

SYLLABUS/
CURRICULUM



PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE

(Approved by AICTE & Affiliated to Anna University, Chennai)

Madurai - Sivagangal Highway, Arasanoor, Thirumansolai Post, Sivagangai Dt. - 630 561, Tamilnadu
Mobile : 9842102628, 7373002628 Email: info@psyec.edu.in Website : www.psyec.edu.in

City Office : 10, Pandian Saraswathi St, Sivagami Nagar, Narayanapuram, Madurai - 625 014. Telefax- 0452 2682338, Mobile : 98423-02628

DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2022-2023

VACCE2223CT - Computational Tools for Civil Engineering Practice

Objective of the Course

- Gain a comprehensive understanding of the fundamental principles and concepts of software relevant to civil engineering applications.
- Learn how to select, evaluate, and compare different software tools commonly used in civil engineering for tasks such as structural analysis, design, drafting, and project management.

Chapter 1

5

The significance of software applications in civil engineering - tracing the historical evolution - understanding its modern-day importance in engineering practices

Chapter 2

6

The basic principles of software architecture, components, and programming languages relevant to civil engineering applications.

Chapter 3

6

The comparative analysis, - evaluate software tools in civil engineering - structural analysis, design, and drafting

Chapter 4

6

The various structural analysis software - learning modelling techniques and performing static and dynamic analyses

Chapter 5

6

The utilizing software for structural design and optimization, ensuring compliance with design codes and standards.

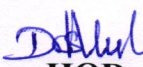
Chapter 6

6

The techniques for managing and visualizing civil engineering data - Geographic Information Systems (GIS) software.

TOTAL HOURS:35


Course-Coordinator


HOD


PRINCIPAL



PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE

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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2022-2023

VACCE2223CT - Computational Tools for Civil Engineering Practice

Course Schedule

Date	Time	TOPICS
02/03/2023	9.00 am to 12.15 pm	The significance of software applications in civil engineering - tracing the historical evolution - understanding its modern-day importance in engineering practices
	1.00 pm to 4.15 pm	
03/03/2023	9.00 am to 12.15 pm	The basic principles of software architecture, components, and programming languages relevant to civil engineering applications.
	1.00 pm to 4.15 pm	
04/03/2023	9.00 am to 12.15 pm	The comparative analysis, - evaluate software tools in civil engineering - structural analysis, design, and drafting
	1.00 pm to 4.15 pm	
05/03/2023	9.00 am to 12.15 pm	The various structural analysis software - learning modelling techniques and performing static and dynamic analyses
	1.00 pm to 4.15 pm	
06/03/2023	9.00 am to 12.15 pm	The utilizing software for structural design and optimization, ensuring compliance with design codes and standards
	1.00 pm to 4.15 pm	
07/03/2023	9.00 am to 12.15 pm	The techniques for managing and visualizing civil engineering data - Geographic Information Systems (GIS) software.
	1.00 pm to 4.15 pm	

Total Hours :35

Tea Break : FN- 11:00 am to 11:15am & AN-03:00 pm to 03:15 pm

Lunch : 12:15 pm to 01:00pm


Course-Coordinator


HOD


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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2022-2023

VACCE2223CT - Computational Tools for Civil Engineering Practice One-page Report

Name of the course : Computational Tools for Civil Engineering Practice

Development Course Code : VACCE2223CT

Course Coordinator : Mr. D. SELVA GANESH, AP / Civil

Date/Duration : 02.03.2023-07.03.2023 — 35 hours

I here affirm that the third-year students of strength 29 have been taught the value-added course title “**Computational Tools for Civil Engineering Practice**” as per the syllabus and completed within the stipulated time duration.

I confirm that the value-added course titled “**Computational Tools for Civil Engineering Practice**” has been conducted in the beginning of the semester and course delivery along with the attendance of the students was recorded.

I confirmed that all the students were actively participated in the course and the eligible students were certified for the course.


Course-Coordinator


HOD


PRINCIPAL

ASSESSMENT PROCEDURE

PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE

ARASANOOR-630561

DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2022-2023

**VACCE2223CT - COMPUTATIONAL TOOLS FOR CIVIL ENGINEERING
PRACTICE**

Assessment Questions with Answer

1. Which software application is commonly used in civil engineering for structural analysis?
 - a) AutoCAD
 - b) MATLAB
 - c) **SAP2000**
 - d) Adobe Photoshop

2. What does BIM stand for in the context of civil engineering software?
 - a) **Building Information Modeling**
 - b) Business Information Management
 - c) Basic Infrastructure Management
 - d) Building Inspection Methodology

3. Which software tool is often used for drafting and design in civil engineering?
 - a) Microsoft Excel
 - b) Google SketchUp
 - c) **Revit**
 - d) Adobe Illustrator

4. What type of analysis does finite element analysis (FEA) software commonly perform in civil engineering?
 - a) **Structural analysis**
 - b) Traffic flow analysis
 - c) Environmental impact analysis
 - d) Financial analysis

5. Which software is frequently used for project scheduling and management in civil engineering?
 - a) **Primavera P6**
 - b) Microsoft Word
 - c) Adobe InDesign
 - d) SolidWorks

6. In civil engineering, what does GIS software typically help in managing and analysing?

- a) Concrete mix designs
- b) Survey data**
- c) Structural calculations
- d) Traffic signal timing

7. What does the term "parametric design" refer to in the context of software used in civil engineering?

- a) Design based on parameters and constraints
- b) Design without any limitations
- c) Design inspired by parametric equations**
- d) Design focusing on aesthetics only

8. Which software is commonly used for analyzing and designing transportation systems?

- a) MATLAB
- b) ETABS
- c) HEC-RAS**
- d) SketchUp

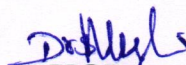
9. What does the acronym CAD stand for in the context of civil engineering software?

- a) Computer-Aided Design**
- b) Civil Analysis Division
- c) Concrete Assessment Database
- d) Construction and Design

10. Which software application is often used for land surveying and mapping in civil engineering projects?

- a) ArcGIS**
- b) Autodesk Maya
- c) ANSYS
- d) MathCAD


Course-Coordinator


HOD


PRINCIPAL

PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE
ARASANOOR-630561

DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2022-2023

VACCE2223CT - COMPUTATIONAL TOOLS FOR CIVIL ENGINEERING
PRACTICE

Assessment Test Paper

REGISTER NUMBER: 9120 20103 303

NAME OF THE STUDENT: ESHWARAN . M -

8
/ 10

1. Which software application is commonly used in civil engineering for structural analysis?
 - a) AutoCAD
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 - c) ~~SAP2000~~
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- d) MathCAD


Course-Cordinator


HOD


PRINCIPAL

Academic Year 2022-2023

Student Performance Sheet

Period of course: 08.03.2022 to 07.03.2022

Duration of Course: 35 hours

VACCE2223CT - COMPUTATIONAL TOOLS FOR CIVIL ENGINEERING PRACTICE

Sl. No	Register Number	Student Name	Assessment Marks
1	912020103001	AATHI RAMAMOORTHY B	90
2	912020103002	ARUN KUMAR S	85
3	912020103003	BHARATHI RAJA P	80
4	912020103005	GAYATHRI G	95
5	912020103006	KARTHIKEYAN P	90
6	912020103007	KRISHNAN M	92
7	912020103008	NARAYANAN P	86
8	912020103009	RATHINAVELPANDIYAN R	90
9	912020103010	SENTAMIL SELVAN M	80
10	912020103011	SRIBRAHMA M	90
11	912020103012	SURYA K	85
12	912020103013	SURYA M	82
13	912020103014	THANUSURAMAN S	95
14	912020103015	VASANTHAKUMAR M	86
15	912020103302	DINESHKUMAR M	75
16	912020103303	ESHWARAN M	80
17	912020103304	HARISANKU M	77
18	912020103305	MAHALINGAM G	76
19	912020103306	MAHESKUMAR S	75
20	912020103307	MUGANATH S	76
21	912020103308	PATTATHARASI S	95
22	912020103309	PRAVINKUMAR R	90
23	912020103310	PREM KUMAR C	80
24	912020103311	PRINCELY S	82
25	912020103312	RAGUL GANDHI K	81
26	912020103314	SARAVANAVEL S	86
27	912020103315	SUDHARSAN VELRAJ G	90
28	912020103316	SUMAN S	95
29	912020103318	VISHNUPRIYAN S	95


Course Coordinator


HOD


Principal

Enrollment
Student Name
List

Academic Year 2022-2023

Student Registration Sheet

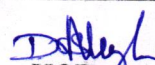
Period of course: 02.03.2022 to 03.03.2022

Duration of Course: 35 hours

VACCE2223CT - COMPUTATIONAL TOOLS FOR CIVIL ENGINEERING PRACTICE

Sl. No	Register Number	Student Name	Signature of the Student
1	912020103001	AATHI RAMAMOORTHY B	Aathi Ramamoorthi
2	912020103002	ARUN KUMAR S	Arun Kumar S.
3	912020103003	BHARATHI RAJA P	Bharathi Raja P.
4	912020103005	GAYATHRI G	Gayathri G.
5	912020103006	KARTHIKEYAN P	P. Karthikeyan
6	912020103007	KRISHNAN M	Krishnan M.
7	912020103008	NARAYANAN P	P. Narayanan
8	912020103009	RATHINAVELPANDIYAN R	Rathinavelpandiyar R.
9	912020103010	SENTAMIL SELVAN M	Sentamil Selvan M.
10	912020103011	SRIBRAHMA M	Sribrahma M.
11	912020103012	SURYA K	SURYA
12	912020103013	SURYA M	M. Surya
13	912020103014	THANUSURAMAN S	S. Thanusuraman
14	912020103015	VASANTHAKUMAR M	M. Vasanthakumar
15	912020103302	DINESHKUMAR M	Dinesh Kumar M.
16	912020103303	ESHWARAN M	Eshwaran M.
17	912020103304	HARISANKU M	Hari Sanku M.
18	912020103305	MAHALINGAM G	G. Mahalingam
19	912020103306	MAHESKUMAR S	S. Mahes Kumar
20	912020103307	MUGANATH S	S. Muganath
21	912020103308	PATTATHARASI S	Patthatharasi S.
22	912020103309	PRAVINKUMAR R	Pravinkumar R.
23	912020103310	PREM KUMAR C	Prem Kumar C.
24	912020103311	PRINCELY S	S. Princely
25	912020103312	RAGUL GANDHI K	RAGUL GANDHI K
26	912020103314	SARAVANAVEL S	S. Saravanel S.
27	912020103315	SUDHARSAN VELRAJ G	G. Sudharsan Velraj
28	912020103316	SUMAN S	S. Sumant.
29	912020103318	VISHNUPRIYAN S	VISHNUPRIYA S.


Course Coordinator


HOD


Principal

STUDENTS ATTENDANCE

PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE, ARASANOOR 630561
DEPARTMENT OF CIVIL ENGINEERING
Academic Year 2022-2023
Student attendance Sheet

Period of course: 02.08.2022 to 07.03.2023

Duration of Course: 35 hours

VACCE2223CT - COMPUTATIONAL TOOLS FOR CIVIL ENGINEERING PRACTICE

Attendance Sheet			Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Sl. No	Register Number	Student Name	09.00 am - 04.15 pm	09.00 am - 04.15 pm	09.00 am - 04.15 pm	09.00 am - 04.15 pm	09.00 am - 04.15 pm	09.00 am - 04.15 pm
1	912020103001	AATHI RAMAMOORTHY B	Aathi	Aathi	Aathi	Aathi	Aathi	Aathi
2	912020103002	ARUN KUMAR S	Arun	Arun	Arun	Arun	Arun	Arun
3	912020103003	BHARATHI RAJA P	P.Raja	P.Raja	P.Raja	P.Raja	P.Raja	P.Raja
4	912020103005	GAYATHRI G	Gayathri	Gayathri	Gayathri	Gayathri	Gayathri	Gayathri
5	912020103006	KARTHIKEYAN P	Karthi	Karthi	Karthi	Karthi	Karthi	Karthi
6	912020103007	KRISHNAN M	Krishnan	Krishnan	Krishnan	Krishnan	Krishnan	Krishnan
7	912020103008	NARAYANAN P	Narayan	Narayan	Narayan	Narayan	Narayan	Narayan
8	912020103009	RATHINAVELPANDIYA N R	Rathina	Rathina	Rathina	Rathina	Rathina	Rathina
9	912020103010	SENTAMIL SELVAN M	M.Selvan	M.Selvan	M.Selvan	M.Selvan	M.Selvan	M.Selvan
10	912020103011	SRIBRAHMA M	Sri	Sri	Sri	Sri	Sri	Sri
11	912020103012	SURYA K	Surya	Surya	Surya	Surya	Surya	Surya
12	912020103013	SURYA M	Surya	Surya	Surya	Surya	Surya	Surya
13	912020103014	THANUSURAMAN S	S.Thanusa	S.Thanusa	S.Thanusa	S.Thanusa	S.Thanusa	S.Thanusa
14	912020103015	VASANTHAKUMAR M	Vasanth	Vasanth	Vasanth	Vasanth	Vasanth	Vasanth
15	912020103302	DINESHKUMAR M	Dinesh	Dinesh	Dinesh	Dinesh	Dinesh	Dinesh
16	912020103303	ESHWARAN M	Eswaran	Eswaran	Eswaran	Eswaran	Eswaran	Eswaran
17	912020103304	HARISANKU M	Hari	Hari	Hari	Hari	Hari	Hari
18	912020103305	MAHALINGAM G	G.Mahalingam	G.Mahalingam	G.Mahalingam	G.Mahalingam	G.Mahalingam	G.Mahalingam
19	912020103306	MAHESKUMAR S	S.Mahesh	S.Mahesh	S.Mahesh	S.Mahesh	S.Mahesh	S.Mahesh
20	912020103307	MUGANATH S	Muganath	Muganath	Muganath	Muganath	Muganath	Muganath
21	912020103308	PATTATHARASI S	S.Pattatharasi	S.Pattatharasi	S.Pattatharasi	S.Pattatharasi	S.Pattatharasi	S.Pattatharasi
22	912020103309	PRAVINKUMAR R	R.Pravin	R.Pravin	R.Pravin	R.Pravin	R.Pravin	R.Pravin
23	912020103310	PREM KUMAR C	Preman	Preman	Preman	Preman	Preman	Preman
24	912020103311	PRINCELY S	S.Prince	S.Prince	S.Prince	S.Prince	S.Prince	S.Prince
25	912020103312	RAGUL GANDHI K	Ragul	Ragul	Ragul	Ragul	Ragul	Ragul

26	912020103314	SARAVANA VEL S	Saravana	Saravana	Saravana	Saravana	Saravana	Saravana
27	912020103315	SUDHARSAN VELRAJ G	Sudh	Sudh	Sudh	Sudh	Sudh	Sudh
28	912020103316	SUMAN S	Su	Su	Su	Su	Su	Su
29	912020103318	VISHNUPRIYAN S	Vish	Vish	Vish	Vish	Vish	Vish

Tea Break : FN- 11:00 am to 11:15am & AN-03:00 pm to 03:15 pm

Lunch : 12:15 pm to 01:00pm


Course Coordinator


HOD


Principal

MODEL
CERTIFICATES

PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE

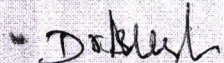
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Value added course on
Computational Tools for Civil Engineering Practice
Organized by
DEPARTMENT OF CIVIL ENGINEERING

CERTIFICATE

This is to Certify that SURYA-M from third year students has participated in the value-added course on **Computational Tools for Civil Engineering Practice** by the Department of Civil Engineering from 02.03.2023 to 07.03.2023 (35 Hours) at Pandian Saraswathi Yadav Engineering College, Sivagangai.


Dr. MEENAKSHI SUDARVIZHI
HOD


Dr. R. RAJA
PRINICIPAL

PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE

Approved by AICTE & Affiliated to Anna University, Chennai.

Arasanoor, Thirumansolai Post, Sivagangai – Madurai Highway, Tamilnadu – 630 561

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Computational Tools for Civil Engineering Practice
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CERTIFICATE

This is to Certify that *Surya-K* from third year students has participated in the value-added course on **Computational Tools for Civil Engineering Practice** by the Department of Civil Engineering from 02.03.2023 to 07.03.2023 (35 Hours) at Pandian Saraswathi Yadav Engineering College, Sivagangai.

Dr. Meenakshi Sudarvizhi
Dr. MEENAKSHI SUDARVIZHI
HOD

Dr. R. Raja
Dr. R. RAJA
PRINCIPAL

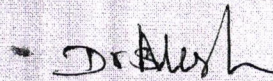
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Arasanoor, Thirumansolai Post, Sivagangai – Madurai Highway, Tamilnadu - 630 561

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Computational Tools for Civil Engineering Practice
Organized by
DEPARTMENT OF CIVIL ENGINEERING

CERTIFICATE

This is to Certify that SRI BRAHMA M from third year students has participated in the value-added course on **Computational Tools for Civil Engineering Practice** by the Department of Civil Engineering from 02.03.2023 to 07.03.2023 (35 Hours) at Pandian Saraswathi Yadav Engineering College, Sivagangai.


Dr. MEENAKSHI SUDARVIZHI
HOD


Dr. R. RAJA
PRINCIPAL