case study)	Almas Siddiqui
	26/05/ 2020	Tue	Evaluation methods & agencies (1 hr L + 1 hr HA)	Anil K. Saxena
	27/05/ 2020	Wed	GRIHA, SVA GRIHA manual provisions (2 hrs L)	Anil K. Saxena
	28/05/ 2020	Thu	Recent development and case studies (2 hrs L + 2 hrs HA)	Anil K. Saxena
	29/05/ 2020	Fri	Recent development and case studies (1.5 hrs P)	Almas Siddiqui
	30/05/ 2020	Sat	Recent development and case studies (1.5 hrs P)	Anil K. Saxena
Details			L = Lecture, P = Practical, HA= Home Assignment Practical sessions include planning, design and evaluation of buildings with presentation or group discussion methodology which can be done offline once the problem has been discussed and given to students. The end	

Finishing School Program (Online Internship)-2020

	discussion can be done after the students complete the works in that session so as to save their internet data pack. Total Lectures= 17 hours Total Practical sessions= 10 hours Total hours of home assignment= 7 hours Total number of hours= **34.**
Module Coordinators Email Id and Mobile Number	1) Anil Kumar Saxena, Associate Professor M.Tech. VNIT Nagpur, B.E. (Civil) E-Mail: aksaxena@mitsgwalior.in Mobile: +91 94253 41422 2) Almas Siddiqui, Assistant Professor M.Tech. Urban Planning, SVNIT Surat, B.E. (Civil) E-mail: siddiquialmas0@mitsgwalior.in Mobile: _91 76218 62633

Eligibility and Important Instructions

1. The Online Finishing School Program (Online training/Internship) is designed only for Pre-final & Final Year students of Civil Engineering Department.
2. This online module will be conducted under the Finishing School Program which will be considered equivalent to Online Internship of Pre-final year students who could not get any Internship during this situation.
3. There is no fee for the participants of Pre-final & Final year students of MITS, Gwalior.
4. The participants outside the Institute may also join the Program on payment basis.
5. Duration of this program will be of two weeks which is equivalent to summer Internship period as per AICTE and our Institute policy. Daily no. of hours of online training may be flexible.
6. Certificates will be issued to candidates who have *attendance 75*% or more and also *score more than 60% in the test*.

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Name of Department	**Department of Civil Engineering**
Module Name	**OVERVIEW OF PAVEMENT DESIGN AND MATERIALS**
Module Coordinators	1)Dr. MANOJ TRIVEDI 2)Prof. SHASHANK SHARMA
Module Objective	A highway pavement is a structure consisting of superimposed layers of processed materials above the natural soil sub-grade, whose primary function is to distribute the applied vehicle loads to the sub-grade. The pavement structure should be able to provide a surface of acceptable riding quality, adequate skid resistance, favourable light reflecting characteristics, and low noise pollution. The ultimate aim is to ensure that the transmitted stresses due to wheel load are sufficiently reduced, so that they will not exceed bearing capacity of the sub-grade. Two types of pavements are generally recognized as serving this purpose, namely flexible pavements and rigid pavements.
Module Content	Introduction to Bituminous material, test on bitumen, utility of cutback, application of emulsion and tar, Marshal mix design, Various test on subgrade, Aggregate and its impact on pavement design, Design of flexible pavement, real concept of equivalent axle load factor, utility of CBR in pavement design, Design of rigid pavement, real implication of modulus of subgrade, radius of relative stiffness, concept of various stresses develop in rigid pavement.
Module Outcome/ Impact	Pavements form the basic supporting structure in highway transportation. Each layer of pavement has a multitude of functions to perform which has to be duly considered during the design process. Different types of pavements can be adopted depending upon the traffic requirements. Improper design of pavements leads to early failure of pavements affecting the riding quality also.
Duration	2 Weeks

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Day Wise Schedule				
	Date	**Day**	**Module Contents to be covered/Interactive Session/Assignment/Quiz/Exercises/Daily practice sheets (DPP)/Tutorial/Project etc (10:00 AM onward, 1-2 Hrs/ Day)**	**Faculty**
Week 1	**01/06/2020**	Mon	General motivational session	Dr. M.K Trivedi
	02/06/2020	Tue	Introduction to Bituminous material, Utility of cutback, application of emulsion and tar	Prof. Shashank Sharma
	03/06/2020	Wed	Marshal mix design	Prof. Shashank Sharma
	04/06/2020	Thu	Various test on subgrade	Dr. M.K Trivedi
	05/06/2020	Fri	Aggregate and its impact on pavement design	Prof. Shashank Sharma
Week 2	**08/06/2020**	Mon	Design of flexible pavement	Dr. M.K Trivedi
	09/06/2020	Tue	Real concept of equivalent axle load factor	Prof. Shashank Sharma
	10/06/2020	Wed	Utility of CBR in pavement design	Dr. M.K Trivedi
	11/06/2020	Thu	Design of rigid pavement	Prof. Shashank Sharma
	12/06/2020	Fri	Real implication of modulus of subgrade, radius of relative stiffness	Prof. Shashank Sharma
	13/06/2020	Sat	Concept of various stresses develop in rigid pavement	Dr. M.K Trivedi
Module Coordinators Email Id and Mobile Number			1) Dr. M.K Trivedi– manojtrivedi@mitsgwalior.in, (9893009680) 2)Prof. Shashank Sharma- shashanksharma@mitsgwalior.in (9318329265)	

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Finishing School Program (Online Internship)-2020

Eligibility and Important Instructions :-

1. The Online Finishing School Program (Online training/Internship) is designed only for Pre-final & Final Year students of Civil Engineering Department.

2. The students may apply online.

3. The Online Finishing School Program/ Summer Internship Program is free for the participants of Pre-final & Final year students of MITS, Gwalior.

4. The participants outside the Institute may also join the Program on payment basis.

5. This online module will be conducted under the Finishing School Program which will be considered equivalent to Online Internship of Pre-final year students who could not get any Internship during this situation.

6. Duration of this program will be of two weeks which is equivalent to summer Internship period as per AICTE and our Institute policy. Daily no. of hours of online training may be flexible.

7. Certificates will be issued to candidates who have attendance 75% or more and also score more than 60% in the test.