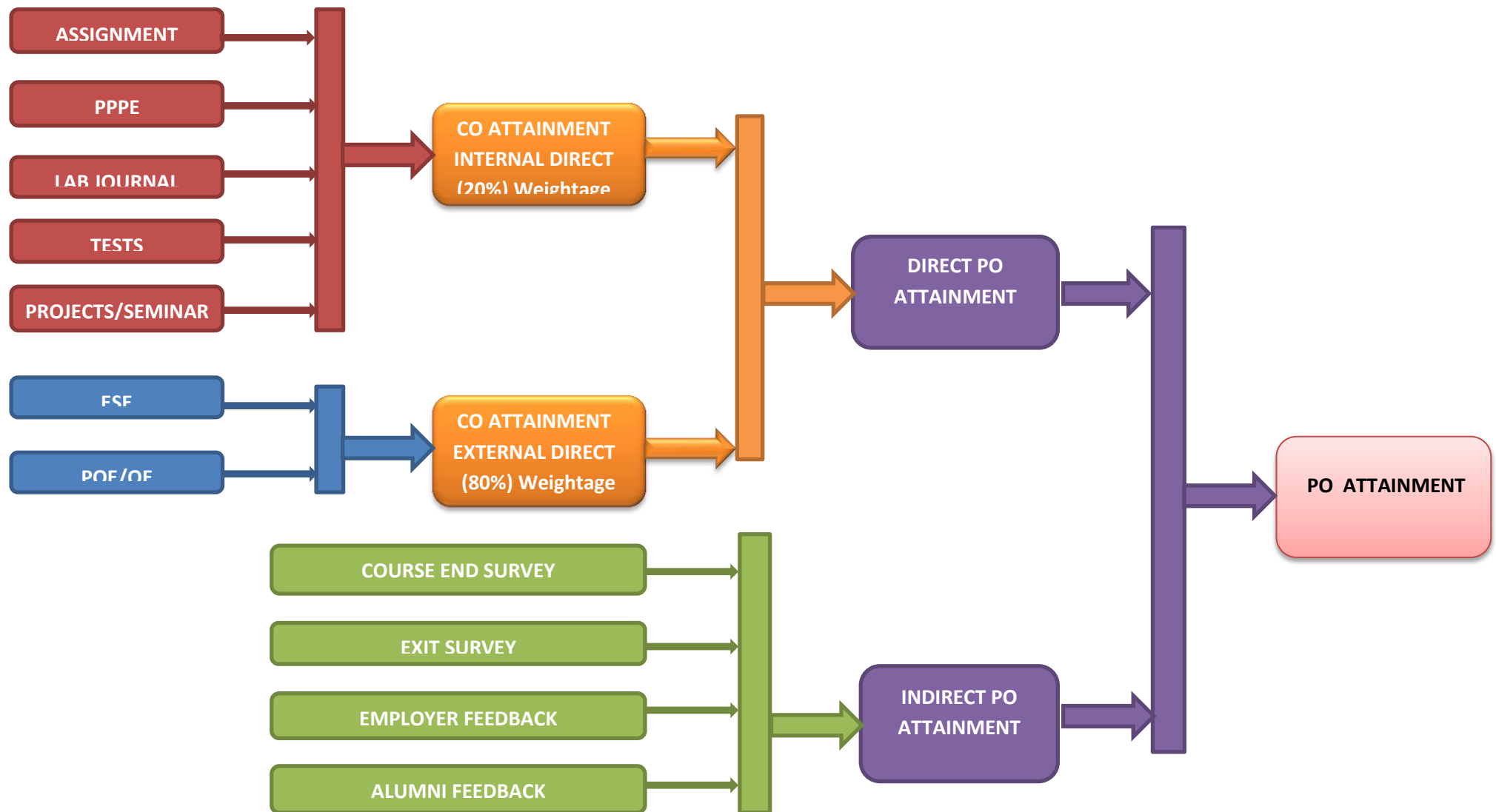




**Shri Vithal Education & Research Institute's
College of Engineering, Pandharpur**

2.6.2 Attainment of Program Outcomes and Course Outcomes

COURSE AND PROGRAM OUTCOME ASSESSMENT PROCESS



**TOOL-CO-PO – PSO LINKING
(THEORY)**

Course

Course Outcomes

Performance Indicators

competencies

Program Outcomes

Highway and Tunnel Engineering

- Predict The Ideal Alignment For Highways After Thorough Understanding of Planning And Different Surveys
- Design Various Geometric Elements of Highway As Per IRC Standards
- Select The Pavement Materials Through Various Tests In The Laboratory And Design The Crust Thickness of Flexible And Rigid Pavements As Per IRC Standards.
- Design Different Layers of Flexible And Rigid Pavement As Per IRC Standards.
- Illustrate The Construction Process And Also Suggest Maintenance Activities For Flexible And Rigid Pavement.
- Select Appropriate Method of Tunnel Construction In Different Types of Soils.

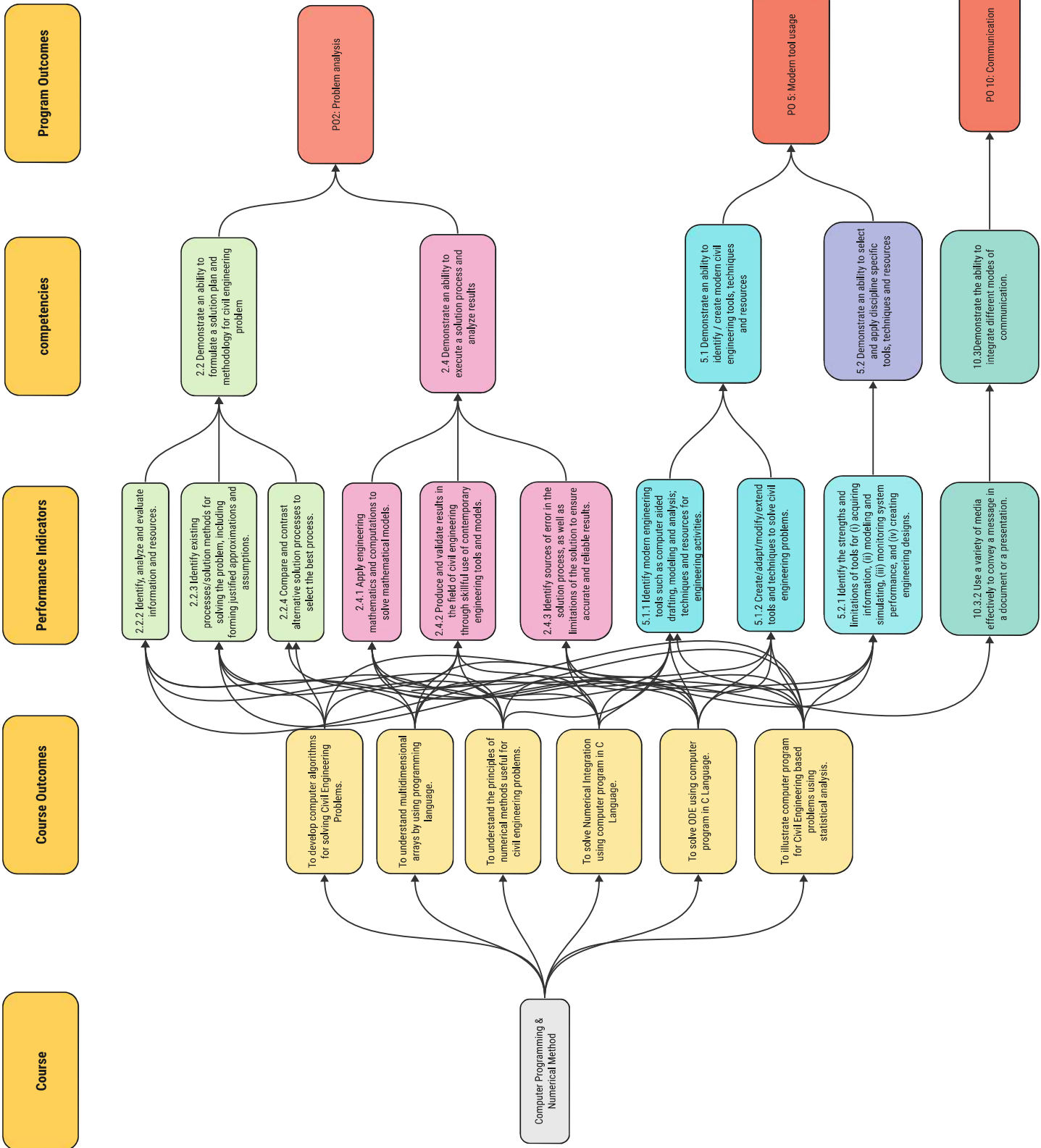
- 3.1.1 Recognize that need analysis is key to good problem definition
- 3.1.3 Extract engineering information, requirements from relevant engineering Codes and Standards such as Indian Standard codes, Indian Standard Special Publications, and various Standard Handbooks of civil engineering
- 3.1.4 Explore and synthesize civil engineering requirements considering health, safety, risks, and environmental, cultural and societal issues.
- 3.2.1 Apply formal idea generation tools to develop multiple engineering design solutions
- 3.2.3 Identify suitable criteria for evaluation of alternate design solutions
- 3.4.2 Generate information through appropriate tests to improve or revise design.
- 4.1.1 Define a problem, its scope and importance for purposes of investigation.
- 4.1.2 Examine the relevant methods, tools and techniques of experiment design, system calibration, data acquisition, analysis and presentation
- 4.1.3 Apply appropriate instrumentation and/or software tools to make measurements of physical quantities
- 4.2.1 Design and develop experimental approach, specify appropriate equipment and procedures. design solutions
- 4.3.1 Use appropriate procedures, tools and techniques to conduct experiments and collect data.

- 3.1 Demonstrate an ability to define a complex/open-ended problem in civil engineering terms
- 3.2 Demonstrate an ability to generate a diverse set of alternative design solutions
- 3.4 Demonstrate an ability to advance an engineering design to defined end state
- 4.1 Demonstrate an ability to conduct investigations of technical issues consistent with their level of knowledge and understanding
- 4.2 Demonstrate an ability to design experiments to solve open-ended problems
- 4.3 Demonstrate an ability to analyze data and reach a valid conclusion

PO 3: Design/Development of Solutions

PO4: Conduct investigations of complex problems

**TOOL-CO-PO – PSO LINKING
(LAB PRACTICALS)**



**Course Outcomes and Program
Outcomes Attainment Sheets Generated
by Rwork (LMS)**

COURSE CO INFORMATION

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR
COURSE CO INFORMATION REPORT
ACADEMIC YEAR: 2022-23
PROGRAM: UNDER GRADUATE IN CIVIL ENGINEERING
CLASS: SECOND YEAR
SEMESTER: SEMESTER II
DIVISION: A
COURSE: STRUCTURAL MECHANICS-II (CE43C)

Sr. No.	CO Code	CO Statements	Bloom's Level
1	CE43C.1	SOLVE THE PROBLEMS OF COLUMNS WITH DIFFERENT LOADING CONDITIONS	BL3 APPLY
2	CE43C.2	CALCULATE SLOPE AND DEFLECTION OF BEAMS UNDER DIFFERENT LOADING CONDITIONS	BL3 APPLY
3	CE43C.3	SOLVE THE PROBLEMS OF DETERMINATE ARCHES	BL3 APPLY
4	CE43C.4	CALCULATE THE DEGREE OF STATIC AND KINEMATIC INDETERMINANCY	BL3 APPLY
5	CE43C.5	ANALYSE INDETERMINATE BEAMS AND FRAMES USING FORCE METHOD	BL4 ANALYZE
6	CE43C.6	ANALYSE INDETERMINATE BEAMS AND FRAMES USING DISPLACEMENT METHOD	BL4 ANALYZE

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR
COURSE PO MAPPING INDEX REPORT
ACADEMIC YEAR: 2022-23
DEPARTMENT: CIVIL ENGINEERING
PROGRAM: UNDER GRADUATE IN CIVIL ENGINEERING
CLASS: SECOND YEAR
DIVISION: A
SEMESTER: SEMESTER II
COURSE: STRUCTURAL MECHANICS-II (CE43C)

Sr. No.	CO Code	CO Statement	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	CE43C.1	SOLVE THE PROBLEMS OF COLUMNS WITH DIFFERENT LOADING CONDITIONS	NA	3	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	NA
2	CE43C.2	CALCULATE SLOPE AND DEFLECTION OF BEAMS UNDER DIFFERENT LOADING CONDITIONS	NA	3	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	NA
3	CE43C.3	SOLVE THE PROBLEMS OF DETERMINATE ARCHES	NA	3	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	NA
4	CE43C.4	CALCULATE THE DEGREE OF STATIC AND KINEMATIC INDETERMINANCY	NA	3	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	NA
5	CE43C.5	ANALYSE INDETERMINATE BEAMS AND FRAMES USING FORCE METHOD	NA	3	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	NA
6	CE43C.6	ANALYSE INDETERMINATE BEAMS AND FRAMES USING DISPLACEMENT METHOD	NA	3	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	NA

Course PO Matrix

Sr. No.	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	CE43C	STRUCTURAL MECHANICS-II	NA	3	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	NA

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR
COURSE-CO ATTAINMENT
DEPARTMENT: CIVIL ENGINEERING
PROGRAM: UNDER GRADUATE IN CIVIL ENGINEERING
CLASS: SECOND YEAR
DIVISION: A
SEMESTER: SEMESTER II
COURSE : STRUCTURAL MECHANICS-II (CE43C)
ACADEMIC YEAR: 2022-23

STRUCTURAL MECHANICS-II (CE43C) Co Attainment SECOND YEAR Div.- A for A.Y - 2022-23

Attainment through Board Examination Weightage (%): 80

Sr. No.	Tools	CE43C.1		CE43C.2		CE43C.3		CE43C.4		CE43C.5		CE43C.6	
		Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment
1	ESE	3	3	3	3	3	3	3	3	3	3	3	3
Target and Attainment of External Assessment		3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

Attainment through Internal Assessment Weightage (%): 20

Sr. No.	Tools	CE43C.1		CE43C.2		CE43C.3		CE43C.4		CE43C.5		CE43C.6	
		Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment
1	ISE-1	3	3	3	3	NA	NA	NA	NA	NA	NA	NA	NA
2	OBT-1	3	3	3	3	NA	NA	NA	NA	NA	NA	NA	NA
3	THT-1	NA	NA	NA	NA	NA	NA	NA	NA	3	3	3	3
4	ISE-2	NA	NA	NA	NA	3	3	3	3	NA	NA	NA	NA
5	OBT-2	NA	NA	NA	NA	3	3	3	3	NA	NA	NA	NA
6	ISE-3	NA	NA	NA	NA	NA	NA	NA	NA	3	2	3	0
7	OBT-3	NA	NA	NA	NA	NA	NA	NA	NA	3	3	3	3
8	UT-1	3	3	3	3	NA	NA	NA	NA	NA	NA	NA	NA
9	UT-2	NA	NA	NA	NA	3	2	3	0	NA	NA	NA	NA
10	UT-3	NA	NA	NA	NA	NA	NA	NA	NA	3	3	3	3
11	ASSIGNMENT	3	3	3	3	3	3	3	3	3	3	3	3
12	TUTORIAL	3	3	3	3	3	3	3	3	3	3	3	3
13	PPPE	3	3	3	3	3	3	3	3	3	3	3	3
Target and Attainment of Internal Assessment		3.00	3.00	3.00	3.00	3.00	2.83	3.00	2.50	3.00	2.86	3.00	2.57

Overall Course CO Attainment

Sr. No.	Tool Type	CE43C.1		CE43C.2		CE43C.3		CE43C.4		CE43C.5		CE43C.6		Overall Attainment	
		Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment	Target	Attainment
1	Attainment through Board Exam	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
2	Attainment through Internal Assessment	3.00	3.00	3.00	3.00	3.00	2.83	3.00	2.50	3.00	2.86	3.00	2.57	3.00	2.79
Co Target and Direct Attainment		3.00	3.00	3.00	3.00	3.00	2.97	3.00	2.90	3.00	2.97	3.00	2.91	3.00	2.96

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR
TOOL CO ATTAINMENT REPORT
 ACADEMIC YEAR: 2022-23
 DEPARTMENT: CIVIL ENGINEERING
 PROGRAM: UNDER GRADUATE IN CIVIL ENGINEERING
 CLASS: SECOND YEAR
 DIVISION: A
 COURSE: STRUCTURAL MECHANICS-II (CE43C)
 TOOL: ESE
 TOOL MAX. MARKS: 70

PRN NO.	Exam Seat No.	Student Code	Name of Student	Obtained Marks
202101053015889	-	211CE11008	SAYLI VIJAY ASHTUL	33
202201053044293	-	221CE12003	AISHWARYA ROHIDAS CHAVAN	43
202101053016558	-	211CE11029	NAMRATA DINKAR CHAVARE	34
202101053016667	-	211CE11023	SANIKA GAJANAN DESHMUKHE	28
202201053044272	-	221CE12024	KAJAL SHRAVAN KAMBLE	34
202101053016659	-	211CE11019	PRIYANKA PRATAP KARANDE	31
202101053016789	-	211CE11025	RUTUJA MAHESH KAWADE	29
202201053044526	-	221CE12022	PRIYANKA IRANNA KOLI	30
202101053016839	-	211CE11026	AISHWARYA PRADIP KUMBHAR	30
202101053016798	-	211CE11018	DIVYA RAJENDRA LATAKE	36
202101053016661	-	211CE11005	AAKANKSHA JAGANNATH MANE	42
202101053016617	-	211CE11012	POOJA DADASAHEB NAGANE	28
202101053016625	-	211CE11022	SNEHAL NAVNATH RONGE	37
202101053016860	-	211CE11010	ALVIRA AMIN SHAIKH	21
202101053016610	-	211CE11032	ANISHA AMAR SURVASE	36
202201053044335	-	221CE12038	SHIVALINGAMMA CHANDRAKANT TENGALE	34
202101053016600	-	211CE11001	BAPU SADASHIV ANUSE	28
202101053016831	-	211CE11014	RAMESH BAPU BANDGAR	30
202101053016834	-	211CE11004	AJAY BHAGWAT BANSODE	30
202101053016657	-	211CE11031	PRATHMESH LAXMAN CHAVAN	36
202101053016849	-	211CE11030	SWARUP RAJARAM CHAVAN	29
202101053016578	-	211CE11011	SWAPNIL MAHADEV DHULAGUDE	30
202101053016724	-	211CE11007	VISHWAJEET SANJAY GHADGE	31
202201053044379	-	221CE12040	SAMARTH PRAKASH HIPPARGI	36
202101053016729	-	211CE11021	VITTHAL SAINATH HOTKAR	34

202101053015906	-	211CE11017	PRATIK DADA KARE	29
202101053016869	-	211CE11028	ABHIJIT ASHOK KHALADKAR	28
202201053044314	-	221CE12035	SANKET CHANDRAKANT LENDAVE	28
202101053016716	-	211CE11013	GOPAL DATTA MADANE	30
202201053044383	-	221CE12045	RAHUL MANAGENI MASHALE	28
202101053016723	-	211CE11003	TUKARAM SHANKAR METAKARI	51
202201053044347	-	221CE12015	AVINASH SHARANAPPA NILGAR	35
202201053044356	-	221CE12021	VIGHNAHAR SHARAD NILGAR	29
202201053044342	-	221CE12005	ABHISHEK SURESH NIMBAL	34
202201053044380	-	221CE12051	YASH SATISH NIMBALKAR	32
202201053044300	-	221CE12058	MAHESH LAXMAN PADVALE	28
202101053016921	-	211CE11027	OM VIVEKANAND PATIL	29
202101053016897	-	211CE11015	RAJ MOHAN RONGE	31
202101053016926	-	211CE11002	AKASH SUBHASH SHEGAR	30
202101053016854	-	211CE11009	DATTATRAY MARUTI SHEJAL	28
202101053016900	-	211CE11024	YUVRAJ SITARAM SHINDE	31
202201053044359	-	221CE12047	SURESH BHIMANNA SUNAGAR	28
202201053044366	-	221CE12028	BHEEMASHANKAR RAJASHEKHAR TUKAMALI	43
202201053044360	-	221CE12039	SHRAVAN SURYAKANT WAGHAMODE	32

Number of Students: 44

Tool CO Attainment

Target Level(%): 40

Attainment Level

(Percentage of students scoring Marks ≥ 60) = Level 1

(Percentage of students scoring Marks ≥ 70) = Level 2

(Percentage of students scoring Marks ≥ 80) = Level 3

	Overall					
No. of Students achieving Target Level	43					
No. of Applicable Students	44					
% Students achieving Target Level	97.73					
Attainment	3					
	Linked CO					
	CE43C.1	CE43C.2	CE43C.3	CE43C.4	CE43C.5	CE43C.6
Attainment	3	3	3	3	3	3

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR

TOOL CO ATTAINMENT REPORT

ACADEMIC YEAR: 2022-23

DEPARTMENT: CIVIL ENGINEERING

PROGRAM: UNDER GRADUATE IN CIVIL ENGINEERING

CLASS: SECOND YEAR

DIVISION: A

COURSE: STRUCTURAL MECHANICS-II (CE43C)

TOOL NAME: ISE-1

TOOL MAX. MARKS: 20

PRN NO.	Student Code	Name of Student	Linked CO	CE43C.1	CE43C.2	CE43C.1	CE43C.2	CE43C.1			CE43C.2		
			Max. Marks	2	2	8	8						
			Q. No. / Total Obtained Marks					Max. Marks	Obtained Marks	% Marks	Max. Marks	Obtained Marks	% Marks
			Q1	Q2	Q3	Q4							
202101053015889	211CE11008	SAYLI VIJAY ASHTUL	20	2	2	8	8	10	10	100	10	10	100
202201053044293	221CE12003	AISHWARYA ROHIDAS CHAVAN	18	2	1	7	8	10	9	90.00	10	9	90.00
202101053016558	211CE11029	NAMRATA DINKAR CHAVARE	20	2	2	8	8	10	10	100	10	10	100
202101053016667	211CE11023	SANIKA GAJANAN DESHMUKHE	19	2	1	8	8	10	10	100	10	9	90.00
202201053044272	221CE12024	KAJAL SHRAVAN KAMBLE	16	1	1	6	8	10	7	70.00	10	9	90.00
202101053016659	211CE11019	PRIYANKA PRATAP KARANDE	18	2	2	6	8	10	8	80.00	10	10	100
202101053016789	211CE11025	RUTUJA MAHESH KAWADE	10	2	2	6	0	10	8	80.00	10	2	20.00
202201053044526	221CE12022	PRIYANKA IRANNA KOLI	17	1	1	8	7	10	9	90.00	10	8	80.00
202101053016839	211CE11026	AISHWARYA PRADIP KUMBHAR	11	1	2	8	0	10	9	90.00	10	2	20.00
202101053016798	211CE11018	DIVYA RAJENDRA LATAKE	20	2	2	8	8	10	10	100	10	10	100
202101053016661	211CE11005	AAKANKSHA JAGANNATH MANE	18	1	1	8	8	10	9	90.00	10	9	90.00
202101053016617	211CE11012	POOJA DADASAHEB NAGANE	19	2	2	7	8	10	9	90.00	10	10	100
202101053016625	211CE11022	SNEHAL NAVNATH RONGE	20	2	2	8	8	10	10	100	10	10	100
202101053016860	211CE11010	ALVIRA AMIN SHAIKH	13	2	2	4	5	10	6	60.00	10	7	70.00
202101053016610	211CE11032	ANISHA AMAR SURVASE	14	2	1	8	3	10	10	100	10	4	40.00
202201053044335	221CE12038	SHIVALINGAMMA CHANDRAKANT TENGALE	17	2	2	8	5	10	10	100	10	7	70.00
202101053016600	211CE11001	BAPU SADASHIV ANUSE	12	2	2	8	0	10	10	100	10	2	20.00
202101053016831	211CE11014	RAMESH BAPU BANDGAR	17	2	2	5	8	10	7	70.00	10	10	100
202101053016834	211CE11004	AJAY BHAGWAT BANSODE	13	1	1	4	7	10	5	50.00	10	8	80.00
202101053016657	211CE11031	PRATHMESH LAXMAN CHAVAN	19	1	2	8	8	10	9	90.00	10	10	100
202101053016849	211CE11030	SWARUP RAJARAM CHAVAN	12	2	2	7	1	10	9	90.00	10	3	30.00
202101053016578	211CE11011	SWAPNIL MAHADEV DHULAGUDE	13	1	0	6	6	10	7	70.00	10	6	60.00
202101053016724	211CE11007	VISHWAJEET SANJAY GHADGE	9	2	1	6	0	10	8	80.00	10	1	10.00
202201053044379	221CE12040	SAMARTH PRAKASH HIPPARGI	20	2	2	8	8	10	10	100	10	10	100
202101053016729	211CE11021	VITTHAL SAINATH HOTKAR	14	2	2	5	5	10	7	70.00	10	7	70.00

202101053015906	211CE11017	PRATIK DADA KARE	12	2	2	2	6	10	4	40.00	10	8	80.00
202101053016869	211CE11028	ABHJIT ASHOK KHALADKAR	11	1	2	0	8	10	1	10.00	10	10	100
202201053044314	221CE12035	SANKET CHANDRAKANT LENDAVE	20	2	2	8	8	10	10	100	10	10	100
202101053016716	211CE11013	GOPAL DATTA MADANE	20	2	2	8	8	10	10	100	10	10	100
202201053044383	221CE12045	RAHUL MANAGENI MASHALE	18	2	2	8	6	10	10	100	10	8	80.00
202101053016723	211CE11003	TUKARAM SHANKAR METAKARI	8	2	2	3	1	10	5	50.00	10	3	30.00
202201053044347	221CE12015	AVINASH SHARANAPPA NILGAR	18	1	1	8	8	10	9	90.00	10	9	90.00
202201053044356	221CE12021	VIGHNAHAR SHARAD NILGAR	18	1	1	8	8	10	9	90.00	10	9	90.00
202201053044342	221CE12005	ABHISHEK SURESH NIMBAL	19	1	2	8	8	10	9	90.00	10	10	100
202201053044380	221CE12051	YASH SATISH NIMBALKAR	20	2	2	8	8	10	10	100	10	10	100
202201053044300	221CE12058	MAHESH LAXMAN PADVALE	20	2	2	8	8	10	10	100	10	10	100
202101053016921	211CE11027	OM VIVEKANAND PATIL	17	2	2	6	7	10	8	80.00	10	9	90.00
202101053016897	211CE11015	RAJ MOHAN RONGE	17	2	2	6	7	10	8	80.00	10	9	90.00
202101053016926	211CE11002	AKASH SUBHASH SHEGAR	19	2	2	8	7	10	10	100	10	9	90.00
202101053016854	211CE11009	DATTATRAY MARUTI SHEJAL	11	2	2	3	4	10	5	50.00	10	6	60.00
202101053016900	211CE11024	YUVRAJ SITARAM SHINDE	18	2	2	7	7	10	9	90.00	10	9	90.00
202201053044359	221CE12047	SURESH BHIMANNA SUNAGAR	17	1	2	6	8	10	7	70.00	10	10	100
202201053044366	221CE12028	BHEEMASHANKAR RAJASHEKHAR TUKAMALI	19	1	2	8	8	10	9	90.00	10	10	100
202201053044360	221CE12039	SHRAVAN SURYAKANT WAGHAMODE	18	2	2	6	8	10	8	80.00	10	10	100

Number of Students: 44

Tool CO Attainment

Target Level(%): 60

Attainment Level

(Percentage of students scoring Marks ≥ 60) = Level 1

(Percentage of students scoring Marks ≥ 70) = Level 2

(Percentage of students scoring Marks ≥ 80) = Level 3

Linked CO	CE43C.1	CE43C.2
No. of Students achieving Target Level	39	37
No. of Applicable Students	44	44
% Students achieving Target Level	88.64	84.09
Attainment	3	3

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR**TOOL CO ATTAINMENT REPORT**

ACADEMIC YEAR: 2022-23

DEPARTMENT: CIVIL ENGINEERING

PROGRAM: UNDER GRADUATE IN CIVIL ENGINEERING

CLASS: SECOND YEAR

DIVISION: A

COURSE: STRUCTURAL MECHANICS-II (CE43C)

TOOL NAME: OBT-1

TOOL MAX. MARKS: 20

PRN NO.	Student Code	Name of Student	Linked CO	CE43 C.1	CE43 C.2	CE43C.1			CE43C.2		
			Max. Marks	10	10						
			Q. No. / Total Obtained	Q1	Q2	Max. Marks	Obt. Marks	% Marks	Max. Marks	Obt. Marks	% Marks
202101053015889	211CE11008	SAYLI VIJAY ASHTUL	12	6	6	10	6	60.00	10	6	60.00
202201053044293	221CE12003	AISHWARYA ROHIDAS CHAVAN	19	10	9	10	10	100	10	9	90.00
202101053016558	211CE11029	NAMRATA DINKAR CHAVARE	19	10	9	10	10	100	10	9	90.00
202101053016667	211CE11023	SANIKA GAJANAN DESHMUKHE	17	9	8	10	9	90.00	10	8	80.00
202201053044272	221CE12024	KAJAL SHRAVAN KAMBLE	19	10	9	10	10	100	10	9	90.00
202101053016659	211CE11019	PRIYANKA PRATAP KARANDE	18	10	8	10	10	100	10	8	80.00
202101053016789	211CE11025	RUTUJA MAHESH KAWADE	19	10	9	10	10	100	10	9	90.00
202201053044526	221CE12022	PRIYANKA IRANNA KOLI	19	10	9	10	10	100	10	9	90.00
202101053016839	211CE11026	AISHWARYA PRADIP KUMBHAR	17	9	8	10	9	90.00	10	8	80.00
202101053016798	211CE11018	DIVYA RAJENDRA LATAKE	18	9	9	10	9	90.00	10	9	90.00
202101053016661	211CE11005	AAKANKSHA JAGANNATH MANE	17	8	9	10	8	80.00	10	9	90.00
202101053016617	211CE11012	POOJA DADASAHEB NAGANE	19	10	9	10	10	100	10	9	90.00

202101053016625	211CE11022	SNEHAL NAVNATH RONGE	19	10	9	10	10	100	10	9	90.00
202101053016860	211CE11010	ALVIRA AMIN SHAIKH	19	10	9	10	10	100	10	9	90.00
202101053016610	211CE11032	ANISHA AMAR SURVASE	19	10	9	10	10	100	10	9	90.00
202201053044335	221CE12038	SHIVALINGAMMA CHANDRAKANT TENGALE	18	9	9	10	9	90.00	10	9	90.00
202101053016600	211CE11001	BAPU SADASHIV ANUSE	17	8	9	10	8	80.00	10	9	90.00
202101053016831	211CE11014	RAMESH BAPU BANDGAR	19	10	9	10	10	100	10	9	90.00
202101053016834	211CE11004	AJAY BHAGWAT BANSODE	19	10	9	10	10	100	10	9	90.00
202101053016657	211CE11031	PRATHMESH LAXMAN CHAVAN	19	10	9	10	10	100	10	9	90.00
202101053016849	211CE11030	SWARUP RAJARAM CHAVAN	19	10	9	10	10	100	10	9	90.00
202101053016578	211CE11011	SWAPNIL MAHADEV DHULAGUDE	19	10	9	10	10	100	10	9	90.00
202101053016724	211CE11007	VISHWAJEET SANJAY GHADGE	19	10	9	10	10	100	10	9	90.00
202201053044379	221CE12040	SAMARTH PRAKASH HIPPARGI	19	10	9	10	10	100	10	9	90.00
202101053016729	211CE11021	VITTHAL SAINATH HOTKAR	19	10	9	10	10	100	10	9	90.00
202101053015906	211CE11017	PRATIK DADA KARE	17	8	9	10	8	80.00	10	9	90.00
202101053016869	211CE11028	ABHIJIT ASHOK KHALADKAR	19	10	9	10	10	100	10	9	90.00
202201053044314	221CE12035	SANKET CHANDRAKANT LENDAVE	19	9	10	10	9	90.00	10	10	100
202101053016716	211CE11013	GOPAL DATTA MADANE	17	8	9	10	8	80.00	10	9	90.00
202201053044383	221CE12045	RAHUL MANAGENI MASHALE	20	10	10	10	10	100	10	10	100
202101053016723	211CE11003	TUKARAM SHANKAR METAKARI	19	10	9	10	10	100	10	9	90.00
202201053044347	221CE12015	AVINASH SHARANAPPA NILGAR	19	10	9	10	10	100	10	9	90.00
202201053044356	221CE12021	VIGHNAHAR SHARAD NILGAR	19	9	10	10	9	90.00	10	10	100
202201053044342	221CE12005	ABHISHEK SURESH NIMBAL	20	10	10	10	10	100	10	10	100
202201053044380	221CE12051	YASH SATISH NIMBALKAR	19	9	10	10	9	90.00	10	10	100
202201053044300	221CE12058	MAHESH LAXMAN PADVALE	20	10	10	10	10	100	10	10	100
202101053016921	211CE11027	OM VIVEKANAND PATIL	19	9	10	10	9	90.00	10	10	100

202101053016897	211CE11015	RAJ MOHAN RONGE	19	9	10	10	9	90.00	10	10	100
202101053016926	211CE11002	AKASH SUBHASH SHEGAR	19	9	10	10	9	90.00	10	10	100
202101053016854	211CE11009	DATTATRAY MARUTI SHEJAL	19	9	10	10	9	90.00	10	10	100
202101053016900	211CE11024	YUVRAJ SITARAM SHINDE	19	9	10	10	9	90.00	10	10	100
202201053044359	221CE12047	SURESH BHIMANNA SUNAGAR	19	9	10	10	9	90.00	10	10	100
202201053044366	221CE12028	BHEEMASHANKAR RAJASHEKHAR TUKAMALI	19	9	10	10	9	90.00	10	10	100
202201053044360	221CE12039	SHRAVAN SURYAKANT WAGHAMODE	19	9	10	10	9	90.00	10	10	100

Number of Students: 44

Tool CO Attainment

Target Level(%): 60

Attainment Level

(Percentage of students scoring Marks ≥ 60) = Level 1

(Percentage of students scoring Marks ≥ 70) = Level 2

(Percentage of students scoring Marks ≥ 80) = Level 3

Linked CO	CE43C.1	CE43C.2
No. of Students achieving Target Level	44	44
No. of Applicable Students	44	44
% Students achieving Target Level	100	100
Attainment	3	3

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR

TOOL CO ATTAINMENT REPORT

ACADEMIC YEAR: 2022-23

DEPARTMENT: CIVIL ENGINEERING

PROGRAM: UNDER GRADUATE IN CIVIL ENGINEERING

CLASS: SECOND YEAR

DIVISION: A

COURSE: STRUCTURAL MECHANICS-II (CE43C)

TOOL NAME: THT-1

TOOL MAX. MARKS: 20

PRN NO.	Student Code	Name of Student	Linked CO	CE43C.6	CE43C.5	CE43C.5			CE43C.6		
			Max. Marks	10	10	Max. Marks	Obtained Marks	% Marks	Max. Marks	Obtained Marks	% Marks
			Q. No. / Total Obtained Marks	Q1	Q2						
202101053015889	211CE11008	SAYLI VIJAY ASHTUL	18	9	9	10	9	90	10	9	90
202201053044293	221CE12003	AISHWARYA ROHIDAS CHAVAN	20	10	10	10	10	100	10	10	100
202101053016558	211CE11029	NAMRATA DINKAR CHAVARE	19	10	9	10	9	90	10	10	100
202101053016667	211CE11023	SANIKA GAJANAN DESHMUKHE	20	10	10	10	10	100	10	10	100
202201053044272	221CE12024	KAJAL SHRAVAN KAMBLE	20	10	10	10	10	100	10	10	100
202101053016659	211CE11019	PRIYANKA PRATAP KARANDE	20	10	10	10	10	100	10	10	100
202101053016789	211CE11025	RUTUJA MAHESH KAWADE	14	6	8	10	8	80	10	6	60
202201053044526	221CE12022	PRIYANKA IRANNA KOLI	20	10	10	10	10	100	10	10	100
202101053016839	211CE11026	AISHWARYA PRADIP KUMBHAR	19	10	9	10	9	90	10	10	100
202101053016798	211CE11018	DIVYA RAJENDRA LATAKE	19	9	10	10	10	100	10	9	90
202101053016661	211CE11005	AAKANKSHA JAGANNATH MANE	20	10	10	10	10	100	10	10	100
202101053016617	211CE11012	POOJA DADASAHEB NAGANE	18	9	9	10	9	90	10	9	90
202101053016625	211CE11022	SNEHAL NAVNATH RONGE	19	10	9	10	9	90	10	10	100
202101053016860	211CE11010	ALVIRA AMIN SHAIKH	19	10	9	10	9	90	10	10	100
202101053016610	211CE11032	ANISHA AMAR SURVASE	19	9	10	10	10	100	10	9	90
202201053044335	221CE12038	SHIVALINGAMMA CHANDRAKANT TENGALE	19	10	9	10	9	90	10	10	100
202101053016600	211CE11001	BAPU SADASHIV ANUSE	17	8	9	10	9	90	10	8	80
202101053016831	211CE11014	RAMESH BAPU BANDGAR	17	9	8	10	8	80	10	9	90
202101053016834	211CE11004	AJAY BHAGWAT BANSODE	17	8	9	10	9	90	10	8	80
202101053016657	211CE11031	PRATHMESH LAXMAN CHAVAN	19	10	9	10	9	90	10	10	100
202101053016849	211CE11030	SWARUP RAJARAM CHAVAN	16	8	8	10	8	80	10	8	80

202101053016578	211CE11011	SWAPNIL MAHADEV DHULAGUDE	18	9	9	10	9	90	10	9	90
202101053016724	211CE11007	VISHWAJEET SANJAY GHADGE	15	8	7	10	7	70	10	8	80
202201053044379	221CE12040	SAMARTH PRAKASH HIPARGI	20	10	10	10	10	100	10	10	100
202101053016729	211CE11021	VITTHAL SAINATH HOTKAR	19	10	9	10	9	90	10	10	100
202101053015906	211CE11017	PRATIK DADA KARE	17	8	9	10	9	90	10	8	80
202101053016869	211CE11028	ABHIJIT ASHOK KHALADKAR	15	8	7	10	7	70	10	8	80
202201053044314	221CE12035	SANKET CHANDRAKANT LENDAVE	18	9	9	10	9	90	10	9	90
202101053016716	211CE11013	GOPAL DATTA MADANE	18	9	9	10	9	90	10	9	90
202201053044383	221CE12045	RAHUL MANAGANI MASHALE	18	9	9	10	9	90	10	9	90
202101053016723	211CE11003	TUKARAM SHANKAR METAKARI	14	7	7	10	7	70	10	7	70
202201053044347	221CE12015	AVINASH SHARANAPPA NILGAR	19	10	9	10	9	90	10	10	100
202201053044356	221CE12021	VIGHNAHAR SHARAD NILGAR	19	10	9	10	9	90	10	10	100
202201053044342	221CE12005	ABHISHEK SURESH NIMBAL	19	9	10	10	10	100	10	9	90
202201053044380	221CE12051	YASH SATISH NIMBALKAR	17	8	9	10	9	90	10	8	80
202201053044300	221CE12058	MAHESH LAXMAN PADVALE	19	10	9	10	9	90	10	10	100
202101053016921	211CE11027	OM VIVEKANAND PATIL	17	8	9	10	9	90	10	8	80
202101053016897	211CE11015	RAJ MOHAN RONGE	17	9	8	10	8	80	10	9	90
202101053016926	211CE11002	AKASH SUBHASH SHEGAR	17	8	9	10	9	90	10	8	80
202101053016854	211CE11009	DATTATRAY MARUTI SHEJAL	15	8	7	10	7	70	10	8	80
202101053016900	211CE11024	YUVRAJ SITARAM SHINDE	17	8	9	10	9	90	10	8	80
202201053044359	221CE12047	SURESH BHIMANNA SUNAGAR	19	10	9	10	9	90	10	10	100
202201053044366	221CE12028	BHEEMASHANKAR RAJASHEKHAR TUKAMALI	20	10	10	10	10	100	10	10	100
202201053044360	221CE12039	SHRAVAN SURYAKANT WAGHAMODE	19	10	9	10	9	90	10	10	100

Number of Students: 44

Tool CO Attainment

Target Level(%): 60

Attainment Level

(Percentage of students scoring Marks ≥ 60) = Level 1

(Percentage of students scoring Marks ≥ 70) = Level 2

(Percentage of students scoring Marks ≥ 80) = Level 3

Linked CO	CE43C.5	CE43C.6
No. of Students achieving Target Level	44	44
No. of Applicable Students	44	44
% Students achieving Target Level	100	100
Attainment	3	3

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR
TOOL CO ATTAINMENT REPORT
 ACADEMIC YEAR: 2022-23
 DEPARTMENT: CIVIL ENGINEERING
 PROGRAM: UNDER GRADUATE IN CIVIL ENGINEERING
 CLASS: SECOND YEAR
 DIVISION: A
 COURSE: STRUCTURAL MECHANICS-II (CE43C)
 TOOL NAME: UT-1

TOOL MAX. MARKS: 20

PRN NO.	Student Code	Name of Student	Linked CO	CE43C.1	CE43C.2	CE43C.1	CE43C.2	CE43C.1			CE43C.2		
			Max. Marks	2	2	8	8	Max. Marks	Obtained Marks	% Marks	Max. Marks	Obtained Marks	% Marks
			Q. No. / Total Obtained Marks	Q1	Q2	Q3	Q4						
202101053015889	211CE11008	SAYLI VIJAY ASHTUL	18	2	2	7	7	10	9	90.00	10	9	90.00
202201053044293	221CE12003	AISHWARYA ROHIDAS CHAVAN	17	2	2	7	6	10	9	90.00	10	8	80.00
202101053016558	211CE11029	NAMRATA DINKAR CHAVARE	17	2	2	8	5	10	10	100	10	7	70.00
202101053016667	211CE11023	SANIKAJANAN DESHMUKHE	15	2	2	7	4	10	9	90.00	10	6	60.00
202201053044272	221CE12024	KAJAL SHRAVAN KAMBLE	16	2	1	6	7	10	8	80.00	10	8	80.00
202101053016659	211CE11019	PRIYANKA PRATAP KARANDE	16	2	2	7	5	10	9	90.00	10	7	70.00
202101053016789	211CE11025	RUTUJA MAHESH KAWADE	15	2	2	5	6	10	7	70.00	10	8	80.00
202201053044526	221CE12022	PRIYANKA IRANNA KOLI	18	1	2	7	8	10	8	80.00	10	10	100
202101053016839	211CE11026	AISHWARYA PRADIP KUMBHAR	18	2	1	7	8	10	9	90.00	10	9	90.00
202101053016798	211CE11018	DIVYA RAJENDRA LATAKE	17	2	2	6	7	10	8	80.00	10	9	90.00
202101053016661	211CE11005	AAKANKSHA JAGANNATH MANE	17	1	2	8	6	10	9	90.00	10	8	80.00
202101053016617	211CE11012	POOJA DADASAHEB NAGANE	15	2	1	5	7	10	7	70.00	10	8	80.00
202101053016625	211CE11022	SNEHAL NAVNATH RONGE	17	2	2	6	7	10	8	80.00	10	9	90.00
202101053016860	211CE11010	ALVIRA AMIN SHAIKH	18	2	2	6	8	10	8	80.00	10	10	100
202101053016610	211CE11032	ANISHA AMAR SURVASE	17	2	2	7	6	10	9	90.00	10	8	80.00
202201053044335	221CE12038	SHIVALINGAMMA CHANDRAKANT TENGALÉ	16	2	2	6	6	10	8	80.00	10	8	80.00
202101053016600	211CE11001	BAPU SADASHIV ANUSE	19	2	2	7	8	10	9	90.00	10	10	100
202101053016831	211CE11014	RAMESH BAPU BANDGAR	18	2	1	8	7	10	10	100	10	8	80.00
202101053016834	211CE11004	AJAY BHAGWAT BANSODE	17	2	1	8	6	10	10	100	10	7	70.00
202101053016657	211CE11031	PRATHMESH LAXMAN CHAVAN	16	2	1	6	7	10	8	80.00	10	8	80.00
202101053016849	211CE11030	SWARUP RAJARAM CHAVAN	18	2	1	8	7	10	10	100	10	8	80.00
202101053016578	211CE11011	SWAPNIL MAHADEV DHULAGUDE	17	2	1	7	7	10	9	90.00	10	8	80.00
202101053016724	211CE11007	VISHWAJEET SANJAY GHADGE	17	2	1	7	7	10	9	90.00	10	8	80.00
202201053044379	221CE12040	SAMARTH PRAKASH HIPPARGI	19	2	2	8	7	10	10	100	10	9	90.00
202101053016729	211CE11021	VITTHAL SAINATH HOTKAR	17	2	1	7	7	10	9	90.00	10	8	80.00
202101053015906	211CE11017	PRATIK DADA KARE	17	2	1	7	7	10	9	90.00	10	8	80.00
202101053016869	211CE11028	ABHIJIT ASHOK KHALADKAR	17	2	1	7	7	10	9	90.00	10	8	80.00
202201053044314	221CE12035	SANKET CHANDRAKANT LENDAVE	19	2	2	7	8	10	9	90.00	10	10	100

202101053016716	211CE11013	GOPAL DATTA MADANE	17	2	1	7	7	10	9	90.00	10	8	80.00
202201053044383	221CE12045	RAHUL MANAGENI MASHALE	18	2	1	7	8	10	9	90.00	10	9	90.00
202101053016723	211CE11003	TUKARAM SHANKAR METAKARI	17	2	1	7	7	10	9	90.00	10	8	80.00
202201053044347	221CE12015	AVINASH SHARANAPPA NILGAR	18	2	1	8	7	10	10	100	10	8	80.00
202201053044356	221CE12021	VIGHNAHAR SHARAD NILGAR	19	2	1	8	8	10	10	100	10	9	90.00
202201053044342	221CE12005	ABHISHEK SURESH NIMBAL	18	2	2	7	7	10	9	90.00	10	9	90.00
202201053044380	221CE12051	YASH SATISH NIMBALKAR	18	2	1	7	8	10	9	90.00	10	9	90.00
202201053044300	221CE12058	MAHESH LAXMAN PADVALE	18	2	1	7	8	10	9	90.00	10	9	90.00
202101053016921	211CE11027	OM VIVEKANAND PATIL	17	2	1	7	7	10	9	90.00	10	8	80.00
202101053016897	211CE11015	RAJ MOHAN RONGE	16	2	0	7	7	10	9	90.00	10	7	70.00
202101053016926	211CE11002	AKASH SUBHASH SHEGAR	16	2	0	7	7	10	9	90.00	10	7	70.00
202101053016854	211CE11009	DATTATRAY MARUTI SHEJAL	14	2	0	6	6	10	8	80.00	10	6	60.00
202101053016900	211CE11024	YUVRAJ SITARAM SHINDE	17	2	1	7	7	10	9	90.00	10	8	80.00
202201053044359	221CE12047	SURESH BHIMANNA SUNAGAR	16	2	1	8	5	10	10	100	10	6	60.00
202201053044366	221CE12028	BHEEMASHANKAR RAJASHEKHAR TUKAMALI	16	2	1	8	5	10	10	100	10	6	60.00
202201053044360	221CE12039	SHRAVAN SURYAKANT WAGHAMODE	17	2	2	8	5	10	10	100	10	7	70.00

Number of Students: 44

Tool CO Attainment

Target Level(%): 60

Attainment Level

(Percentage of students scoring Marks ≥ 60) = Level 1

(Percentage of students scoring Marks ≥ 70) = Level 2

(Percentage of students scoring Marks ≥ 80) = Level 3

Linked CO	CE43C.1	CE43C.2
No. of Students achieving Target Level	44	44
No. of Applicable Students	44	44
% Students achieving Target Level	100	100
Attainment	3	3

SVKM'S COLLEGE OF ENGINEERING, PANDHARPUR

TOOL CO ATTAINMENT REPORT

ACADEMIC YEAR: 2022-23

DEPARTMENT: CIVIL ENGINEERING

PROGRAM UNDER GRADUATE IN CIVIL ENGINEERING

CLASS: SECOND YEAR

DIVISION: A

COURSE: COMPUTER PROGRAMMING & NUMERICAL METHODS (CS48)

TOOL NAME: LAB BOOK

TOOL MAX. MARKS: 250

PRN NO.	Student Code	Name of Student	TOOL CO										CE-AB-1					CE-AB-2					CE-AB-3					CE-AB-4					CE-AB-5				
			Linked CO	CE-AB-1	CE-AB-1	CE-AB-1	CE-AB-1	CE-AB-2	CE-AB-2	CE-AB-2	CE-AB-3	CE-AB-3	CE-AB-4	CE-AB-4	CE-AB-5	CE-AB-5	CE-AB-1	CE-AB-1	CE-AB-1	CE-AB-2	CE-AB-2	CE-AB-2	CE-AB-3	CE-AB-3	CE-AB-3	CE-AB-4	CE-AB-4	CE-AB-4	CE-AB-5	CE-AB-5	CE-AB-5	CE-AB-5	CE-AB-5	CE-AB-5			
			Max. Marks	25	25	25	25	25	25	25	25	25	25	25	25	25	Obtained Marks	% Marks	Obtained Marks	% Marks	Obtained Marks	% Marks	Obtained Marks	% Marks	Obtained Marks	% Marks	Obtained Marks	% Marks	Obtained Marks	% Marks	Obtained Marks	% Marks	Obtained Marks	% Marks			
202101053015889	21ICE11008	SAVIL VDIAY ASHTUL	237	24	24	24	23	23	24	24	24	23	24	100	95	95.00	50	47	94.00	50	48	96.00	25	23	92.00	25	24	96.00	25	24	96.00	25	24	96.00			
202201053044293	22ICE12003	ASHWARYA ROHIDAS CHAVAN	238	24	23	24	24	23	23	24	24	24	25	100	95	95.00	50	46	92.00	50	48	96.00	25	24	96.00	25	24	96.00	25	25	100	25	23	92.00			
202101053016558	21ICE1029	NAMRATA DINKAR CHAVARE	237	24	23	24	23	24	23	23	23	25	24	100	94	94.00	50	47	94.00	50	48	96.00	25	24	96.00	25	24	96.00	25	24	96.00	25	24	96.00			
202101053016667	21ICE11023	SANIKA GAJANAN DESHMUKHE	229	22	22	21	23	23	24	24	24	25	23	100	87	87.00	50	46	92.00	50	48	96.00	25	25	100	25	23	92.00	25	23	92.00	25	23	92.00			
202201053044272	22ICE12024	KAJAL SHIRAVAN KAMBLE	228	23	21	21	22	24	24	23	24	22	24	100	87	87.00	50	48	96.00	50	47	94.00	25	22	88.00	25	24	96.00	25	24	96.00	25	24	96.00			
202101053016659	21ICE1019	PRITYANKA PRATAP KARANDE	229	23	21	21	23	23	24	23	24	23	24	100	88	88.00	50	47	94.00	50	47	94.00	25	23	92.00	25	24	96.00	25	24	96.00	25	24	96.00			
202101053016789	21ICE11025	RUTUJA MAHESH KAWADE	228	24	23	21	24	23	23	22	23	23	23	100	92	92.00	50	45	90.00	50	45	90.00	25	23	92.00	25	23	92.00	25	23	92.00	25	23	92.00			
202201053044526	22ICE12022	PRITYANKA RANNA KOLI	228	24	23	23	24	22	21	21	24	23	23	100	94	94.00	50	43	86.00	50	45	90.00	25	23	92.00	25	23	92.00	25	23	92.00	25	23	92.00			
202101053016839	21ICE1026	ASHWARYA PRADIP KUMBHAR	227	23	24	24	23	21	21	21	21	24	24	100	94	94.00	50	42	84.00	50	45	90.00	25	24	96.00	25	24	96.00	25	22	88.00	25	22	88.00			
202101053016798	21ICE11018	DIPOYIA RAJENDRA LATAKE	223	23	22	24	23	21	20	23	22	24	21	100	92	92.00	50	41	82.00	50	45	90.00	25	24	96.00	25	24	96.00	25	21	84.00	25	21	84.00			
202101053016661	21ICE11005	AAKANKSHA JAGANNATH MANE	229	24	23	23	24	23	23	23	23	22	21	100	94	94.00	50	46	92.00	50	46	92.00	25	22	88.00	25	21	84.00	25	21	84.00	25	21	84.00			
202101053016617	21ICE11012	POOJA DADASHEKH NAGANE	233	24	22	23	24	23	23	24	23	24	23	100	93	93.00	50	46	92.00	50	47	94.00	25	24	96.00	25	23	92.00	25	23	92.00	25	23	92.00			
202101053016625	21ICE11022	SNEHAL NAVNATH RONGE	225	23	22	22	23	24	21	22	22	23	23	100	90	90.00	50	45	90.00	50	44	88.00	25	23	92.00	25	23	92.00	25	23	92.00	25	23	92.00			
202101053016866	21ICE11010	ALVIRA AMIN SHAIKH	224	22	21	21	24	22	23	23	21	23	24	100	88	88.00	50	45	90.00	50	44	88.00	25	23	92.00	25	24	96.00	25	24	96.00	25	24	96.00			
202101053016610	21ICE11032	ANISHA AMAR SURVASE	222	24	21	21	24	23	22	22	21	22	22	100	90	90.00	50	45	90.00	50	43	86.00	25	22	88.00	25	22	88.00	25	22	88.00	25	22	88.00			
202201053044335	22ICE12038	SHIVALINGAMMA CHANDRAKANT TENGALE	225	24	22	23	22	22	22	22	23	21	23	100	91	91.00	50	45	90.00	50	45	90.00	25	23	92.00	25	23	92.00	25	23	92.00	25	23	92.00			
202101053016600	21ICE11001	BAPUSADASHIY ANISE	220	22	21	23	23	22	22	21	23	21	22	100	89	89.00	50	44	88.00	50	44	88.00	25	21	84.00	25	22	88.00	25	22	88.00	25	22	88.00			
202101053016831	21ICE11014	RAMSHI BAPU BANGAR	226	23	23	24	23	21	24	21	22	23	22	100	93	93.00	50	45	90.00	50	43	86.00	25	23	92.00	25	23	92.00	25	22	88.00	25	22	88.00			
202101053016834	21ICE11004	AJAY BHAGWAT BANSHODE	223	23	23	22	22	21	23	22	23	23	21	100	90	90.00	50	44	88.00	50	45	90.00	25	23	92.00	25	21	84.00	25	21	84.00	25	21	84.00			
202101053016667	21ICE11011	PRATHIBH LAMMAN CHAVAN	224	24	21	23	21	22	23	21	24	24	21	100	89	89.00	50	45	90.00	50	45	90.00	25	24	96.00	25	21	84.00	25	21	84.00	25	21	84.00			
202101053016849	21ICE11030	SWAREEP PRAKASH CHAVAN	220	21	22	22	21	21	22	23	24	24	22	100	86	86.00	50	43	86.00	50	47	94.00	25	22	88.00	25	22	88.00	25	22	88.00	25	22	88.00			
202101053016578	21ICE11011	SWAPNE MAHADEV DHELGAUDE	228	24	23	22	23	23	23	21	23	25	23	21	100	92	92.00	50	44	88.00	50	48	96.00	25	23	92.00	25	21	84.00	25	21	84.00	25	21	84.00		
202101053016724	21ICE11007	VISHWAJIT SANJAY GHADGE	225	25	22	21	23	23	21	21	24	22	23	100	91	91.00	50	44	88.00	50	45	90.00	25	22	88.00	25	23	92.00	25	23	92.00	25	23	92.00			
202201053044379	22ICE12040	SAMARTH PRAKASH HIPPARGI	226	24	23	21	24	21	23	22	23	22	23	100	92	92.00	50	44	88.00	50	45	90.00	25	22	88.00	25	21	84.00	25	23	92.00	25	23	92.00			
202101053016729	21ICE11021	VITHAL SARANATH HOTKAR	222	24	21	22	22	22	22	23	23	23	21	21	100	89	89.00	50	45	90.00	50	46	92.00	25	21	84.00	25	21	84.00	25	21	84.00	25	21	84.00		
202101053015906	21ICE11017	PRATIK DADA KARE	223	23	22	21	23	23	24	22	22	21	22	100	89	89.00	50	47	94.00	50	44	88.00	25	21	84.00	25	22	88.00	25	22	88.00	25	22	88.00			
202101053016869	21ICE11028	ABHINAV ASHOK SHAADKAR	225	23	24	23	22	22	22	23	21	22	23	100	92	92.00	50	44	88.00	50	44	88.00	25	22	88.00	25	22	88.00	25	23	92.00	25	23	92.00			
202201053044314	22ICE12035	SANKET CHANDRAKANT LENDAVE	222	24	22	23	22	23	23	23	21	21	21	22	100	91	91.00	50	46	92.00	50	42	84.00	25	21	84.00	25	22	88.00	25	22	88.00	25	22	88.00		
202101053016716	21ICE11013	GOPAL DATTA MADANE	223	24	23	21	21	21	22	22	23	23	23	100	89	89.00	50	43	86.00	50	45	90.00	25	23	92.00	25	23	92.00	25	23	92.00	25	23	92.00			
202201053044383	22ICE12045	RAHUL MANAGANSI MASHALE	223	24	21	22	21	24	22	22	23	23	21	100	88	88.00	50	46	92.00	50	45	90.00	25	23	92.00	25	23	92.00	25	21	84.00	25	21	84.00			
202101053016723	21ICE11003	TUKARAM SHANKAR METAKARI	222	22	22	23	22	21	21	23	24	21	23	100	89	89.00	50	42	84.00	50	47	94.00	25	21	84.00	25	23	92.00	25	23	92.00	25	23	92.00			
202201053044347	22ICE12015	AVINASH SHARANAPPA NILGAR	219	23	21	22	21	21	21	23	22	22	23	100	87	87.00	50	42	84.00	50	45	90.00	25	22	88.00	25	23	92.00	25	23	92.00	25	23	92.00			
202201053044356	22ICE12021	VIGNANAHAR SHARAD NIDGAR	229	24	23	23	20	20	21	24	24	23	24	100	93	93.00	50	42	84.00	50	47	94.00	25	23	92.00	25	24	96.00	25	24	96.00	25	24	96.00			

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR
TOOL CO ATTAINMENT REPORT

ACADEMIC YEAR: 2022-23

DEPARTMENT: CIVIL ENGINEERING

PROGRAM: UNDER GRADUATE IN CIVIL ENGINEERING

CLASS: SECOND YEAR

DIVISION: A

COURSE: COMPUTER PROGRAMMING & NUMERICAL METHODS (CE48L)

TOOL: POE

TOOL MAX. MARKS: 50

PRN NO.	Exam Seat No.	Student Code	Name of Student	Obtained Marks
202101053015889	-	211CE11008	SAYLI VIJAY ASHTUL	31
202201053044293	-	221CE12003	AISHWARYA ROHIDAS CHAVAN	31
202101053016558	-	211CE11029	NAMRATA DINKAR CHAVARE	27
202101053016667	-	211CE11023	SANIKA GAJANAN DESHMUKHE	29
202201053044272	-	221CE12024	KAJAL SHRAVAN KAMBLE	29
202101053016659	-	211CE11019	PRIYANKA PRATAP KARANDE	29
202101053016789	-	211CE11025	RUTUJA MAHESH KAWADE	29
202201053044526	-	221CE12022	PRIYANKA IRANNA KOLI	28
202101053016839	-	211CE11026	AISHWARYA PRADIP KUMBHAR	28
202101053016798	-	211CE11018	DIVYA RAJENDRA LATAKE	35
202101053016661	-	211CE11005	AAKANKSHA JAGANNATH MANE	38
202101053016617	-	211CE11012	POOJA DADASAHEB NAGANE	28
202101053016625	-	211CE11022	SNEHAL NAVNATH RONGE	35
202101053016860	-	211CE11010	ALVIRA AMIN SHAIKH	27
202101053016610	-	211CE11032	ANISHA AMAR SURVASE	38
202201053044335	-	221CE12038	SHIVALINGAMMA CHANDRAKANT TENGALE	28
202101053016600	-	211CE11001	BAPU SADASHIV ANUSE	32
202101053016831	-	211CE11014	RAMESH BAPU BANDGAR	25
202101053016834	-	211CE11004	AJAY BHAGWAT BANSODE	34
202101053016657	-	211CE11031	PRATHMESH LAXMAN CHAVAN	38
202101053016849	-	211CE11030	SWARUP RAJARAM CHAVAN	26
202101053016578	-	211CE11011	SWAPNIL MAHADEV DHULAGUDE	26
202101053016724	-	211CE11007	VISHWAJEET SANJAY GHADGE	30
202201053044379	-	221CE12040	SAMARTH PRAKASH HIPPARGI	30
202101053016729	-	211CE11021	VITTHAL SAINATH HOTKAR	26
202101053015906	-	211CE11017	PRATIK DADA KARE	26
202101053016869	-	211CE11028	ABHIJIT ASHOK KHALADKAR	32
202201053044314	-	221CE12035	SANKET CHANDRAKANT LENDAVE	25
202101053016716	-	211CE11013	GOPAL DATTA MADANE	40
202201053044383	-	221CE12045	RAHUL MANAGENI MASHALE	37
202101053016723	-	211CE11003	TUKARAM SHANKAR METAKARI	28
202201053044347	-	221CE12015	AVINASH SHARANAPPA NILGAR	38
202201053044356	-	221CE12021	VIGHNAHAR SHARAD NILGAR	39
202201053044342	-	221CE12005	ABHISHEK SURESH NIMBAL	39
202201053044380	-	221CE12051	YASH SATISH NIMBALKAR	32
202201053044300	-	221CE12058	MAHESH LAXMAN PADVALE	39
202101053016921	-	211CE11027	OM VIVEKANAND PATIL	30

202101053016897	-	211CE11015	RAJ MOHAN RONGE	30
202101053016926	-	211CE11002	AKASH SUBHASH SHEGAR	37
202101053016854	-	211CE11009	DATTATRAY MARUTI SHEJAL	26
202101053016900	-	211CE11024	YUVRAJ SITARAM SHINDE	28
202201053044359	-	221CE12047	SURESH BHIMANNA SUNAGAR	36
202201053044366	-	221CE12028	BHEEMASHANKAR RAJASHEKHAR TUKAMALI	40
202201053044360	-	221CE12039	SHRAVAN SURYAKANT WAGHAMODE	36

Number of Students: 44

Tool CO Attainment

Target Level(%): 40

Attainment Level

(Percentage of students scoring Marks ≥ 60) = Level 1

(Percentage of students scoring Marks ≥ 70) = Level 2

(Percentage of students scoring Marks ≥ 80) = Level 3

	Overall
No. of Students achieving Target Level	44
No. of Applicable Students	44
% Students achieving Target Level	100
Attainment	3

	Linked CO					
	CE48L.1	CE48L.2	CE48L.3	CE48L.4	CE48L.5	CE48L.6
Attainment	3	3	3	3	3	3

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR
DIRECT PO ATTAINMENT

PROGRAM: UNDER GRADUATE IN CIVIL ENGINEERING

Batch: 2019-23

Direct PO/PSO Attainment for Batch - 2019-23

Sr. No.	Course	Class	Total Attainment	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	CONCRETE TECHNOLOGY ,MATERIAL TESTING AND EVALUATION [CV211-19 (I a)]	SECOND YEAR [2020-21]	3.00	-	3.00	3.00	3.00	-	-	-	-	-	-	-	-	3.00	-	-
2	CONCRETE TECHNOLOGY ,MATERIAL TESTING AND EVALUATION [CV211-19 (I b)]	SECOND YEAR [2020-21]	3.00	-	3.00	3.00	3.00	-	-	-	-	-	-	-	-	3.00	-	-
3	SURVEYING AND GEOMATICS [CV212-19 (I a)]	SECOND YEAR [2020-21]	3.00	-	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	3.00
4	SURVEYING AND GEOMATICS [CV212-19 (I b)]	SECOND YEAR [2020-21]	3.00	-	3.00	3.00	3.00	3.00	-	-	-	-	-	-	-	3.00	3.00	3.00
5	BUILDING CONSTRUCTION AND DRAWING [CV213-19 (I a)]	SECOND YEAR [2020-21]	3.00	-	3.00	3.00	2.00	-	-	-	-	-	3.00	-	-	2.00	3.00	-
6	BUILDING CONSTRUCTION AND DRAWING [CV213-19 (I b)]	SECOND YEAR [2020-21]	2.99	-	2.99	2.99	1.99	-	-	-	-	-	2.99	-	-	1.99	2.99	-
7	INTRODUCTION TO FLUID MECHANICS [CV214-19 (I a)]	SECOND YEAR [2020-21]	2.78	-	2.78	1.85	2.78	-	-	-	-	-	-	-	-	2.78	2.78	-
8	INTRODUCTION TO FLUID MECHANICS [CV214-19 (I b)]	SECOND YEAR [2020-21]	2.93	-	2.93	1.95	2.93	-	-	-	-	-	-	-	-	2.93	2.93	-
9	ENGINEERING GEOLOGY [CV215-19 (I a)]	SECOND YEAR [2020-21]	3.00	2.00	3.00	-	3.00	-	-	-	-	-	2.00	-	-	2.00	3.00	-
10	ENGINEERING GEOLOGY [CV215-19 (I b)]	SECOND YEAR [2020-21]	2.95	1.97	2.95	-	2.95	-	-	-	-	-	1.97	-	-	1.97	2.95	-
11	INTRODUCTION TO SOLID MECHANICS [CV216-19 (I a)]	SECOND YEAR [2020-21]	2.83	-	2.83	2.83	-	-	-	-	-	-	-	-	-	2.83	-	-
12	INTRODUCTION TO SOLID MECHANICS [CV216-19 (I b)]	SECOND YEAR [2020-21]	2.90	-	2.90	2.90	-	-	-	-	-	-	-	-	-	2.90	-	-
13	ENERGY SCIENCE AND ENGINEERING [CV217-19 (I a)]	SECOND YEAR [2020-21]	3.00	-	-	-	2.00	2.00	3.00	2.00	2.00	-	-	-	2.00	3.00	-	-
14	ENERGY SCIENCE AND ENGINEERING [CV217-19 (I b)]	SECOND YEAR [2020-21]	3.00	-	-	-	2.00	2.00	3.00	2.00	2.00	-	-	-	2.00	3.00	-	-
15	LAB PRACTICE [CV218-19 (I a)]	SECOND YEAR [2020-21]	3.00	3.00	-	3.00	-	3.00	-	-	-	-	3.00	-	-	2.00	-	3.00
16	LAB PRACTICE [CV218-19 (I b)]	SECOND YEAR [2020-21]	3.00	3.00	-	3.00	-	3.00	-	-	-	-	3.00	-	-	2.00	-	3.00
17	WATER SUPPLY ENGINEERING [CV221-19 (II a)]	SECOND YEAR [2020-21]	3.00	-	3.00	3.00	3.00	-	-	3.00	-	-	-	-	-	3.00	3.00	-
18	WATER SUPPLY ENGINEERING [CV221-19 (II b)]	SECOND YEAR [2020-21]	2.79	-	2.79	2.79	2.79	-	-	2.79	-	-	-	-	-	2.79	2.79	-
19	BUILDING PLANNING AND DESIGN [CV222-19 (II a)]	SECOND YEAR [2020-21]	3.00	-	3.00	3.00	-	3.00	-	-	-	-	3.00	-	-	3.00	-	3.00
20	BUILDING PLANNING AND DESIGN [CV222-19 (II b)]	SECOND YEAR [2020-21]	3.00	-	3.00	3.00	-	3.00	-	-	-	-	3.00	-	-	3.00	-	3.00
21	HYDRAULIC ENGINEERING [CV223-19 (II a)]	SECOND YEAR [2020-21]	2.95	-	2.95	2.95	2.95	-	-	-	-	-	-	-	-	2.95	1.97	-

22	HYDRAULIC ENGINEERING [CV223-19 (II b)]	SECOND YEAR [2020-21]	2.94	-	2.94	2.94	2.94	-	-	-	-	-	-	-	-	-	2.94	1.96	-
23	OPEN ELECTIVE I ICT FOR DEVELOPMENT [CV224-19 (II a)]	SECOND YEAR [2020-21]	3.00	-	-	3.00	-	3.00	-	-	-	-	3.00	-	3.00	-	-	-	3.00
24	OPEN ELECTIVE I ICT FOR DEVELOPMENT [CV224-19 (II b)]	SECOND YEAR [2020-21]	3.00	-	-	3.00	-	3.00	-	-	-	-	3.00	-	3.00	-	-	-	3.00
25	STRUCTURAL ANALYSIS [CV225-19 (II a)]	SECOND YEAR [2020-21]	2.67	-	2.67	2.67	-	-	-	-	-	-	-	-	-	-	2.67	-	-
26	STRUCTURAL ANALYSIS [CV225-19 (II b)]	SECOND YEAR [2020-21]	2.93	-	2.93	2.93	-	-	-	-	-	-	-	-	-	-	2.93	-	-
27	ENGINEERING MATHEMATICS III [CV226-19 (II a)]	SECOND YEAR [2020-21]	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	ENGINEERING MATHEMATICS III [CV226-19 (II b)]	SECOND YEAR [2020-21]	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	COMPUTER PROGRAMMING AND NUMERICAL METHODS [CV227-19 (II a)]	SECOND YEAR [2020-21]	3.00	2.00	2.00	-	-	3.00	-	-	-	-	2.00	-	-	-	-	-	2.00
30	COMPUTER PROGRAMMING AND NUMERICAL METHODS [CV227-19 (II b)]	SECOND YEAR [2020-21]	3.00	2.00	2.00	-	-	3.00	-	-	-	-	2.00	-	-	-	-	-	2.00
31	DESIGN OF STEEL STRUCTURES [CV311-20 (I a)]	THIRD YEAR [2021-22]	3.00	-	3.00	3.00	-	-	-	-	-	-	-	-	-	-	3.00	-	-
32	DESIGN OF STEEL STRUCTURES [CV311-20 (I B)]	THIRD YEAR [2021-22]	3.00	-	3.00	3.00	-	-	-	-	-	-	3.00	-	-	-	3.00	-	-
33	GEOTECHNICAL ENGINEERING [CV312-20 (I a)]	THIRD YEAR [2021-22]	3.00	-	3.00	-	3.00	-	-	-	-	-	-	-	-	-	3.00	3.00	-
34	GEOTECHNICAL ENGINEERING [CV312-20 (I B)]	THIRD YEAR [2021-22]	3.00	-	3.00	-	3.00	-	-	-	-	-	-	-	-	-	3.00	3.00	-
35	WASTE WATER ENGINEERING AND AIR POLLUTION [CV313-20 (I a)]	THIRD YEAR [2021-22]	3.00	-	-	3.00	3.00	2.00	3.00	3.00	2.00	-	-	-	-	-	2.00	3.00	2.00
36	WASTE WATER ENGINEERING AND AIR POLLUTION [CV313-20 (I B)]	THIRD YEAR [2021-22]	3.00	-	-	3.00	3.00	2.00	3.00	3.00	2.00	-	-	-	-	-	2.00	3.00	2.00
37	HIGHWAY AND TUNNEL ENGINEERING [CV314-20 (I a)]	THIRD YEAR [2021-22]	3.00	-	2.00	3.00	3.00	-	-	-	-	-	-	-	-	-	2.00	3.00	-
38	HIGHWAY AND TUNNEL ENGINEERING [CV314-20 (I B)]	THIRD YEAR [2021-22]	3.00	-	2.00	3.00	3.00	-	-	-	-	-	-	-	-	-	2.00	3.00	-
39	HYDROLOGY AND WATER RESOURCES ENGINEERING [CV315-20 (I a)]	THIRD YEAR [2021-22]	3.00	-	3.00	2.00	-	-	-	3.00	-	-	-	-	-	-	3.00	-	-
40	HYDROLOGY AND WATER RESOURCES ENGINEERING [CV315-20 (I B)]	THIRD YEAR [2021-22]	2.95	-	2.95	1.97	0.98	-	-	2.95	-	-	-	-	-	-	2.95	-	-
41	PLANNING AND DESIGN OF PUBLIC BUILDINGS [CV317-20 (I a)]	THIRD YEAR [2021-22]	3.00	-	3.00	3.00	-	3.00	-	-	-	-	3.00	-	-	-	3.00	-	3.00
42	PLANNING AND DESIGN OF PUBLIC BUILDINGS [CV317-20 (I B)]	THIRD YEAR [2021-22]	3.00	-	3.00	3.00	-	3.00	-	-	-	-	3.00	-	-	-	3.00	-	3.00
43	MINI PROJECT USING APPLICATION SOFTWARE [CV318-20 (I a)]	THIRD YEAR [2021-22]	3.00	3.00	3.00	3.00	2.00	3.00	2.00	2.00	2.00	2.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00
44	MINI PROJECT USING APPLICATION SOFTWARE [CV318-20 (I B)]	THIRD YEAR [2021-22]	3.00	3.00	3.00	3.00	2.00	3.00	2.00	2.00	2.00	2.00	3.00	2.00	3.00	3.00	3.00	2.00	3.00
45	LIFE SCIENCE (SELF LEARNING MODE) [CV316-20' (I a)]	THIRD YEAR [2021-22]	3.00	1.00	-	1.00	-	-	3.00	3.00	1.00	3.00	-	-	-	-	-	-	-
46	LIFE SCIENCE (SELF LEARNING MODE) [CV316-20' (I B)]	THIRD YEAR [2021-22]	3.00	1.00	-	1.00	-	-	3.00	3.00	1.00	3.00	-	-	-	-	-	-	-

47	FOUNDATION ENGINEERING [CV321-20 (II a)]	THIRD YEAR [2021-22]	3.00	-	2.00	3.00	3.00	-	-	-	-	-	-	-	-	-	2.00	3.00	-
48	FOUNDATION ENGINEERING [CV321-20 (II B)]	THIRD YEAR [2021-22]	3.00	-	2.00	3.00	3.00	-	-	-	-	-	-	-	-	-	2.00	3.00	-
49	HYDRAULIC STRUCTURES & WATER POWER ENGG. [CV322-20 (II a)]	THIRD YEAR [2021-22]	2.97	-	1.98	2.97	-	-	-	-	-	-	-	-	-	-	2.97	-	-
50	HYDRAULIC STRUCTURES & WATER POWER ENGG. [CV322-20 (II B)]	THIRD YEAR [2021-22]	2.97	-	1.98	2.97	-	-	-	-	-	-	-	-	-	-	2.97	-	-
51	PROFESSIONAL ELECTIVE COURSE-I [CV323-20 (II a)]	THIRD YEAR [2021-22]	2.99	-	2.99	2.99	-	-	2.99	2.99	-	-	-	-	-	-	2.99	-	-
52	PROFESSIONAL ELECTIVE COURSE-I [CV323-20 (II B)]	THIRD YEAR [2021-22]	2.99	-	2.99	2.99	-	-	2.99	2.99	-	-	-	-	-	-	2.99	-	-
53	DESIGN OF CONCRETE STRUCTURES-I [CV324-20 (II a)]	THIRD YEAR [2021-22]	2.96	-	2.96	2.96	-	-	-	-	-	-	-	-	-	-	2.96	-	-
54	DESIGN OF CONCRETE STRUCTURES-I [CV324-20 (II B)]	THIRD YEAR [2021-22]	2.97	-	2.97	2.97	-	-	-	-	-	-	-	-	-	-	2.97	-	-
55	PRINCIPLES OF MANAGEMENT AND QUANTITATIVE TECHNIQUES [CV325-20 (II a)]	THIRD YEAR [2021-22]	3.00	-	3.00	3.00	-	3.00	-	-	-	3.00	-	3.00	2.00	3.00	3.00	-	3.00
56	PRINCIPLES OF MANAGEMENT AND QUANTITATIVE TECHNIQUES [CV325-20 (II B)]	THIRD YEAR [2021-22]	3.00	-	3.00	3.00	-	3.00	-	-	-	3.00	-	3.00	2.00	3.00	3.00	-	3.00
57	SELF LEARNING MODULE-II (TECHNICAL) [CV326-20 (II a)]	THIRD YEAR [2021-22]	3.00	-	3.00	2.00	-	-	-	-	-	-	-	-	-	-	2.00	-	-
58	SELF LEARNING MODULE-II (TECHNICAL) [CV326-20 (II B)]	THIRD YEAR [2021-22]	3.00	-	3.00	2.00	-	-	-	-	-	-	-	-	-	-	2.00	-	-
59	PROJECT ON STEEL STRUCTURES [CV327-20 (II a)]	THIRD YEAR [2021-22]	3.00	-	3.00	3.00	-	3.00	-	-	-	-	3.00	-	-	3.00	-	3.00	
60	PROJECT ON STEEL STRUCTURES [CV327-20 (II B)]	THIRD YEAR [2021-22]	3.00	-	3.00	3.00	-	3.00	-	-	-	-	3.00	-	-	3.00	-	3.00	
61	ASSESSMENT OF FIELD TRAINING REPORT [CV328-20 (II a)]	THIRD YEAR [2021-22]	3.00	-	-	-	3.00	3.00	-	3.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00
62	ASSESSMENT OF FIELD TRAINING REPORT [CV328-20 (II B)]	THIRD YEAR [2021-22]	3.00	-	-	-	3.00	3.00	-	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
63	PROFESSIONAL ELECTIVE-III [CV421-21 (II A)]	FOURTH YEAR [2022-23]	2.90	-	-	2.90	1.93	-	1.93	1.93	-	-	-	-	-	-	2.90	-	-
64	PROFESSIONAL ELECTIVE-III [CV421-21 (II B)]	FOURTH YEAR [2022-23]	2.93	-	-	2.93	1.95	-	1.95	1.95	-	-	-	-	-	-	2.93	-	-
65	PROFESSIONAL ELECTIVE-IV [CV422-21 (II A)]	FOURTH YEAR [2022-23]	2.97	-	2.97	2.97	2.97	-	-	-	-	-	-	-	-	-	2.97	2.97	-
66	PROFESSIONAL ELECTIVE-IV [CV422-21 (II B)]	FOURTH YEAR [2022-23]	3.00	-	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	3.00	3.00	-
67	RAILWAY AND HARBOUR ENGINEERING [CV423-21 (II A)]	FOURTH YEAR [2022-23]	2.87	-	2.87	2.87	-	-	-	-	-	-	-	-	-	-	2.87	-	-
68	RAILWAY AND HARBOUR ENGINEERING [CV423-21 (II B)]	FOURTH YEAR [2022-23]	2.92	-	2.92	2.92	-	-	-	-	-	-	-	-	-	-	2.92	-	-
69	OPEN ELECTIVE III-ECONOMIC POLICIES IN INDIA [CV424-21 (II A)]	FOURTH YEAR [2022-23]	2.96	-	-	-	-	-	2.96	-	-	-	-	-	2.96	-	-	-	-

70	OPEN ELECTIVE III-ECONOMIC POLICIES IN INDIA [CV424-21 (II B)]	FOURTH YEAR [2022-23]	3.00	-	-	-	-	-	3.00	-	-	-	-	3.00	-	-	-	-
71	PROFESSIONAL PRACTICE,LAW AND ETHICS [CV425-21 (II A)]	FOURTH YEAR [2022-23]	2.88	-	-	-	-	-	2.88	-	2.88	-	-	-	-	-	-	-
72	PROFESSIONAL PRACTICE,LAW AND ETHICS [CV425-21 (II B)]	FOURTH YEAR [2022-23]	2.90	-	-	-	-	-	2.90	-	2.90	-	-	-	-	-	-	-
73	PROJECT WORK [CV426-21 (II A)]	FOURTH YEAR [2022-23]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	3.00	3.00	3.00	2.00	3.00	2.00
74	PROJECT WORK [CV426-21 (II B)]	FOURTH YEAR [2022-23]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	3.00	3.00	3.00	2.00	3.00	2.00
75	ENGINEERING ECONOMICS, ESTIMATION & COSTING [CV411 (I A)]	FOURTH YEAR [2022-23]	2.93	-	1.95	2.93	-	2.93	-	-	-	-	2.93	2.93	-	2.93	-	2.93
76	ENGINEERING ECONOMICS, ESTIMATION & COSTING [CV411 (I B)]	FOURTH YEAR [2022-23]	2.96	-	1.97	2.96	-	2.96	-	-	-	-	-	2.96	-	2.96	-	2.96
77	CONSTRUCTION ENGINEERING, MANAGEMENT & CONSTRUCTION PRACTICES [CV412 (I A)]	FOURTH YEAR [2022-23]	2.94	-	2.94	2.94	2.94	2.94	-	-	-	-	2.94	2.94	-	-	-	2.94
78	CONSTRUCTION ENGINEERING, MANAGEMENT & CONSTRUCTION PRACTICES [CV412 (I B)]	FOURTH YEAR [2022-23]	2.96	-	2.96	2.96	2.96	2.96	-	-	-	-	2.96	2.96	-	-	-	2.96
79	DESIGN OF CONCRETE STRUCTURES-II [CV413-22 (I A)]	FOURTH YEAR [2022-23]	2.90	-	2.90	2.90	-	-	-	-	-	-	-	-	-	2.90	-	2.90
80	DESIGN OF CONCRETE STRUCTURES-II [CV413-22 (I B)]	FOURTH YEAR [2022-23]	2.85	-	2.85	2.85	-	-	-	-	-	-	-	-	-	2.85	-	2.85
81	EARTHQUAKE ENGINEERING [CV414-22 (I A)]	FOURTH YEAR [2022-23]	2.88	-	2.88	2.88	-	-	-	-	-	-	-	-	-	2.88	-	-
82	EARTHQUAKE ENGINEERING [CV414-22 (I B)]	FOURTH YEAR [2022-23]	2.37	-	2.37	2.37	-	-	-	-	-	-	-	-	-	2.37	-	-
83	PROFESSIONAL ELECTIVE COURSE- II [CV415-22 (I A)]	FOURTH YEAR [2022-23]	2.96	-	2.96	2.96	-	-	-	-	-	-	-	-	-	2.96	-	-
84	PROFESSIONAL ELECTIVE COURSE- II [CV415-22 (I B)]	FOURTH YEAR [2022-23]	2.91	-	2.91	2.91	-	-	-	-	-	-	-	-	-	2.91	-	-
85	PROJECT ON R. C. C. STRUCTURES [CV416-22 (I A)]	FOURTH YEAR [2022-23]	3.00	-	3.00	3.00	-	3.00	-	-	-	-	3.00	-	-	3.00	-	3.00
86	PROJECT ON R. C. C. STRUCTURES [CV416-22 (I B)]	FOURTH YEAR [2022-23]	3.00	-	3.00	3.00	-	3.00	-	-	-	-	3.00	-	-	3.00	-	3.00
87	SEMINAR [CV417-22 (I A)]	FOURTH YEAR [2022-23]	3.00	-	2.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
88	SEMINAR [CV417-22 (I B)]	FOURTH YEAR [2022-23]	3.00	-	2.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
89	PROJECT WORK [CV418-22 (I A)]	FOURTH YEAR [2022-23]	3.00	-	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00
90	PROJECT WORK [CV418-22 (I B)]	FOURTH YEAR [2022-23]	3.00	-	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00
91	ASSESSMENT OF REPORT ON FIELD TRAINING-II [CV419-22 (I A)]	FOURTH YEAR [2022-23]	3.00	2.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	3.00	3.00	3.00
92	ASSESSMENT OF REPORT ON FIELD TRAINING-II [CV419-22 (I B)]	FOURTH YEAR [2022-23]	3.00	2.00	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	3.00	3.00	3.00
Direct Attainment				2.37	2.80	2.80	2.75	2.89	2.82	2.68	2.29	2.88	2.82	2.74	2.78	2.75	2.80	2.83

Direct Course Outcome Attainment Tools

- 1. Assignment**
- 2. Lab Journal**
- 3. In Semester Exam**
- 4. Class Test**
- 5. Open Book Test**
- 6. Take Home Test**
- 7. Lab Test**
- 8. Seminar/ Project work**

Assignment

INDEX

(Assignment / Tutorial Book Assessment)

Sr. No.	Title of Assignment / Tutorial	Page No.	CO	Date of Assign./Tut.		Marks (25)			Total Marks (25)	Sign.	
				Given	Checked	Timely Submission (10)	Presentation (10)	Oral (5)			
1]	Assignment NO: 1.	02	CE-1		24/7		10	10	5	25	<i>[Signature]</i>
1]	Introduction of limit state			22/09/22							
2]	Design of slab.	06	CE-2	27/9/22	19/10		10	10	4	24	<i>[Signature]</i>
3]	Limit state of	31	CE-3	20/10/22	16/11		10	10	4	24	<i>[Signature]</i>
	Collapse										
4]	Analysis & Design of flanged section	36	CE-4	16/11/22	19/11		10	10	5	25	<i>[Signature]</i>
5]	Continuous Beam	41	CE-5	19/11/22	29/11		10	10	4	24	<i>[Signature]</i>
6]	Limit state of	52	CE-6	01/12/22	2/12		10	10	5	25	<i>[Signature]</i>
	Collapse shear & Bending & Torsion.										

CERTIFICATE

This is certify that Mr. / Miss. / Mrs. Nagar sharanbasappa yegappa of Class B.T.Y Division B Roll No 47 Semester 5th has completed satisfactorily Assignments/Tutorials in D.O.S-1 during the academic year 2022-23

Date : *[Signature]*
Subject Teacher

[Signature]
Head of Dept.

[Signature]
Principal



**Shri Vithal Education & Research Institute's
College of Engineering, Pandharpur**

Internal Continuous Assessment (ICA) Tools

Journal

INDEX

(Laboratory Book Assessment)

Sr. No.	Title of Experiment	Page No.	CO	Date of Expt.		Marks (25)					Total (25)	Sign.
				Performed	Submitted	Attendance (5)	Performance (5)	Submission (5)	Presentation (5)	Oral (5)		
1	Aggregate Impact Test	1	1	06/09	13/09	5	5	5	5	5	25	10/3 13/09
2	Aggregate crushing Value Test	5	1	13/09	20/09	5	5	5	5	5	25	10/3 20/09
3	Los Angeles Abrasion ^{Test}		1	20/09	27/09	5	5	5	5	5	25	10/3 27/09
4	Flakiness Index & Elongation Index	11	1	27/09	11/10	5	5	5	5	5	24	10/3 11/10
5	Penetration Test	14	1	11/10	18/10	5	5	5	5	5	24	10/3 18/10
6	Softening Test	17	1	18/10	8/11	5	5	5	5	5	24	10/3 8/11
7	Ductility Test	20	1	8/11	15/11	5	5	5	5	5	24	10/3 15/11
8	Sp. Gravity of bitumen	22	1	15/11	22/11	5	5	5	5	5	24	10/3 22/11
9	Compaction test on soil	25	1	22/11	29/11	5	5	5	5	5	24	10/3 29/11

CERTIFICATE

This is certify that Mr. / Miss. / Mrs. Ambure Snehal Shankar of Class I.Y. Division A Roll No. 01 Semester V has completed satisfactorily Experiments in Highway and Tunnel Engg during the academic year 2022-23

Date : 10/3
Subject Teacher

Nish
Head of Dept.

P. Rongel
Principal



**Shri Vithal Education & Research Institute's
College of Engineering, Pandharpur**

**Assessment of In Semester Examination
(ISE)**



**Shri Vithal Education & Research Institute's
College of Engineering, Pandharpur**

In Semester Examination (ISE)

- **Marking Scheme of Assessment**
- **Answer Sheet**
- **Circular for Timely Assessment**
- **Result**



**Shri Vithal Education & Research Institute's
College of Engineering, Pandharpur**

In Semester Examination (ISE)

- **Marking Scheme of
Assessment**

SVERI'S College of Engineering, Pandharpur

S.Y. (Civil) ISE-I Academic Year -2022-23

CE43C Structural Mechanics-II

Div: - A & B

Day and Date: Sunday 07-05-2023

Marks -20

Time- 10.30 am to 12.30 pm

Duration- 2 Hrs.

CO	CO STATEMENT	BLOOMS LEVEL	MAX. MARKS
CE43C.1	SOLVE THE PROBLEMS OF COLUMNS WITH DIFFERENT LOADING CONDITIONS	BL3	10
CE43C.2	CALCULATE SLOPE AND DEFLECTION OF BEAMS UNDER DIFFERENT LOADING CONDITIONS	BL4	10

Q. 1	MCQ'S/objectives type questions.	Marks	Related CO & Blooms Level	PI
1	_____ loading induces, direct and bending stress at the section. a) Uniformly distributed b) Eccentric c) Both a and b d) None of the above	1	CE43C.1 & BL1	2.1.2 & 2.1.3
2	A column of length 'l' is hinged at the both ends, its equivalent length will be equals to a) 2l b) l c) 0.5l d) 0.707l	1	CE43C.1 & BL1	2.1.2 & 2.1.3
Q. 2	MCQ'S/objectives type questions.	Marks	Related CO & Blooms Level	PI
1	In cantilever beams, the deflection is zero at _____ a) Free end c) At support b) Fixed end d) Through out	1	CE43C.2 & BL1	2.1.2 & 2.1.3
2	The maximum deflection in cantilever beam of span "l"m and loading at free end is "W" kN. A) $Wl^3/2EI$ B) $Wl^3/3EI$ C) $Wl^3/4EI$ D) $Wl^3/2EI$	1	CE43C.2 & BL1	2.1.2 & 2.1.3
Q. 3	Solve any 1 Question	Marks	Related CO & Blooms Level	PI

1	A hollow alloy tube 5m long with external diameter 40mm and internal diameter 25mm respectively was found to extend 6.4mm under a tensile load of 60KN. Find the buckling load for tube when used as a column with both ends pinned. Also find the safe load for the tube taking a factor of safety is 3.	8	CE43C.1 & BL3	2.1.2 2.1.3 2.4.1
2	Determine the maximum and minimum stresses at the base of dam. The masonry trapezoidal dam retains water on vertical face. The height of the dam is 5m and dam water level is upto 4.5m. Top width of the dam is 1m whereas bottom width is 3m. Take weight of water as 10kN/m ³ and masonry as 20kN/m ³ .	8	CE43C.1 & BL3	2.1.2 2.1.3 2.4.1
Q. 5	Solve any 1 Question		Related CO & Blooms Level	2.1.2 2.1.3 2.4.1
1.	A simply supported beam of span 6M carries an UDL of 20KN/m over the entire span. Find slope at point A and maximum deflection where A is a point of left hand side of beam by using Moment area method.	8	CE43C.2 & BL3	2.1.2 2.1.3 2.4.1
2.	Find slope and deflection at free end of cantilever beam carries UDL 'W' kn/m throughout the span 'L'.	8	CE43C.2 & BL3	2.1.2 2.1.3 2.4.1

.....*All the Best*.....

SVERI'S College of Engineering, Pandharpur

Department of Civil engineering

Class:-L.Y. Div: - A&B

ISE-II Academic Year -2022-23

Earthquake Engineering

Day and Date: Tuesday & 24/11/2022

Time-9.30am to 11.00am

Marks - 20

Duration-2 Hrs

CO	CO STATEMENT	BLOOMS LEVEL	MAX. MARKS
CV414.2	analyze SDOF system for free and forced vibration.	BL 4	10
CV414.3	dynamic analysis of structures by response spectrum theory for various loading conditions.	BL 4	10

Instructions - I) All questions are compulsory.

II) Assume suitable data if required.

Q. 1	MCQ'S/objectives type questions.	Marks	Related CO& BloomsLevel	PI
1.	Forced vibration response is a) Transient b) steady state c) transient and steady state d) none of above	1	CV414.2 & BL4	3.2.1
2.	Force transmitted to base is a) Sum of restoring and inertia force b) sum of restoring and damping forces c) sum of inertia, damping and restoring forces d) sum of damping and inertia forces.	1	CV414.2 & BL4	3.2.1
Q. 2	MCQ'S/objectives type questions.	Marks	Related CO& BloomsLevel	PI
1.	Generally, ground motions recorded at the site during past earthquakes.... a) Design spectrum b) Response Spectrum c) Frequency Response d) all	1	CV414.3 & BL4	2.5.2
2.	Response of constant impulse force F0 is given by a) F0/k (1-cosωt) b) F0/k ω sin ω t d) None of the above	1	CV414.3 & BL4	2.5.2
Q. 3	Attempt any one of the following			
1.	Derive expression for undamped forced vibration of SDOF system subjected to harmonic loading.	8	CV414.2 & BL4	2.5.3
2.	A cantilever beam of span 2m carries a machine of mass 500kg at its free end. Neglecting the self weight of the beam, determine the undamped natural frequency of the system. If the machine runs at the speed of 300rpm. What is the amplification of force transmitted to its support assume flexural rigidity of beam is 2000KNm ² and a damping ratio of 4%. Comment on effect of transmissibility if an additional mass of 259.7 kg is added to machine assuming damping ratio to be same.	8	CV414.2 & BL4	3.2.1
3.	In a forced vibration test under harmonic excitation it was noted that the amplitude of motion at resonance was exactly four times the amplitude at an excitation frequency 20 % higher than the resonant frequency. Determine damping ratio of the system.	8	CV414.2 & BL4	3.2.1
Q. 4	Attempt any two of the following			
1.	Explain the concept of Duhamel's Integration.	4	CV414.3 & BL4	2.5.3
2.	Describe the concept of response history.	4	CV414.3 & BL4	3.2.1
3.	Derive an equation of motion of Earthquake vibration analysis.	4	CV414.3 & BL4	2.5.3
4.	Distinguish between earthquake spectrum and design spectrum. Explain a design spectrum can be developed for a site.	4	CV414.3 & BL4	3.2.1

.....All the Best.....



**Shri Vithal Education & Research Institute's
College of Engineering, Pandharpur**

In Semester Examination (ISE)

Answer Sheet



Shri Vitthal Education & Research Institute's
COLLEGE OF ENGINEERING, PANDHARPUR

ISE / Unit-Test No: 1

Date: 9/05/2029

Name of Student: Latake Divya Rajendra

Class: S.Y. BTech

Division: A

Roll No: 10

Subject: SM-II

Sign of Supervisor: 

Marks:

CO	BL	PI Code	Q No	a	b	c	d	e	f	Total
CO1	1	2.1.2 2.1.3	1	01	01					02
CO2	1	2.1.2 2.1.3	2	01	01					02
CO1	2	2.1.2 2.1.3	3	08	06					08
CO2	3	2.1.2 2.1.3 2.4.1	4	08	-					08
			5							
			6							
			7							
			8							
Grand Total										20 <u>20</u>

Q.1

→ 1) b)

→ 2) b)

Q.2

→ 1) b)

→ 2) b)

Q.3

1)



① Given, $l = 5 \text{ m} = 5000 \text{ mm}$

$$D = 40 \text{ mm}$$

$$d = 25 \text{ mm}$$

$$\Delta d = 6.4 \text{ mm}$$

$$P = 60 \times 10^3 \text{ N}$$

$$\text{FOS} = 3$$

② To find, $P_c = ?$

$$P_{\text{safe}} = ?$$

③ Find ~~your~~ young's modulus, (E)

$$\Delta d = \frac{Pl}{AE}$$

$$6.4 = \frac{60 \times 10^3 \times 5000}{\frac{\pi}{4} (40^2 - 25^2) E}$$

$$E = \frac{60 \times 10^3 \times 5000}{\frac{\pi}{4} (40^2 - 25^2) \times 6.4}$$

$$E = 61.213 \times 10^3 \text{ N/mm}^2$$

④ Find I_{min} ,

$$I_{xx} = I_{yy} = I_{\text{min}} = \frac{\pi}{64} (D^4 - d^4)$$

$$= \frac{\pi}{64} (40^4 - 25^4)$$

$$I_{\text{min}} = 106.488 \times 10^3 \text{ mm}^4$$

⑤ find buckling load & safe load

$$P_c = \frac{\pi^2 E I_{\text{min}}}{(le)^2}$$

find effective length (l_e),

Both ends are pinned,

$$l_e = l = 5000 \text{ mm}$$

$$P_c = \frac{\pi^2 \times 61.213 \times 10^3 \times 106.488 \times 10^3}{(5000)^2}$$

$$P_c = 2.573 \times 10^3 \text{ N}$$

$$P_{\text{safe}} = \frac{P_c}{\text{fos}} = \frac{2.573 \times 10^3}{3}$$

$$P_{\text{safe}} = 857.66 \text{ N}$$

2)



(1) Given,

$$a = 1 \text{ m} = 1000 \text{ mm}$$

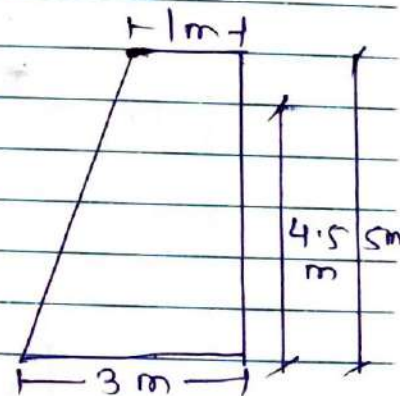
$$b = 3 \text{ m} = 3000 \text{ mm}$$

$$H = 5 \text{ m} = 5000 \text{ mm}$$

$$h_1 = 4.5 \text{ m} = 4500 \text{ mm}$$

$$w = 10 \text{ kN/m}^3$$

$$\gamma = 20 \text{ kN/m}^3$$



(2) To find, $\sigma_{\text{max}} = ?$
 $\sigma_{\text{min}} = ?$

(3)

$$W = \gamma \times \text{Vol}^m$$

$$= \gamma \times \left(\frac{a+b}{2} \right) \times H$$

$$= 20 \times \left(\frac{1+3}{2} \right) \times 5 \times 1$$

$$W = 200 \text{ kN}$$

(4) find water pressure,

$$P = \frac{wh^2}{2}$$

$$P = \frac{10 \times 4 \cdot 5^2}{2}$$

$$P = 101.25 \text{ kN}$$

⑤ find eccentricity,

$$e = \bar{x}_1 - \frac{b}{2}$$

find \bar{x} ,

$$\bar{x} = \frac{a^2 + ab + b^2}{3(a+b)}$$

$$\bar{x} = \frac{1^2 + (1 \times 3) + 3^2}{3(1+3)}$$

$$\bar{x} = 1.083 \text{ m}$$

$$e_1 = \bar{x} + \frac{P}{W} \cdot \frac{h}{3}$$

$$= 1.083 + \frac{101.25}{200} \cdot \frac{4.5}{3}$$

$$e_1 = 1.842 \text{ m}$$

$$e = \frac{e_1 - b}{2}$$

$$= \frac{1.842 - 3}{2}$$

$$e = 0.342 \text{ m}$$

⑥ find stresses Direct & bending

$$\sigma_0 = \frac{W}{A} = \frac{W}{b \times d}$$

$$= \frac{200 \times 10^3}{1 \times 3000}$$

$$\boxed{G_0 = 66.66 \text{ N/mm}^2}$$

$$G_b = \frac{6 W e}{d b^2}$$

$$= \frac{6 \times 200 \times 10^3 \times 0.342}{1 \times 3000^2}$$

$$\boxed{G_b = 0.0456 \text{ N/mm}^2}$$

⑦ find resultant stresses,

$$\sigma_{\max}, \sigma_{\min} = G_0 \pm G_b$$

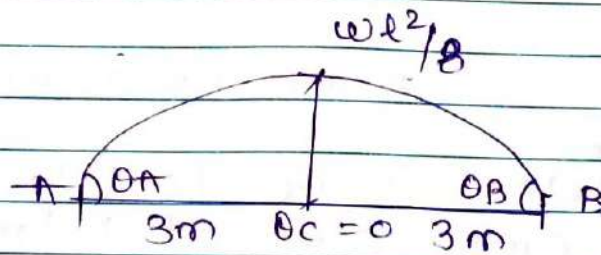
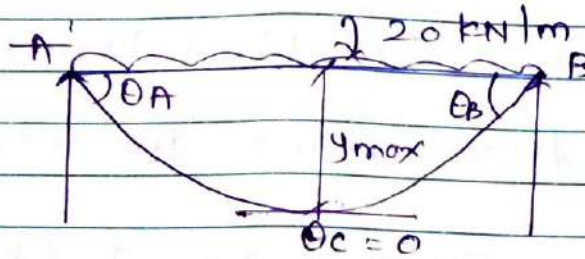
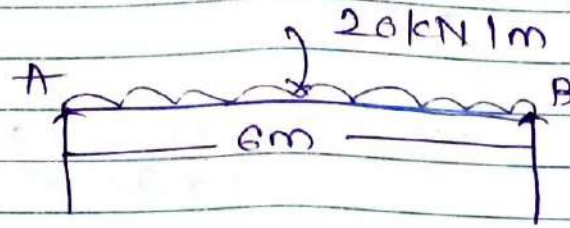
$$= 66.66 \pm 0.0456$$

$$\boxed{\begin{aligned} \sigma_{\max} &= 66.70 \text{ N/mm}^2 \\ \sigma_{\min} &= 66.61 \text{ N/mm}^2 \end{aligned}}$$

06

Q. 4.

1)



$\frac{M}{EI}$ diagram

① Find slope at pt 'A'

$$\theta_A - \theta_C = \frac{1}{EI} \left(\text{Area of b.m diagram betn A \& C} \right)$$

$$\theta_A - 0 = \frac{1}{EI} \left(\frac{2}{3} \times b \times h \right)$$

$$\theta_A = \frac{1}{EI} \left(\frac{2}{3} \times 6 \times \frac{wl^2}{8} \right)$$

$$\theta_A = \frac{1}{EI} \left(2 \times \frac{20 \times 6^2}{8} \right)$$

$$\theta_A = \frac{1}{EI} (2 \times 90)$$

$$\theta_A = \frac{180}{EI} \text{ Rad}$$

② find deflection at A'

$$y_{\max} = \frac{1}{EI} \quad (\text{first area b.m of b.m diagram betn A \& c})$$

$$= \frac{1}{EI} \left(\frac{2}{3} \times b \times h \right) \left(\frac{5}{8} \times b \right)$$

$$= \frac{1}{EI} \left(\frac{2}{3} \times 3 \times \frac{20 \times 6^2}{8} \right) \left(\frac{5}{8} \times 3 \right)$$

$$= \frac{1}{EI} (180 \times 1.875)$$

$$= 337.5$$

$$y_{\max} = \frac{337.5 \text{ m}}{EI}$$

OR



Shri Vithal Education & Research Institute's
COLLEGE OF ENGINEERING, PANDHARPUR

ISE / Unit Test No: II Date: _____

Name of Student: Talekar Mauli Sanjay

Class: L.Y. B. Tech Division: A

Roll No: 65 Subject: EG

Sign of Supervisor: *[Signature]* Marks: _____

CO	BL	PI Code	Q.No	a	b	c	d	e	f	Total
CV414.3	2	1.1.2	1	1	1					2
CV414.4	2	1.1.2	2	0	1					1
CV414.3	4	2.1.1	3	08						08
CV414.4	4	2.1.5	4	06						06
			5							
			6							
			7							17
			8							<u>20</u>
Grand Total										

Q1)

1) c) transient & steady state ✓

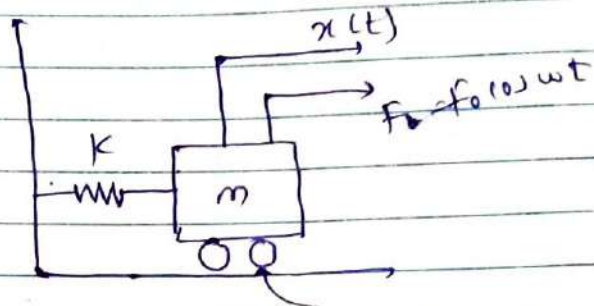
2) b) sum of restoring & damping force ✓

3) b) Response spectrum. ✓

4) a) $\frac{F_0}{k}$ $\frac{F_0}{k} (1 - \cos \omega t)$ ✓
 ~~$t = \cos \omega t$~~

Q9)

1) Expression for undamped forced vibration of SDOF system subjected to harmonic loading:

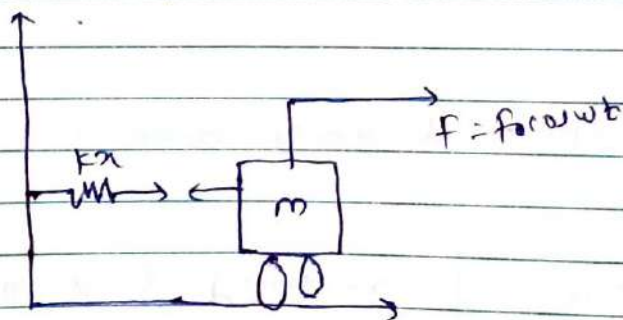


consider a undamped forced vibration of SDOF system subjected to harmonic loading on a mass m,

$$F_0 = f_0 \cos \omega t$$

f_0 = forced amplitude

ω = excited frequency.



mass \times Accⁿ = total force acting on mass

$$\therefore m \ddot{x} = -kx + m \omega^2 f_0 \cos \omega t$$

$$x(t)_{\text{total}} = x_h(t) + x_p(t)$$

now,

$$x_h(t) = A_1 \cos \omega t + A_2 \sin \omega t$$

Because of excitation $f_0 \cos \omega t$ is harmonic then $x_p(t)$ is also harmonic & having same frequency.

$$\therefore x_p(t) = X f_0 \cos \omega t$$

consider, $x(t) = x_h(t) + x_p(t) = X f_0 \cos \omega t$

$$\therefore x(t) = X f_0 \cos \omega t$$

$$x'(t) = X \omega f_0 \sin \omega t$$

$$x''(t) = X \omega^2 f_0 \cos \omega t$$

$$\therefore m x'' + k x = f_0 \cos \omega t$$

$$\therefore m (X \omega^2 f_0 \cos \omega t) + k (X f_0 \cos \omega t) = f_0 \cos \omega t$$

$$\therefore X (m \omega^2 + k) = f_0$$

$$\therefore X = \frac{f_0}{k + m \omega^2}$$

$$\therefore X = \frac{f_0/k}{\frac{k}{k} + \frac{m \omega^2}{k}}$$

$$\therefore X = \frac{X_{st}}{1 + (\omega/\omega_n)^2} \quad (X_{st} = f_0/k)$$

$$\therefore X = \frac{X_{st}}{1 + r^2} \quad (r = \omega/\omega_n)$$

$$\therefore x_p(t) = \frac{X_{st} \cdot f_0 \cos \omega t}{1 + r^2}$$

$$\therefore x(t) = x_h(t) + x_p(t)$$

$$\therefore x(t) = A_1 \cos \omega t + A_2 \sin \omega t + \frac{X_{st} f_0 \cos \omega t}{1 + r^2}$$

Now,

$$t=0, \quad x(t) = x_0$$

$$x'(t) = v_0$$

$$\therefore x_0 = A_1 + \frac{X_{st}}{1-r^2}$$

$$\therefore \boxed{A_1 = x_0 - \frac{X_{st}}{1-r^2}}$$

$$x(t) = x_0 = A_1 \cos \omega_n t + A_2 \sin \omega_n t + \frac{X_{st}}{1-r^2} \cdot f_0 \cos \omega t$$

$$x'(t) = v_0 = -A_1 \omega_n \sin \omega_n t + A_2 \omega_n \cos \omega_n t$$

$\# - \frac{v_0 \omega_n X_{st}}{1-r^2} f_0 \sin \omega t$

$$\therefore v_0 = A_2 \omega_n$$

$$\therefore \boxed{A_2 = \frac{v_0}{\omega_n}}$$

$$\therefore \boxed{x(t) = x_0 - \frac{X_{st}}{1-r^2} \cos \omega_n t + \frac{v_0}{\omega_n} \sin \omega_n t}$$

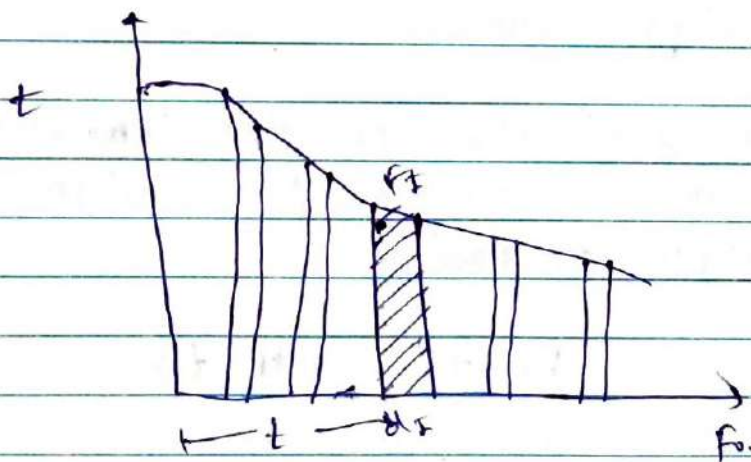
$+ \frac{X_{st}}{1-r^2} \cdot f_0 \cos \omega t$

08

Q.4)

a) Duhamel's Integration

- Duhamel's integration is a practical way of characterizing response of linear systems & structure to arbitrary time of excitation force
- Impulse load is a load which is acting for a short time period.
- The corresponding impulse loading is defined as product of force and the type of time duration.



consider the impulse loading F_0 acting at an time duration of dt upto 't'.

04

b) Response history

- response to a given ground motion & their effects on the structure depends on the natural vibration period (T_n) & damping ratio (ξ).
- Once the response is analysed by dynamic analysis
- then internal forces can be analysed by static analysis.
- Equivalent static force gives the knowledge is specified in the building code.
- It gives the practical knowledge of dynamic structure to design & analyse purpose.

$$F_s(t) = k u(t)$$

k = lateral stiffness.

k is in terms of mass.

$$\therefore F_s(t) = m \omega^2 u(t)$$

where, $A(t) = \omega^2 u(t)$

$$\therefore F_s(t) = M \cdot A(t)$$

\therefore Resonance occurs when the force is applied on a mass.

2)

$$\text{span} = 2 \text{ m.}$$

$$m_1 = 500 \text{ kg}$$

$$\text{speed, } F = 3000 \text{ rpm} \times \frac{1}{60} = 50 \text{ rps. } \omega$$

$$E = 20000 \text{ kN/m}^2$$

$$\epsilon = 4\% = \frac{4}{100} = 0.04$$

$$m_2 = 259.7 \text{ kg}$$

$$\omega = k = \frac{3EJ}{13}$$

$$= \frac{3 \times 20000 \text{ kN/m}^2 \times 10^3}{13}$$

$$\therefore k = 1100750$$

$$\therefore \omega_n = \sqrt{\frac{k}{m}} = \sqrt{\frac{1100750 \times 10^3}{500}}$$

$$\therefore \omega_n = 1.22 \times 38.72$$

$$\therefore r = \frac{\omega}{\omega_n} = \frac{50}{1.22 \times 38.72}$$

$$\therefore r = 2.88 \times 0.12$$

$$\therefore X = \frac{1}{1 - 2.88 \times 0.12} = \frac{1}{1 - 0.3456} = 1.019$$

$$\therefore y = 1.019$$

\therefore If mass added.

$$m_3 = m_1 + m_2$$

$$= 500 + 259.7$$

$$m_3 = 759.7 \text{ kg}$$

$$\omega_n = \sqrt{\frac{k}{m}}$$

$$\therefore \omega_n = \sqrt{\frac{k}{m}}$$

$$= \sqrt{\frac{250 \times 10^3}{759.7}}$$

$$\therefore \omega_n = 31.12$$

$$\therefore \phi = \frac{\omega_n}{\omega_d}$$

$$= \frac{38.72}{31.12}$$

$$\therefore \phi = \underline{\underline{1.23}}$$

$$\therefore f_0 = \left[\frac{1 + (2\zeta)^2}{(1-\zeta^2)^2 + (2\zeta)^2} \right]^{1/2}$$

$$\therefore f_0 = \frac{1}{(1-\zeta^2)^2}$$

$$= \frac{1}{(1-0.132)^2}$$

$$\therefore f_0 = \underline{\underline{3.10}}$$

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR
TOOL CO ATTAINMENT REPORT
 ACADEMIC YEAR 2022-23
 DEPARTMENT: CIVIL ENGINEERING
 PROGRAM UNDER GRADUATE IN CIVIL ENGINEERING
 CLASS SECOND YEAR
 DIVISION A
 COURSE STRUCTURAL MECHANICS-II (CE43C)

TOOL NAME: ISE-I

TOOL MAX MARKS 20

PRN NO.	Student Code	Name of Student	Linked CO	CE43C.1	CE43C.2	CE43C.1	CE43C.2	CE43C.1			CE43C.2		
			Max. Marks	2	2	8	8	Max. Marks	Obtained Marks	% Marks	Max. Marks	Obtained Marks	% Marks
			Q. No. / Total Obtained Marks	Q1	Q2	Q3	Q4						
202101053015889	211CE11008	SAYLI VIJAY ASHTUL	20	2	2	8	8	10	10	100	10	10	100
202201053044293	221CE12003	AISHWARYA ROHIDAS CHAVAN	18	2	1	7	8	10	9	90.00	10	9	90.00
202101053016558	211CE11029	NAMRATA DINKAR CHAVARE	20	2	2	8	8	10	10	100	10	10	100
202101053016667	211CE11023	SANIKA GAJANAN DESHMUKHE	19	2	1	8	8	10	10	100	10	9	90.00
202201053044272	221CE12024	KAJAL SHRAVAN KAMBLE	16	1	1	6	8	10	7	70.00	10	9	90.00
202101053016659	211CE11019	PRIYANKA PRATAP KARANDE	18	2	2	6	8	10	8	80.00	10	10	100
202101053016789	211CE11025	RUTUJA MAHESH KAWADE	10	2	2	6	0	10	8	80.00	10	2	20.00
202201053044526	221CE12022	PRIYANKA IRANNA KOLI	17	1	1	8	7	10	9	90.00	10	8	80.00
202101053016839	211CE11026	AISHWARYA PRADIP KUMBHAR	11	1	2	8	0	10	9	90.00	10	2	20.00
202101053016798	211CE11018	DIVYA RAJENDRA LATAKE	20	2	2	8	8	10	10	100	10	10	100
202101053016661	211CE11005	AAKANKSHA JAGANNATH MANE	18	1	1	8	8	10	9	90.00	10	9	90.00
202101053016617	211CE11012	POOJA DADASAHEB NAGANE	19	2	2	7	8	10	9	90.00	10	10	100
202101053016625	211CE11022	SNEHAL NAVNATH RONGE	20	2	2	8	8	10	10	100	10	10	100
202101053016860	211CE11010	ALVIRA AMIN SHAIKH	13	2	2	4	5	10	6	60.00	10	7	70.00
202101053016610	211CE11032	ANISHA AMAR SURVASE	14	2	1	8	3	10	10	100	10	4	40.00
202201053044335	221CE12038	SHIVALINGAMMA CHANDRAKANT TENGALE	17	2	2	8	5	10	10	100	10	7	70.00
202101053016600	211CE11001	BAPU SADASHIV ANUSE	12	2	2	8	0	10	10	100	10	2	20.00
202101053016831	211CE11014	RAMESH BAPU BANDGAR	17	2	2	5	8	10	7	70.00	10	10	100
202101053016834	211CE11004	AJAY BHAGWAT BANSODE	13	1	1	4	7	10	5	50.00	10	8	80.00
202101053016657	211CE11031	PRATHMESH LAXMAN CHAVAN	19	1	2	8	8	10	9	90.00	10	10	100
202101053016849	211CE11030	SWARUP RAJARAM CHAVAN	12	2	2	7	1	10	9	90.00	10	3	30.00
202101053016578	211CE11011	SWAPNIL MAHADEV DHULAGUDE	13	1	0	6	6	10	7	70.00	10	6	60.00
202101053016724	211CE11007	VISHWAJEET SANJAY GHADGE	9	2	1	6	0	10	8	80.00	10	1	10.00
202201053044379	221CE12040	SAMARTH PRAKASH HIPPARGI	20	2	2	8	8	10	10	100	10	10	100
202101053016729	211CE11021	VITTHAL SAINATH HOTKAR	14	2	2	5	5	10	7	70.00	10	7	70.00

202101053015906	211CE11017	PRATIK DADA KARE	12	2	2	2	6	10	4	40.00	10	8	80.00
202101053016869	211CE11028	ABHIJIT ASHOK KHALADKAR	11	1	2	0	8	10	1	10.00	10	10	100
202201053044314	221CE12035	SANKET CHANDRAKANT LENDAVE	20	2	2	8	8	10	10	100	10	10	100
202101053016716	211CE11013	GOPAL DATTA MADANE	20	2	2	8	8	10	10	100	10	10	100
202201053044383	221CE12045	RAHUL MANAGENI MASHALE	18	2	2	8	6	10	10	100	10	8	80.00
202101053016723	211CE11003	TUKARAM SHANKAR METAKARI	8	2	2	3	1	10	5	50.00	10	3	30.00
202201053044347	221CE12015	AVINASH SHARANAPPA NILGAR	18	1	1	8	8	10	9	90.00	10	9	90.00
202201053044356	221CE12021	VIGHNAHAR SHARAD NILGAR	18	1	1	8	8	10	9	90.00	10	9	90.00
202201053044342	221CE12005	ABHISHEK SURESH NIMBAL	19	1	2	8	8	10	9	90.00	10	10	100
202201053044380	221CE12051	YASH SATISH NIMBALKAR	20	2	2	8	8	10	10	100	10	10	100
202201053044300	221CE12058	MAHESH LAXMAN PADVALE	20	2	2	8	8	10	10	100	10	10	100
202101053016921	211CE11027	OM VIVEKANAND PATIL	17	2	2	6	7	10	8	80.00	10	9	90.00
202101053016897	211CE11015	RAJ MOHAN RONGE	17	2	2	6	7	10	8	80.00	10	9	90.00
202101053016926	211CE11002	AKASH SUBHASH SHEGAR	19	2	2	8	7	10	10	100	10	9	90.00
202101053016854	211CE11009	DATTATRAY MARUTI SHEJAL	11	2	2	3	4	10	5	50.00	10	6	60.00
202101053016900	211CE11024	YUVRAJ SITARAM SHINDE	18	2	2	7	7	10	9	90.00	10	9	90.00
202201053044359	221CE12047	SURESH BHIMANNA SUNAGAR	17	1	2	6	8	10	7	70.00	10	10	100
202201053044366	221CE12028	BHEEMASHANKAR RAJASHEKHAR TUKAMALI	19	1	2	8	8	10	9	90.00	10	10	100
202201053044360	221CE12039	SHRAVAN SURYAKANT WAGHAMODE	18	2	2	6	8	10	8	80.00	10	10	100

Number of Students: 44

Tool CO Attainment

Target Level(%) 60

Attainment Level

(Percentage of students scoring Marks >=60) = Level 1

(Percentage of students scoring Marks >=70) = Level 2

(Percentage of students scoring Marks >=80) = Level 3

Linked CO	CE43C.1	CE43C.2
No. of Students achieving Target Level	39	37
No. of Applicable Students	44	44
% Students achieving Target Level	88.64	84.09
Attainment	3	3

Open Book Test
Question Paper and Answer Sheet



**Shri Vithal Education & Research Institute's
College of Engineering, Pandharpur**

Open Book Test (OBT)

- 1. Question Paper**
- 2. Answer sheet**
- 3. Result**



**Shri Vithal Education & Research Institute's
College of Engineering, Pandharpur**

Open Book Test (OBT)

Question Paper

OBT-I SM-II

* Indicates required question

1. Email *

2. ROLL NO *

3. DIVISION *

Mark only one oval.

SY A

SY B

4. NAME OF THE STUDENT *

5. Direct and bending stress occurs due to *

1 point

Mark only one oval.

Axial loading

Concentric loading

Eccentric loading

Any of the above

6. Section modulus (along X-X axis) of a rectangular section of breadth b and depth d is * 1 point

Mark only one oval.

- $db^2/4$
- $db^2/6$
- $bd^2/4$
- $bd^2/6$

7. For no tension condition, resultant of all horizontal and vertical loads must pass through middle of base of dam. * 1 point

Mark only one oval.

- a) $1/6$ th
- (b) $1/8$ th
- (c) $1/3$ rd
- (d) $1/4$ th

8. The section modulus of a rectangular section is proportional to * 1 point

Mark only one oval.

- (a) area of the section
- (b) square of the area of the section
- (c) product of the area and depth
- (d) product of the area and width

9. A short masonry pillar is 60 cm x 60 cm in cross-section, the core of the pillar is a square whose side is * 2 points

Mark only one oval.

- a) 17.32 cm
- (b) 14.14 cm
- (c) 20.00 cm
- (d) 22.36 cm

10. The stability of dam is checked for * 1 point

Mark only one oval.

- (a) Tension at the base, overturning & sliding
- (b) Compression at the base, overturning & sliding
- (c) Overturning and sliding only
- (d) None of above

11. The materials which have the same elastic properties in all directions, are called * 1 point

Mark only one oval.

- (a) Isotropic
- (b) Brittle
- (c) Homogeneous
- (d) Hard

12. The rectangular section with sides 3 m and 6 m has a core, * 1 point

Mark only one oval.

- Parallelogram of sides 2m, 4m
- Square diagonal of sides 1m, 3m
- Circular of radius 3m
- Rhombus diagonal of sides 1m, 2m

13. For keeping the stress wholly compressive the load may be applied on a circular column anywhere within a concentric circle of diameter * 1 point

Mark only one oval.

- (a) $d/2$
- (b) $d/3$
- (c) $d/4$
- (d) $d/8$

14. The equivalent length is equal to half the actual length of a column with * 1 point

Mark only one oval.

- a) One end fixed and other end free
- b) Both end fixed
- c) Both end hingeD
- d) One end fixed and other end hinged

15. The slenderness ratio of a vertical column of square cross- section of 10 cm side and 500 cm long, is * 2 points

Mark only one oval.

- 117.2
- 17.3
- 173.2
- 137.2

16. The buckling load will be maximum for a column if * 1 point

Mark only one oval.

- One end is fixed, other is free
- Both ends fixed
- Both ends hinged
- One end is hinged other is free

17. The ratio of the effective length of a column and minimum radius of gyration * 1 point of its cross-sectional area, is known

Mark only one oval.

- buckling factor
- slenderness ratio
- crippling factor
- none of these

18. The equivalent length of a column fixed at one end and free at the other end, is * 1 point

Mark only one oval.

- 0.5 L
- 0.7 L
- L
- 2L

19. The value of Young's modulus of elasticity in tension is, * 1 point

Mark only one oval.

- Less than that in compression
- b) More than that in compression
- c) Same as that in tension
- d) None

20. Columns of given length, cross-section and material have different values of buckling loads for different end conditions. The strongest column is one whose * 1 point

Mark only one oval.

- one end is fixed and other end is hinged
- B. both ends are hinged or pin jointed
- C. one end is fixed and the other end entirely free
- D. both the ends are fixed

21. Euler's formula for mild steel column is not applicable if slenderness ratio is * 1 point less than

Mark only one oval.

- (a) 80
- (b) 160
- (c) 240
- (d) 320

22. Euler's theory is applicable when * 1 point

Mark only one oval.

- (a) Column is initially straight
- (b) Self weight of column is accounted in analysis
- (c) Column fails by crushing
- (d) Cross section is non-prismatic

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Google Forms



**Shri Vithal Education & Research Institute's
College of Engineering, Pandharpur**

Open Book Test (OBT)

Answer sheet

OBT-I SM-II

Email *

aakankshamane321@gmail.com

ROLL NO *

11

DIVISION *

SY A

SY B

NAME OF THE STUDENT *

Aakanksha Jagannath Mane

Direct and bending stress occurs due to *

1 point

- Axial loading
- Concentric loading
- Eccentric loading
- Any of the above

Section modulus (along X-X axis) of a rectangular section of breadth b and depth d is *

1 point

- $db^2/4$
- $db^2/6$
- $bd^2/4$
- $bd^2/6$

For no tension condition, resultant of all horizontal and vertical loads must pass through middle of base of dam. * 1 point

- a) 1/6th
- (b) 1/8th
- (c) 1/3rd
- (d) 1/4th

The section modulus of a rectangular section is proportional to *

1 point

- (a) area of the section
- (b) square of the area of the section
- (c) product of the area and depth
- (d) product of the area and width

A short masonry pillar is 60 cm x 60 cm in cross-section, the core of the pillar is a square * 2 points
whose side is

- a) 17.32 cm
- (b) 14.14 cm
- (c) 20.00 cm
- (d) 22.36 cm

The stability of dam is checked for *

1 point

- (a) Tension at the base, overturning & sliding
- (b) Compression at the base, overturning & sliding
- (c) Overturning and sliding only
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The materials which have the same elastic properties in all directions, are called * 1 point

- (a) Isotropic
- (b) Brittle
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The rectangular section with sides 3 m and 6 m has a core, * 1 point

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- Circular of radius 3m
- Rhombus diagonal of sides 1m, 2m

For keeping the stress wholly compressive the load may be applied on a circular column * 1 point
anywhere within a concentric circle of diameter

- (a) $d/2$
- (b) $d/3$
- (c) $d/4$
- (d) $d/8$

The equivalent length is equal to half the actual length of a column with *

1 point

- a) One end fixed and other end free
- b) Both end fixed
- c) Both end hinged
- d) One end fixed and other end hinged

The slenderness ratio of a vertical column of square cross-section of 10 cm side and 500 cm long, is

* 2 points

- 117.2
- 17.3
- 173.2
- 137.2

The buckling load will be maximum for a column if *

1 point

- One end is fixed, other is free
- Both ends fixed
- Both ends hinged
- One end is hinged other is free

The ratio of the effective length of a column and minimum radius of gyration of its cross-sectional area, is known * 1 point

- buckling factor
- slenderness ratio
- crippling factor
- none of these

The equivalent length of a column fixed at one end and free at the other end, is * 1 point

- 0.5 L
- 0.7 L
- L
- 2L

The value of Young's modulus of elasticity in tension is, * 1 point

- Less than that in compression
- b) More than that in compression
- c) Same as that in tension
- d) None

Columns of given length, cross-section and material have different values of buckling loads for different end conditions. The strongest column is one whose

* 1 point

- one end is fixed and other end is hinged
- B. both ends are hinged or pin jointed
- C. one end is fixed and the other end entirely free
- D. both the ends are fixed

Euler's formula for mild steel column is not applicable if slenderness ratio is less than *

1 point

- (a) 80
- (b) 160
- (c) 240
- (d) 320

Euler's theory is applicable when *

1 point

- (a) Column is initially straight
- (b) Self weight of column is accounted in analysis
- (c) Column fails by crushing
- (d) Cross section is non-prismatic

This form was created inside of SVERI's College of Engineering, Pandharpur.

Google Forms

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR**TOOL CO ATTAINMENT REPORT**

ACADEMIC YEAR: 2022-23

DEPARTMENT: CIVIL ENGINEERING

PROGRAM: UNDER GRADUATE IN CIVIL ENGINEERING

CLASS: SECOND YEAR

DIVISION: A

COURSE: STRUCTURAL MECHANICS-II (CE43C)

TOOL NAME: OBT-1

TOOL MAX. MARKS: 20

PRN NO.	Student Code	Name of Student	Linked CO	CE43 C.1	CE43 C.2	CE43C.1			CE43C.2		
			Max. Marks	10	10						
			Q. No. / Total Obtained	Q1	Q2	Max. Marks	Obt. Marks	% Marks	Max. Marks	Obt. Marks	% Marks
202101053015889	211CE11008	SAYLI VIJAY ASHTUL	12	6	6	10	6	60.00	10	6	60.00
202201053044293	221CE12003	AISHWARYA ROHIDAS CHAVAN	19	10	9	10	10	100	10	9	90.00
202101053016558	211CE11029	NAMRATA DINKAR CHAVARE	19	10	9	10	10	100	10	9	90.00
202101053016667	211CE11023	SANIKA GAJANAN DESHMUKHE	17	9	8	10	9	90.00	10	8	80.00
202201053044272	221CE12024	KAJAL SHRAVAN KAMBLE	19	10	9	10	10	100	10	9	90.00
202101053016659	211CE11019	PRIYANKA PRATAP KARANDE	18	10	8	10	10	100	10	8	80.00
202101053016789	211CE11025	RUTUJA MAHESH KAWADE	19	10	9	10	10	100	10	9	90.00
202201053044526	221CE12022	PRIYANKA IRANNA KOLI	19	10	9	10	10	100	10	9	90.00
202101053016839	211CE11026	AISHWARYA PRADIP KUMBHAR	17	9	8	10	9	90.00	10	8	80.00
202101053016798	211CE11018	DIVYA RAJENDRA LATAKE	18	9	9	10	9	90.00	10	9	90.00
202101053016661	211CE11005	AAKANKSHA JAGANNATH MANE	17	8	9	10	8	80.00	10	9	90.00
202101053016617	211CE11012	POOJA DADASAHEB NAGANE	19	10	9	10	10	100	10	9	90.00

202101053016625	211CE11022	SNEHAL NAVNATH RONGE	19	10	9	10	10	100	10	9	90.00
202101053016860	211CE11010	ALVIRA AMIN SHAIKH	19	10	9	10	10	100	10	9	90.00
202101053016610	211CE11032	ANISHA AMAR SURVASE	19	10	9	10	10	100	10	9	90.00
202201053044335	221CE12038	SHIVALINGAMMA CHANDRAKANT TENGALE	18	9	9	10	9	90.00	10	9	90.00
202101053016600	211CE11001	BAPU SADASHIV ANUSE	17	8	9	10	8	80.00	10	9	90.00
202101053016831	211CE11014	RAMESH BAPU BANDGAR	19	10	9	10	10	100	10	9	90.00
202101053016834	211CE11004	AJAY BHAGWAT BANSODE	19	10	9	10	10	100	10	9	90.00
202101053016657	211CE11031	PRATHMESH LAXMAN CHAVAN	19	10	9	10	10	100	10	9	90.00
202101053016849	211CE11030	SWARUP RAJARAM CHAVAN	19	10	9	10	10	100	10	9	90.00
202101053016578	211CE11011	SWAPNIL MAHADEV DHULAGUDE	19	10	9	10	10	100	10	9	90.00
202101053016724	211CE11007	VISHWAJEET SANJAY GHADGE	19	10	9	10	10	100	10	9	90.00
202201053044379	221CE12040	SAMARTH PRAKASH HIPPARGI	19	10	9	10	10	100	10	9	90.00
202101053016729	211CE11021	VITTHAL SAINATH HOTKAR	19	10	9	10	10	100	10	9	90.00
202101053015906	211CE11017	PRATIK DADA KARE	17	8	9	10	8	80.00	10	9	90.00
202101053016869	211CE11028	ABHIJIT ASHOK KHALADKAR	19	10	9	10	10	100	10	9	90.00
202201053044314	221CE12035	SANKET CHANDRAKANT LENDAVE	19	9	10	10	9	90.00	10	10	100
202101053016716	211CE11013	GOPAL DATTA MADANE	17	8	9	10	8	80.00	10	9	90.00
202201053044383	221CE12045	RAHUL MANAGENI MASHALE	20	10	10	10	10	100	10	10	100
202101053016723	211CE11003	TUKARAM SHANKAR METAKARI	19	10	9	10	10	100	10	9	90.00
202201053044347	221CE12015	AVINASH SHARANAPPA NILGAR	19	10	9	10	10	100	10	9	90.00
202201053044356	221CE12021	VIGHNAHAR SHARAD NILGAR	19	9	10	10	9	90.00	10	10	100
202201053044342	221CE12005	ABHISHEK SURESH NIMBAL	20	10	10	10	10	100	10	10	100
202201053044380	221CE12051	YASH SATISH NIMBALKAR	19	9	10	10	9	90.00	10	10	100
202201053044300	221CE12058	MAHESH LAXMAN PADVALE	20	10	10	10	10	100	10	10	100
202101053016921	211CE11027	OM VIVEKANAND PATIL	19	9	10	10	9	90.00	10	10	100

202101053016897	211CE11015	RAJ MOHAN RONGE	19	9	10	10	9	90.00	10	10	100
202101053016926	211CE11002	AKASH SUBHASH SHEGAR	19	9	10	10	9	90.00	10	10	100
202101053016854	211CE11009	DATTATRAY MARUTI SHEJAL	19	9	10	10	9	90.00	10	10	100
202101053016900	211CE11024	YUVRAJ SITARAM SHINDE	19	9	10	10	9	90.00	10	10	100
202201053044359	221CE12047	SURESH BHIMANNA SUNAGAR	19	9	10	10	9	90.00	10	10	100
202201053044366	221CE12028	BHEEMASHANKAR RAJASHEKHAR TUKAMALI	19	9	10	10	9	90.00	10	10	100
202201053044360	221CE12039	SHRAVAN SURYAKANT WAGHAMODE	19	9	10	10	9	90.00	10	10	100

Number of Students: 44

Tool CO Attainment

Target Level(%): 60

Attainment Level

(Percentage of students scoring Marks ≥ 60) = Level 1

(Percentage of students scoring Marks ≥ 70) = Level 2

(Percentage of students scoring Marks ≥ 80) = Level 3

Linked CO	CE43C.1	CE43C.2
No. of Students achieving Target Level	44	44
No. of Applicable Students	44	44
% Students achieving Target Level	100	100
Attainment	3	3

Take Home Test
Question Paper and Answer Sheet



**Shri Vithal Education & Research Institute's
College of Engineering, Pandharpur**

Take Home Test (THT)

- 1. Question Paper**
- 2. Answer sheet**
- 3. Result**



**Shri Vithal Education & Research Institute's
College of Engineering, Pandharpur**

Take Home Test (THT)

Question Paper

SVERI'S College of Engineering, Pandharpur

Department of Civil Engineering

S.Y. (Civil) Division-A THT-I Academic Year -2022-23 SET-A

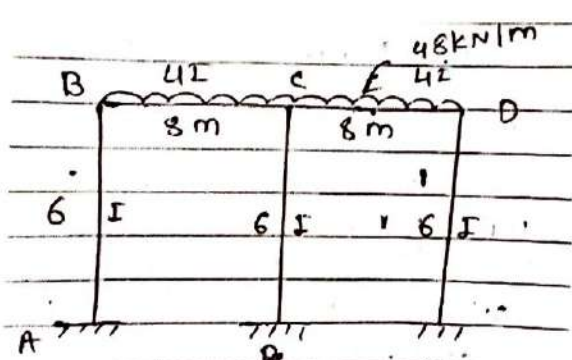
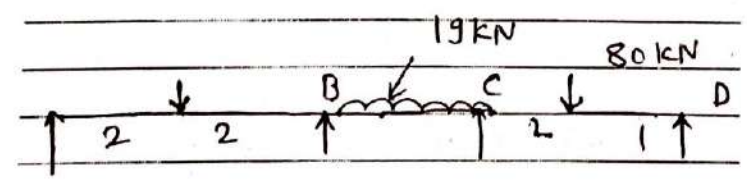
CE43C-STRUCTURAL MECHANICS-II

Day and Date – Sunday & 09/05/2023

Marks -20

CO	CO STATEMENT	BL	M A X . MARKS
CE43C.6	ANALYSE INDETERMINATE BEAMS AND FRAMES USING DISPLACEMENT METHOD	BL4	10
CE43C.5	ANALYSE INDETERMINATE BEAMS AND FRAMES USING FORCE METHOD	BL4	10

Instructions - 1) ALL Questions are Compulsory.
2) Assume Suitable Data If Required.

Q. 1	Solve questions from following.	Marks	CO & BL	PI
1.	<p>Analyze the frame given below using moment distribution method.</p> 	10	CE43C.6 & BL4	2.1.1, 2.1.2, 2.4.1
2.	<p>Analyze the continuous beam using constituent deformation method, support B sinks by 10mm $EI = 75000 \text{ kn/m}^2$.</p> 	10	CE43C.5 & BL4	2.1.1, 2.1.2, 2.4.1



**Shri Vithal Education & Research Institute's
College of Engineering, Pandharpur**

Take Home Test (THT)

Answer sheet



Shri Vithal Education & Research Institute's
COLLEGE OF ENGINEERING, PANDHARPUR

ISE / Unit Test No: THT Date: _____

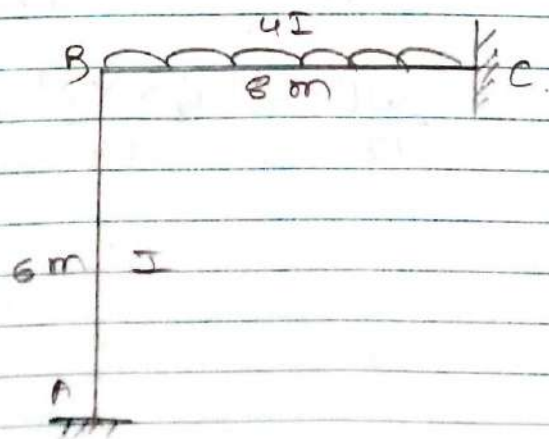
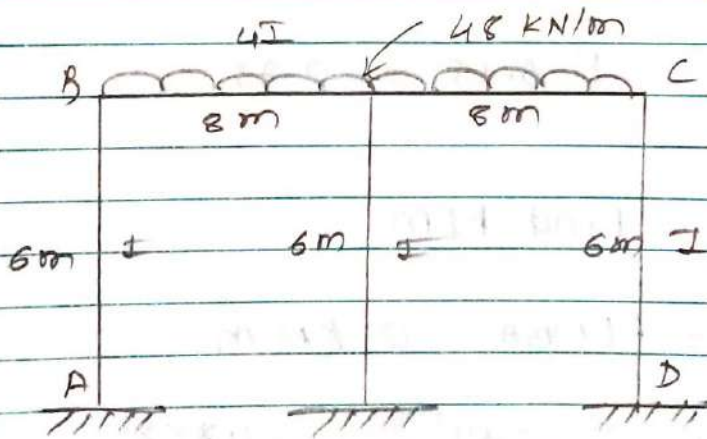
Name of Student: Tukamali BR

Class: 5yCE Division: A

Roll No: 43 Subject: SM II

Sign of Supervisor: _____ Marks: _____

CO:	BL	PI Code	Q.No.	a	b	c	d	e	f	Total
CO6	4	21.1, 21.2, 24.1	1	10						10
CO5	4	21.1, 21.2, 24.1	2	10						10
			3							
			4							
			5							
			6							
			7							
			8							
Grand Total										20 <hr/> 20



Step I :- find DF

$$DF_{AB} = DF_{CB} = 0$$

$$DF_{BA} = \frac{k_{BA}}{k_{BA} + k_{BC}}$$

$$= \frac{4EI_{OA}}{I_{BA}} \frac{4EI_{BA} + 4EI_{BC}}{I_{BA} + I_{BC}}$$

$$= EI \left(\frac{4}{6} \right)$$

$$EI \left(\frac{4}{6} + \frac{4 \times 4}{8} \right)$$

$$DF_{BA} = 0.25$$

$$DF_{BC} = 1 - 0.25 = 0.75$$

Step II :- find FEM

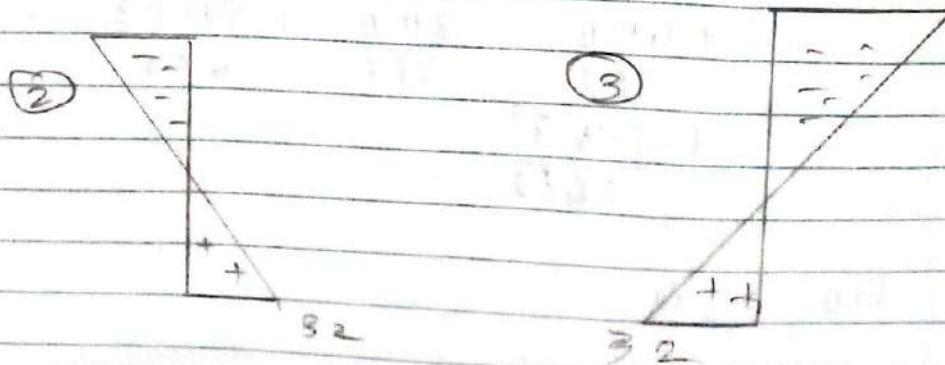
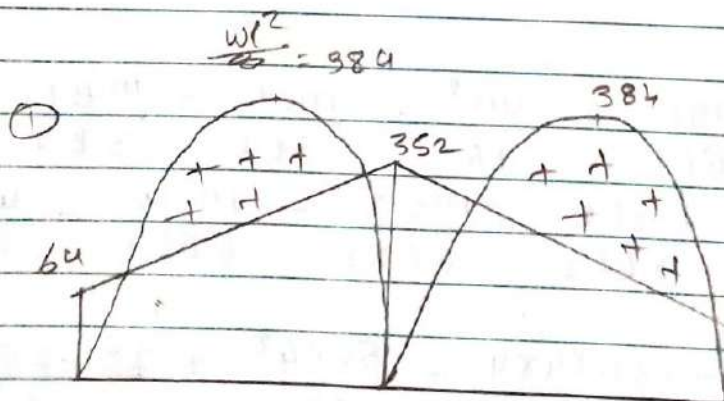
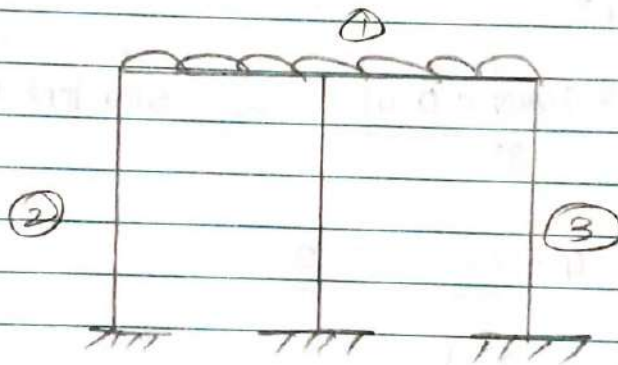
$$FEM_{AB} = FEM_{BA} = 0 \text{ kN.m}$$

$$FEM_{BC} = \frac{-wL^2}{12} = \frac{-48 \times 8^2}{12} = -256 \text{ kN.m}$$

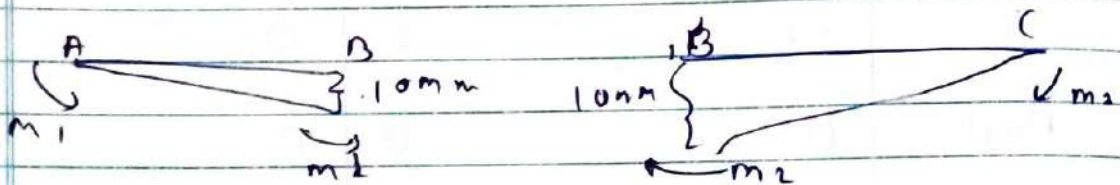
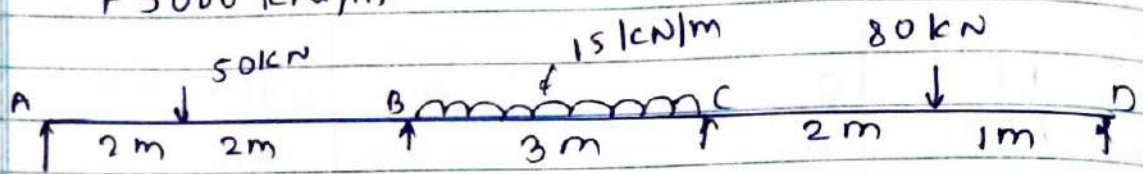
$$FEM_{CB} = \frac{wL^2}{12} = \frac{48 \times 8^2}{12} = 256 \text{ kN.m}$$

Step III :- Prepare table.

Joint member	A	B		C
	AB	BA	BC	CB
DF	0	0.25	0.75	0
FEM	0	0	-256	256
Bal	0	64	192	0
Co	32	0	0	96
Bal	0	0	0	0
FEM	32	64	-64	352



Q.2) Analyse the continuous beam constant deformation method. Support B sinks by 10mm $EI = 75000 \text{ kNm}^2$



$$m_1 = \frac{6 \times 75000 \times 0.01}{4^2} = 28.125 \text{ kNm}$$

$$m_2 = \frac{6 \times 75000 \times 0.01}{3^2} = 500 \text{ kNm}$$

$$DSI = 4 - 2 = 2$$

$$\begin{cases} \theta_B = 0 \\ \theta_C = 0 \end{cases}$$

$$\begin{aligned} \theta_B &= -\frac{m_1 l}{6EI} + \frac{wl^2}{16} + \frac{m_1 l}{3EI} - \frac{m_B l_1}{3EI} - \frac{m_B l_2}{3EI} \\ &\quad + \frac{m_2 l_2}{3EI_2} - \frac{m_2 l_2}{6EI_2} - \frac{m_C l_2}{6EI_2} + \frac{wl_2^3}{24EI} \\ &= -\frac{281.25 \times 4}{6EI} + \frac{50 \times 4^2}{6EI} + \frac{281.25 \times 4}{3EI} \\ &\quad + \frac{4m_B}{3EI} - \frac{3m_B}{3EI} + \frac{500 \times 3}{6EI} - \frac{m_C}{6EI} \\ &\quad + \frac{15 \times 3^3}{24EI} \end{aligned}$$

$$\theta_B = 0$$

$$2.33 m_B + 0.5 m_C = 504.375$$

$$\theta_C = 0.$$

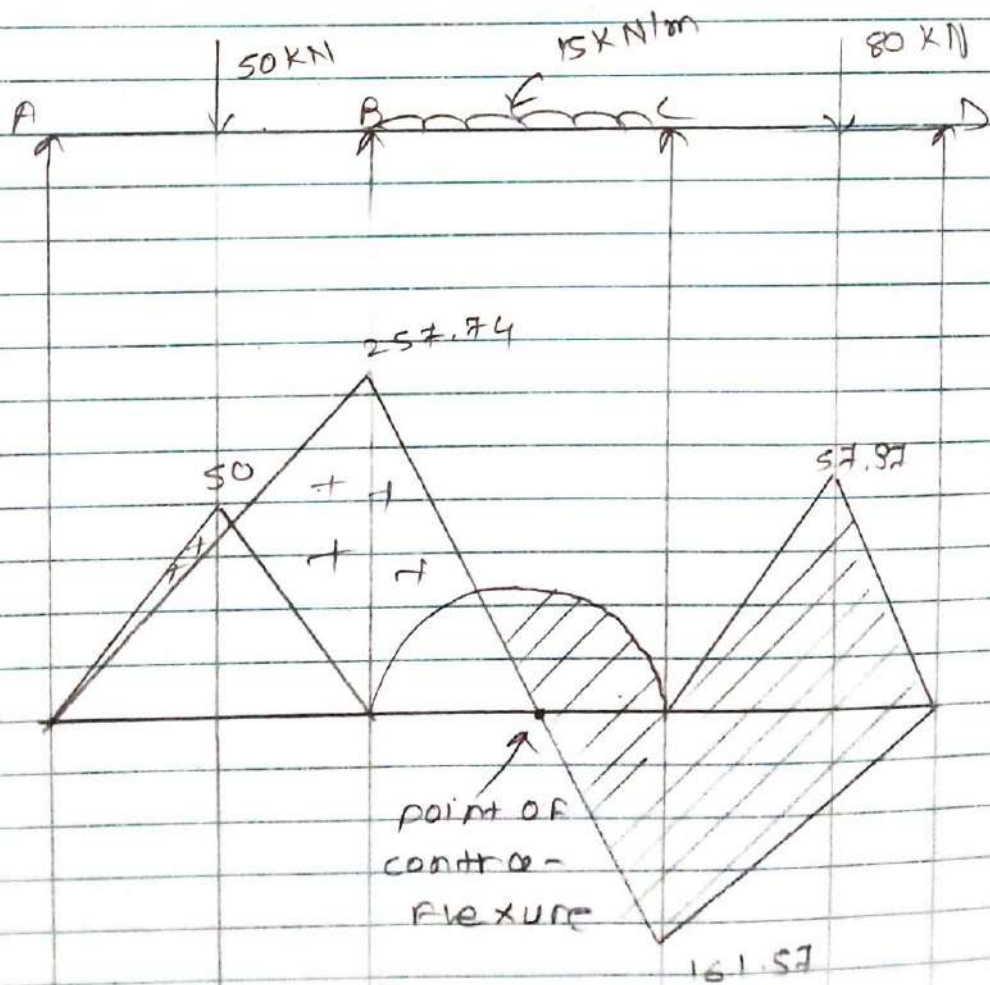
$$\theta_C = \frac{w \times 2 \times 1 (3 \times 1)}{6EI \times 3} - \frac{m_C \times 3}{3EI} - \frac{m_C \times 3}{3EI}$$

$$- \frac{m_1 \times 3}{3EI} + \frac{m_2 \times 3}{6EI} - \frac{m_D \times 3}{6EI} + \frac{w_3^3}{24EI}$$

$$0.5 m_B + 2 m_C = 0 - 0.79$$

$$m_B = 251.141 \text{ kNm}$$

$$m_C = -161.56 \text{ kNm}$$





**Shri Vithal Education & Research Institute's
College of Engineering, Pandharpur**

Take Home Test (THT)

Result

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR

TOOL CO ATTAINMENT REPORT

ACADEMIC YEAR: 2022-23

DEPARTMENT: CIVIL ENGINEERING

PROGRAM: UNDER GRADUATE IN CIVIL ENGINEERING

CLASS: SECOND YEAR

DIVISION: A

COURSE: STRUCTURAL MECHANICS-II (CE43C)

TOOL NAME: THT-1

TOOL MAX. MARKS: 20

PRN NO.	Student Code	Name of Student	Linked CO	CE43C.6	CE43C.5	CE43C.5			CE43C.6		
			Max. Marks	10	10	Max. Marks	Obtained Marks	% Marks	Max. Marks	Obtained Marks	% Marks
			Q. No. / Total Obtained Marks	Q1	Q2						
202101053015889	211CE11008	SAYLI VIJAY ASHTUL	18	9	9	10	9	90	10	9	90
202201053044293	221CE12003	AISHWARYA ROHIDAS CHAVAN	20	10	10	10	10	100	10	10	100
202101053016558	211CE11029	NAMRATA DINKAR CHAVARE	19	10	9	10	9	90	10	10	100
202101053016667	211CE11023	SANIKA GAJANAN DESHMUKHE	20	10	10	10	10	100	10	10	100
202201053044272	221CE12024	KAJAL SHRAVAN KAMBLE	20	10	10	10	10	100	10	10	100
202101053016659	211CE11019	PRIYANKA PRATAP KARANDE	20	10	10	10	10	100	10	10	100
202101053016789	211CE11025	RUTUJA MAHESH KAWADE	14	6	8	10	8	80	10	6	60
202201053044526	221CE12022	PRIYANKA IRANNA KOLI	20	10	10	10	10	100	10	10	100
202101053016839	211CE11026	AISHWARYA PRADIP KUMBHAR	19	10	9	10	9	90	10	10	100
202101053016798	211CE11018	DIVYA RAJENDRA LATAKE	19	9	10	10	10	100	10	9	90
202101053016661	211CE11005	AAKANKSHA JAGANNATH MANE	20	10	10	10	10	100	10	10	100
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202201053044379	221CE12040	SAMARTH PRAKASH HIPARGI	20	10	10	10	10	100	10	10	100
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202201053044314	221CE12035	SANKET CHANDRAKANT LENDAVE	18	9	9	10	9	90	10	9	90
202101053016716	211CE11013	GOPAL DATTA MADANE	18	9	9	10	9	90	10	9	90
202201053044383	221CE12045	RAHUL MANAGANI MASHALE	18	9	9	10	9	90	10	9	90
202101053016723	211CE11003	TUKARAM SHANKAR METAKARI	14	7	7	10	7	70	10	7	70
202201053044347	221CE12015	AVINASH SHARANAPPA NILGAR	19	10	9	10	9	90	10	10	100
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202201053044342	221CE12005	ABHISHEK SURESH NIMBAL	19	9	10	10	10	100	10	9	90
202201053044380	221CE12051	YASH SATISH NIMBALKAR	17	8	9	10	9	90	10	8	80
202201053044300	221CE12058	MAHESH LAXMAN PADVALE	19	10	9	10	9	90	10	10	100
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202101053016897	211CE11015	RAJ MOHAN RONGE	17	9	8	10	8	80	10	9	90
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202101053016854	211CE11009	DATTATRAY MARUTI SHEJAL	15	8	7	10	7	70	10	8	80
202101053016900	211CE11024	YUVRAJ SITARAM SHINDE	17	8	9	10	9	90	10	8	80
202201053044359	221CE12047	SURESH BHIMANNA SUNAGAR	19	10	9	10	9	90	10	10	100
202201053044366	221CE12028	BHEEMASHANKAR RAJASHEKHAR TUKAMALI	20	10	10	10	10	100	10	10	100
202201053044360	221CE12039	SHRAVAN SURYAKANT WAGHAMODE	19	10	9	10	9	90	10	10	100

Number of Students: 44

Tool CO Attainment

Target Level(%): 60

Attainment Level

(Percentage of students scoring Marks >=60) = Level 1

(Percentage of students scoring Marks >=70) = Level 2

(Percentage of students scoring Marks >=80) = Level 3

Linked CO	CE43C.5	CE43C.6
No. of Students achieving Target Level	44	44
No. of Applicable Students	44	44
% Students achieving Target Level	100	100
Attainment	3	3

Project/ Seminar

CO – PO Linking and Rubrics

