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2.5: Evaluation Process and Reforms

2.5.1: Mechanism of internal/ external assessment is transparent and the grievance redressal system is time- bound and efficient

Savitribai Phule Pune University

(formerly University of Pune)

Circular No. 173 of 2022

Important Notification

Dates of Commencement and Conclusion of terms for the Academic Year 2022-23 for Affiliated Colleges / Recognised Institutes.

It is hereby informed that, the dates of commencement and conclusion of the First and Second term of University Courses, under various faculties, for the academic year 2022-23 shall be as under :

Sr No	Name of the Courses , Faculties & Year	2022 - 2023			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
1	**Science & Technology**				
	Science	20/06/2022	08/11/2022	05/12/2022	04/05/2023
	B.Engineering : II	17/08/2022	10/12/2022	02/01/2023	29/04/2023
	B.Engineering : III IV	18/07/2022	05/11/2022	02/01/2023	29/04/2023
	M.Engineering : II	18/07/2022	12/11/2022	09/01/2023	06/05/2023
	B.Architecture : II	08/08/2022	04/12/2022	19/12/2022	04/05/2023
	B.Architecture : III IV V	20/06/2022	08/11/2022	19/12/2022	04/05/2023
	M.Architecture:II Architecture II	19/09/2022	07/01/2023	23/01/2023	20/05/2023
	B. Pharmacy: II III	01/08/2022	10/12/2022	02/01/2023	10/05/2023
	B. Pharmacy: IV	15/07/2022	03/12/2022	02/01/2023	10/05/2023
	M. Pharmacy : II	01/08/2022	10/12/2022	26/12/2022	30/06/2023
2	**Commerce & Management**				
	Commerce	20/06/2022	08/11/2022	05/12/2022	04/05/2023
	MBA II (Includes SIP project of 8 week)	01/09/2022	30/01/2023	15/02/2023	26/05/2023
	MCA II	01/09/2022	16/12/2022	02/01/2023	15/04/2023
	BHMCT II III IV	01/09/2022	16/12/2022	02/01/2023	15/04/2023
3	**Humanities**				
	Arts	20/06/2022	08/11/2022	05/12/2022	04/05/2023
	Mental Moral and Social Sciences				
	L.L.B. II	31/10/2022	31/01/2023	06/02/2023	15/05/2023
	L.L.B. III	04/07/2022	08/11/2022	05/12/2023	15/05/2023
	B. A. L.L.B. II	31/10/2022	31/01/2023	06/02/2023	20/05/2023
	B. A. L.L.B. III IV V	04/07/2022	08/11/2022	05/12/2023	15/05/2023
4	**Inter-disciplinary Studies**				
	Education : II	15/09/2022	06/01/2023	17/01/2023	10/05/2023
	Physical Education : II	15/09/2022	06/01/2023	17/01/2023	10/05/2023
	B. Lib. & M. Lib.	15/07/2022	25/11/2022	02/01/2023	04/05/2023
	Fine Arts & Performing Art	20/06/2022	08/11/2022	05/12/2022	04/05/2023
	Journalism PG	15/07/2022	25/11/2022	02/01/2023	04/05/2023

NOTE :

1. The dates of commencement and conclusion of the University concerned Department / Affiliated Colleges / Recognised Institutes for the Academic year of all those courses whose admission was made under Common Entrance Test (CET) conducted by Government of Maharashtra will be decleared separately.

2. In case, the Principal of the Affiliated Colleges requires to give additional holiday in exceptional circumstances, he/she may do so by compensating the same by keeping the College working on Sunday.

Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/230
Date: 10/06/2022

Copy to: for Information and necessary action

The Members of the Management Council.
The Deans of Faculties.
The Registrar, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University concerned Departments.
The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

"Techno-Social Excellence"

MMIT, Lohgaon, Pune

Academic Planner [TE/BE]

(Academic Year: 2022-23 Sem-I)

Commencement of Teaching: 18/07/2022 & Conclusion of Term: 05/11/2022 (ref. University Circular No. 173 of 2022 dated 10/06/2022)

																			Week 1							Week 2					
Jul-22	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	Day	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	Activity											Academic Audit-I							CoT											Syllabus Coverage & Feedback		
		Week 3							Week 4							Week 5							Week 6						Week 7		
Aug-22	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	Day	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed
	Activity	MDL														Independence Day							UT-I							Syllabus Coverage & Feedback	
		Week 7				Week 8							Week 9							Week 10							Week 11					
Sept 2022	Dt.	1	2	3	4	5	6	7	8	9	10	11	-	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
	Day	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	
	Activity	MDL		Academic Audit-II		Teachers Day										Engineers Day									NSS Day					Syllabus Coverage & Feedback		
		Week 12								Week 13								Week 14							Week 15							
Oct-22	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	Day	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon
	Activity	MDL							PTM																							Syllabus Coverage
		Week 16																														
Nov-22	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
	Day	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	
	Activity	PDL				Concusion of Teaching		FDL	UT-II		Mock PR/OR				Academic Audit-III																	

Weekly CDC meeting every Friday

Department meeting every Saturday

Co-curricular Extra-curricular activities on Saturday

Note: 1 There will be separate notice for holiday

2 There will be separate notice for other events

MDL: Monthly Defaulter List

PDL: Provisional Detention List

FDL: Final Detention List

CoT: Commencement of Teaching

PTM: Parents Teacher Meet

UT: Unit Test

Date: 15/06/2022

Academic Coordinator

Dean Academics

Principal

"Techno-Social Excellence"

MMIT, Lohgaon, Pune

Academic Planner [SE]

(Academic Year: 2022-23 Sem-I)

Commencement of Teaching: 17/08/2022 & Conclusion of Term: 10/12/2022 (ref. University Circular No. 173 of 2022 dated 10/06/2022)

																		Week 1					Week 2								Week 3		
Aug-22	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	Day	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed
	Activity	MDL							Academic Audit-I							Independence Day		CoT													Syllabus Coverage & Feedback	
		Week 3				Week 4							Week 5					Week 6									Week 7						
Sept 2022	Dt.	1	2	3	4	5	6	7	8	9	10	11	-	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
	Day	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	
	Activity	MDL				Teachers Day										Engineers Day									NSS Day			UT-I			Syllabus Coverage	
		Week 8								Week 9								Week 10					Week 11									
Oct-22	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	Day	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon
	Activity	MDL							PTM							Academic Audit-II																Syllabus Coverage
		Week 12						Week 13							Week 14							Week 15							Week 16			
Nov-22	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
	Day	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	
	Activity	MDL																												Syllabus Coverage & Feedback		
		Week 16				Week 17																										
Dec-22	Dt.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	Day	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	Activity	PTM									Concusion of Teaching		FDL	UT-II		Mock PR/OR				Academic Audit-III												

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Date: 15/06/2022

Academic Coordinator

Dean Academics

Principal

Savitribai Phule Pune University
Faculty of Science & Technology

Curriculum/Syllabus
for
Second Year
Bachelor of Engineering
(Choice Based Credit System)
Mechanical Engineering and Automobile Engineering
(2019 Course)

Board of Studies - Automobile and Mechanical Engineering
(With Effect from Academic Year 2020-21)

Savitribai Phule Pune University

Board of Studies - Automobile and Mechanical Engineering

Undergraduate Program - Automobile Engineering & Mechanical Engineering (2019 pattern)

Course Code	Course Name	Teaching Scheme (Hours/ Week)			Examination Scheme and Marks						Credit			
		TH	PR	TUT	ISE	ESE	TW	PR	OR	TOTAL	TH	PR	TUT	TOTAL
Semester-III														
202041	Solid Mechanics	4	2	-	30	70	-	50	-	150	4	1	-	5
202042	Solid Modeling and Drafting	3	2	-	30	70	-	50	-	150	3	1	-	4
202043	Engineering Thermodynamics	3	2	-	30	70	-	-	25	125	3	1	-	4
202044	Engineering Materials and Metallurgy	3	2	-	30	70	25	-	-	125	3	1	-	4
203156	Electrical and Electronics Engineering	3	2	-	30	70	25	-	-	125	3	1	-	4
202045	Geometric Dimensioning and Tolerancing Lab	-	2	-	-	-	25	-	-	25	-	1	-	1
202046	Audit Course - III	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**16**	**12**	**-**	**150**	**350**	**75**	**100**	**25**	**700**	**16**	**6**	**-**	**22**
Semester-IV														
207002	Engineering Mathematics - III	3	-	1	30	70	25	-	-	125	3	-	1	4
202047	Kinematics of Machinery	3	2	-	30	70	-	-	25	125	3	1	-	4
202048	Applied Thermodynamics	3	2	-	30	70	-	-	25	125	3	1	-	4
202049	Fluid Mechanics	3	2	-	30	70	-	-	25	125	3	1	-	4
202050	Manufacturing Processes	3	-	-	30	70	-	-	-	100	3	-	-	3
202051	Machine Shop	-	2	-	-	-	50	-	-	50	-	1	-	1
202052	Project Based Learning - II	-	4	-	-	-	50	-	-	50	-	2		2
202053	Audit Course - IV	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**15**	**12**	**1**	**150**	**350**	**125**	**-**	**75**	**700**	**15**	**6**	**1**	**22**

Abbreviations: TH: Theory, **PR**: Practical, **TUT**: Tutorial, **ISE**: In-Semester Exam, **ESE**: End-Semester Exam,**TW**: Term Work, OR: Oral

Note: Interested students of SE (Automobile Engineering and Mechanical Engineering) can opt for any one of the audit course from the list of audit courses prescribed by BoS (Automobile and Mechanical Engineering)

Instructions

- Practical/Tutorial must be conducted in three batches per division only.
- Minimum number of required Experiments/Assignments in PR/ Tutorial shall be carried out as mentioned in the syllabi of respective subjects.
- Assessment of tutorial work has to be carried out as a term-work examination. Term-work Examination at second year of engineering course shall be internal continuous assessment only.
- Project based learning (PBL) requires continuous mentoring by faculty throughout the semester for successful completion of the tasks selected by the students per batch. While assigning the teaching workload of 2 Hrs/week/batch needs to be considered for the faculty involved. The Batch needs to be divided into sub-groups of 5 to 6 students. Assignments / activities / models/ projects etc. under project based learning is carried throughout semester and Credit for PBL has to be awarded on the basis of internal continuous assessment and evaluation at the end of semester.
- Audit course is mandatory but non-credit course. Examination has to be conducted at the end of Semesters for award of grade at institute level. Grade awarded for audit course shall not be calculated for grade point & CGPA.

Savitribai Phule Pune University

Board of Studies - Automobile and Mechanical Engineering

Undergraduate Program - Mechanical Engineering (2019 pattern)

Course Code	Course Name	Teaching Scheme (Hours / Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
Semester-V														
302041	Numerical & Statistical Methods	3	-	1	30	70	25	-	-	125	3	-	1	4
302042	Heat & Mass Transfer	3	2	-	30	70	-	50	-	150	3	1	-	4
302043	Design of Machine Elements	3	2	-	30	70	-	-	25	125	3	1	-	4
302044	Mechatronics	3	2	-	30	70	-	-	25	125	3	1	-	4
302045	Elective I	3	-	-	30	70	-	-	-	100	3	-	-	3
302046	Digital Manufacturing Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
302047	Skill Development	-	2	-	-	-	25	-	-	25	-	1	-	1
302048	Audit course V$	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**15**	**10**	**1**	**150**	**350**	**100**	**50**	**50**	**700**	**15**	**5**	**1**	**21**
Semester-VI														
302049	Artificial Intelligence & Machine Learning	3	2	-	30	70	-	-	25	125	3	1	-	4
302050	Computer Aided Engineering	3	2	-	30	70	-	50	-	150	3	1	-	4
302051	Design of Transmission Systems	3	2	-	30	70	-	-	25	125	3	1	-	4
302052	Elective II	3	-	-	30	70	-	-	-	100	3		-	3
302053	Measurement Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
302054	Fluid Power & Control Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
302055	Internship/Mini project *	-	4	-	-	-	100	-	-	100	-	4	-	4
	Total	**12**	**14**		**120**	**280**	**200**	**50**	**50**	**700**	**12**	**9**		**21**

Elective-I		Elective-II	
302045-A	Advanced Forming & Joining Processes	302052-A	Composite Materials
302045-B	Machining Science and Technology	302052-B	Surface Engineering

Abbreviations: TH: Theory, **PR**: Practical, **TUT**: Tutorial, **ISE**: In-Semester Exam, **ESE**: End-Semester Exam, **TW**: Term Work, **OR**: Oral

Note: Interested students of TE (Automobile Engineering and Mechanical Engineering) can opt for any one of the audit course from the list of audit courses prescribed by BoS (Automobile and Mechanical Engineering)

Instructions

- Practical/Tutorial must be conducted in FOUR batches per division only.
- Minimum number of Experiments/Assignments in PR/ Tutorial shall be carried out **as mentioned in the syllabi** of respective subjects.
- Assessment of tutorial work has to be carried out similar to term-work. The Grade cum marks for Tutorial and Term-work shall be awarded on the basis of **continuous evaluation.**
- $ Audit course is mandatory but non-credit course. Examination has to be conducted at the end

Savitribai Phule Pune University

Board of Studies - Mechanical and Automobile Engineering

Undergraduate Program – Final Year Mechanical Engineering (2019 pattern)

Course Code	Course Name	Teaching Scheme (Hrs./week)			Examination Scheme and Marks						Credit			
		TH	PR	TUT	ISE	ESE	TW	PR	OR	TOTAL	TH	PR	TUT	TOTAL
Semester-VII														
402041	Heating Ventilation Air-Conditioning and Refrigeration	3	2	-	30	70	-	-	25	125	3	1		4
402042	Dynamics of Machinery	3	2	-	30	70	-	-	25	125	3	1		4
402043	Turbomachinery	2	2	-	-	50	25	-	25	100	2	1	-	3
402044	Elective – III	3	-	-	30	70	-	-	-	100	3	-	-	3
402045	Elective - IV	3	-	-	30	70	-	-	-	100	3	-	-	3
402046	Data Analytics Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
402047	Project (Stage - I)	-	4	-	-	-	50	-	50	100	-	2	-	2
	Total	**14**	**12**		**120**	**330**	**125**	**-**	**125**	**700**	**14**	**6**	**-**	**20**
Semester-VIII														
402048	Computer Integrated Manufacturing	3	2	-	30	70	25	-	25	150	3	1	-	4
402049	Energy Engineering	3	2	-	30	70	25	-	25	150	3	1	-	4
402050	Elective - V	3	-	-	30	70	-	-	-	100	3	-	-	3
402051	Elective - VI	3	-	-	30	70	-	-	-	100	3	-	-	3
402052	Mechanical Systems Analysis Laboratory	-	2	-	-	-	25	-	25	50	-	1	-	1
402053	Project (Stage - II)	-	10	-	-	-	100	-	50	150	-	5	-	5
		12	**16**	**-**	**120**	**280**	**175**	**-**	**125**	**700**	**12**	**8**	**-**	**20**

Elective-III		Elective-V	
402044A	Automobile Design	402050A	Quality and Reliability Engineering
402044B	Design of Heat Transfer Equipments	402050B	Energy Audit and Management
402044C	Modern Machining Processes	402050C	Manufacturing Systems and Simulation
402044D	Industrial Engineering	402050D	Engineering Economics and Financial Management
402044E	Internet of Things	402050E	Organizational Informatics
402044F	Computational Fluid Dynamics	402050F	Computational Multi Body Dynamics

Elective-IV		Elective-VI	
402045A	Product Design and Development	402051A	Process Equipment Design
402045B	Experimental Methods in Thermal Engineering	402051B	Renewable Energy Technologies
402045C	Additive Manufacturing	402051C	Automation and Robotics
402045D	Operations Research	402051D	Industrial Psychology and Organizational Behavior
402045E	Augmented Reality and Virtual Reality	402051E	Electrical and Hybrid Vehicle

Abbreviations: TH: Theory, **PR**: Practical, **TUT**: Tutorial, **ISE**: In-Semester Exam, **ESE**: End-Semester Exam, **TW**: Term Work, **OR**: Oral

- Student can select any elective subjects from the list given as per his/her choice. However, it is advised to select the subjects from within a group identified for specialization.

Instructions:

- Practical/Tutorial must be conducted in **FOUR batches per division** only.
- Minimum number of Experiments/Assignments in PR/Tutorial shall be carried out **as mentioned in the syllabi** of respective courses.
- Assessment of tutorial work has to be carried out similar to term-work. The Grade cum marks for Tutorial and Term-work shall be awarded on the basis of **continuous evaluation.**

Savitribai Phule Pune University

Second Year of Computer Engineering (2019 Course)

(With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
210241	Discrete Mathematics	03	-	-	30	70	-	-	-	100	03	--	-	03
210242	Fundamentals of Data Structures	03	-	-	30	70	-	-	-	100	03	-	-	03
210243	Object Oriented Programming (OOP)	03	-	-	30	70	-	-	-	100	03	-	-	03
210244	Computer Graphics	03	-	-	30	70	-	-	-	100	03	-	-	03
210245	Digital Electronics and Logic Design	03	-	-	30	70	-	-	-	100	03	-	-	03
210246	Data Structures Laboratory	-	04	-	-	-	25	50	-	75	-	02	-	02
210247	OOP and Computer Graphics Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210248	Digital Electronics Laboratory	-	02	-	-	-	25	-	-	25	-	01	-	01
210249	Business Communication Skills	-	02	-	-	-	25	-	-	25	-	01	-	01
210250	Humanity and Social Science	-	-	01	-	-	25	-	-	25	-	-	01	01
210251	Audit Course 3													
										Total Credit	15	06	01	22
	Total	**15**	**12**	**01**	**150**	**350**	**125**	**75**	**-**	**700**	**-**	**-**	**-**	**-**

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
207003	Engineering Mathematics III	03	-	01	30	70	25	-	-	125	03	--	01	04
210252	Data Structures and Algorithms	03	-	-	30	70	-	-	-	100	03	-	-	03
210253	Software Engineering	03	-	-	30	70	-	-	-	100	03	-	-	03
210254	Microprocessor	03	-	-	30	70	-	-	-	100	03	-	-	03
210255	Principles of Programming Languages	03	-	-	30	70	-	-	-	100	03	-	-	03
210256	Data Structures and Algorithms Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210257	Microprocessor Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
210258	Project Based Learning II	-	04	-	-	-	50	-	-	50	-	02	-	02
210259	Code of Conduct	-	-	01	-	-	25	-	-	25	-	-	01	01
210260	Audit Course 4													
										Total Credit	15	05	02	22
	Total	**15**	**10**	**02**	**150**	**350**	**150**	**25**	**25**	**700**	**-**	**-**	**-**	**-**

Savitribai Phule Pune University

Third Year of Computer Engineering (2019 Course)

(With effect from Academic Year 2021-22)

Semester V

Course Code	Course Name	Teaching Scheme (Hours/ week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
310241	Database Management Systems	03	-	-	30	70	-	-	-	100	03	-	-	03
310242	Theory of Computation	03	-	-	30	70	-	-	-	100	03	-	-	03
310243	Systems Programming and Operating System	03	-	-	30	70	-	-	-	100	03	-	-	03
310244	Computer Networks and Security	03	-	-	30	70	-	-	-	100	03	-	-	03
310245	Elective I	03	-	-	30	70	-	-	-	100	03	-	-	03
310246	Database Management Systems Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
310247	Computer Networks and Security Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
310248	Laboratory Practice I	-	04	-	-	-	25	25	-	50	-	02	-	02
310249	Seminar and Technical Communication	-	01	-	-	-	50	-	-	50	-	01	-	01
	Total	**15**	**11**	**-**	**150**	**350**	**125**	**50**	**25**	**700**	**15**	**06**	**-**	**21**
310250	Audit Course 5												**Grade**	
										Total Credit	**15**	**06**	**-**	**21**

Elective I

- Internet of Things and Embedded Systems
- Human Computer Interface
- Distributed Systems
- Software Project Management

Audit Course 5

- Cyber Security
- Professional Ethics and Etiquettes
- MOOC- Learn New Skills
- Engineering Economics
- Foreign Language

Laboratory Practice I

Assignments from **Systems Programming and Operating System** and **Elective I**

Savitribai Phule Pune University

Third Year of Computer Engineering (2019 Course)

(With effect from Academic Year 2021-22)

Semester VI

Course Code	Course Name	Teaching Scheme (Hours/ week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
310251	Data Science and Big Data Analytics	03	-	-	30	70	-	-	-	100	03	-	-	03
310252	Web Technology	03	-	-	30	70	-	-	-	100	03	-	-	03
310253	Artificial Intelligence	03	-	-	30	70	-	-	-	100	03	-	-	03
310254	Elective II	03	-	-	30	70	-	-	-	100	03	-	-	03
310255	Internship**	-	**	-	-	-	100 **	-	-	100	-	04 **	-	04
310256	Data Science and Big Data Analytics Laboratory	-	04	-	-	-	50	25	-	75	-	02	-	02
310257	Web Technology Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
310258	Laboratory Practice II	-	04	-	-	-	50	25	-	75	-	02	-	02
										Total	**12**	**09**	**-**	**21**
	Total	**12**	**10**	**-**	**120**	**280**	**225**	**50**	**25**	**700**	**12**	**05**	**-**	**21**
310259	Audit Course 6												**Grade**	

Elective II

- Information Security
- Augmented and Virtual Reality
- Cloud Computing
- Software Modeling and Architectures

Audit Course 6

- Digital and Social Media Marketing
- Sustainable Energy Systems
- Leadership and Personality Development
- Foreign Language
- MOOC- Learn New Skills

Laboratory Practice II:

Assignments from **Artificial Intelligence** and **Elective II**.

**** Internship:**

Internship guidelines are provided in course curriculum sheet.

BE Computer Engineering 2019 Course tentative Curriculum structure:

Savitribai Phule Pune University
Final Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2022-23)

Semester VII

Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral\Pre	Total	Lecture	Practical	Tutorial	Total
410241	Design and Analysis of Algorithms	03	-	-	30	70	-	-	-	100	3	-	-	3
410242	Machine Learning	03	-	-	30	70	-	-	-	100	3	-	-	3
410243	Blockchain Technology	03	-	-	30	70	-	-	-	100	3	-	-	3
410244	Elective III	03	-	-	30	70	-	-	-	100	3	-	-	3
410245	Elective IV	03	-	-	30	70	-	-	-	100	3	-	-	3
410246	Laboratory Practice III	-	04	-	-	-	50	50	-	100	-	2	-	2
410247	Laboratory Practice IV	-	02	-	-	-	50	-	-	50	-	1	-	1
410248	Project Stage I	-	02	-	-	-	50	-	-	50	-	2	-	2
										Total Credit	**15**	**05**	**-**	**20**
	Total	**15**	**08**	**-**	**150**	**350**	**150**	**50**	**-**	**700**	**15**	**05**	**-**	**20**
410249	Audit Course 7										**Grade**			

Elective III	**Elective IV**
410244(A) Pervasive Computing 410244(B) Multimedia Techniques 410244(C) Cyber Security and Digital Forensics 410244(D) Object Oriented Modeling and Design 410244(E) Digital Signal Processing	410245(A) Information Retrieval 410245(B) GPU Programming and Architecture 410245(C) Mobile Computing 410245(D)Software Testing and Quality Assurance 410245(E) Compilers
Laboratory Practice III: Laboratory assignments Courses- 410241, 410242, 410243	**Laboratory Practice IV:** Laboratory assignments Courses- 410244, 410245

Audit Course 7(AC7) Options:
AC7- I MOOC- Learn New Skills
AC7- II Entrepreneurship Development
AC7- III Botnet of Things
AC7- IV 3D Printing
AC7- V Industrial Safety and Environment Consciousness

Savitribai Phule Pune University
Final Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2022-23)

Semester VIII

Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral/Pre	Total	Lecture	Practical	Tutorial	Total
410250	High Performance Computing	03	-	-	30	70	-	-	-	100	03			03
410251	Deep Learning	03	-	-	30	70	-	-	-	100	03			03
410252	Elective V	03	-	-	30	70	-	-	-	100	03			03
410253	Elective VI	03	-	-	30	70	-	-	-	100	03			03
410254	Laboratory Practice V	-	02	-	-	-	50	50	-	100		01		01
410255	Laboratory Practice VI	-	02	-	-	-	50	-	-	50		01		01
410256	Project Stage II	-	06	-	-	-	100	-	50	150		06		06
										Total Credit	**12**	**08**	**-**	**20**
	Total	**12**	**10**	**-**	**120**	**280**	**200**	**50**	**50**	**700**	**12**	**08**	**-**	**20**
410257	Audit Course 8										**Grade**			

Elective V	**Elective VI**
410252(A) Natural Language Processing 410252(B) Image Processing 410252(C) Software Defined Networks 410252(D) Advanced Digital Signal Processing 410252(E) Open Elective	410253(A) Pattern Recognition 410253(B) Soft Computing 410253(C) Business Intelligence 410253(D) Quantum Computing 410253(E) Open Elective
Lab Practice V: Laboratory assignments Courses- 410250, 410251	**Lab Practice VI:** Laboratory assignments Courses- 410252, 410253

Audit Course 8(AC8) Options:
AC8- I Usability Engineering
AC8- II Conversational Interfaces
AC8- II Social Media and Analytics
AC8- IV MOOC- Learn New Skills
AC8- V Emotional Intelligence

"Techno - Social Excellence"

Marathwada Mitra Mandal's INSTITUTE OF TECHNOLOGY, Lohgaon, Pune - 411047

(Academic year 2021-22 (SEM-II)

All students of SE, TE, BE are hereby informed that the OFFLINE Unit Test 1 is scheduled from 11/04/2022 to 13/04/2022 through offline mode as per following time table. Unit Test is of 30 Marks on first two units for SE, TE and First 3 Units for BE. All students have to attend Unit Test 1 as per given time.

Time Table for SE Unit Test 1 (Offline) [April-2022]

Day & Date	Time	SE Mechanical	SE Comp	SE Civil	SE Mechatronics
Monday 11.04.2022	11:00 am to 12:00 pm	Engineering Mathematics - III	Engineering Mathematics III	Geotechnical Engineering	Kinematics of Machinery
Monday 11.04.2022	2:00 to 3:00 pm	Kinematics of Machinery	Data Structures and Algorithms	Survey	Fluid mechanics and machinery
Tuesday 12.04.2022	11:00 am to 12:00 pm	Applied Thermodynamics	Software Engineering	Concrete Technology	Electrical machines and drives
Tuesday 12.04.2022	2:00 to 3:00 pm	Fluid Mechanics	Microprocessor	Structural Analysis	Sensors and Actuators
Wednesday 13.04.2022	11:00 am to 12:00 pm	Manufacturing Processes	Principles of programming languages	Project management	Application of Integrated Circuits

Note :

Portion for Test : Units I and II for SE, TE (Descriptive questions), Units I, II and III for BE (Descriptive questions)

Marks: 30 (For SE, TE & BE)

Duration: 1 Hr (For SE, TE & BE)

Attendance is compulsory for all papers

Mode of Exam: Offline

Mr. D. P. Yesane

College Exam Officer

CC

1.The Principal

2. Dean Academics

3. All student send through mail

"Techno - Social Excellence"

Marathwada Mitra Mandal's INSTITUTE OF TECHNOLOGY, Lohgaon, Pune - 411047

(Academic year 2021-22 (SEM-II)

All students of SE, TE, BE are hereby informed that the OFFLINE Unit Test 1 is scheduled from 11/04/2022 to 13/04/2022 through offline mode as per owing time table. Unit Test is of 30 Marks on first two units for SE, TE and First 3 Units for BE. All students have to attend Unit Test 1 as per given time.

Time Table for Unit Test 1 (Offline) [April-2022]

Day & Date	Time	Branch	TE	BE	
Monday 11.04.2022	11:00 am to 12:00 pm	Mech	Artificial Intelligence &Machine Learning	Energy Engineering	
		Comp	Data Science & Big data Analytics	Machine Learning	
		Civil	Waste Water Engineering	------	
Monday 11.04.2022	2:00 to 3:00 pm	Mech	Computer Aided Engineering	Mechanical System Design	
		Comp	Web Technology	Information Cyber Security	
		Civil	Design of RC Structures	------	
Tuesday 12.04.2022	11:00 am to 12:00 pm	Mech	Design of Transmission Systems	Elective-III: Industrial Engineering/ Robotics	
		Comp	Artificial Intelligenc	Cloud Computing	
		Civil	Remote Sensing and GIS	------	
Tuesday 12.04.2022	2:00 to 3:00 pm	Mech	Elective II: Composite Materials	Elective-IV: Advanced Manufacturing Processes	
		Comp	Elective II - SMA / IS / CC	Soft Computing and Optimization Algorithm	
		Civil	Elective II-Town Planning	------	
Wednesday 13.04.2022	11:00 am to 12:00 pm	Mech	Honour Course: Robotics	------	
		Comp	Honours: AI / EAC / SML	Honours : SCDL / ISM / AIBDA	
		Civil	------	------	

Note :

Portion for Test : Units I and II for SE, TE (Descriptive questions), Units I, II and III for BE (Descriptive questions)

Marks: 30 (For SE, TE & BE)

Duration: 1 Hr (For SE, TE & BE)

Attendance is compulsory for all papers

Mode of Exam: Offline

Mr. D. P. Yesane

College Exam Officer

CC

1.The Principal

2. Dean Academics

3. All student send through mail

Marathwada Mitra Mandal's

Institute of Technology, Lohgaon, Pune-47

Unit Test-I

Academic Year: 2022-23 **Semester: II** **Date: 27/03/2023**

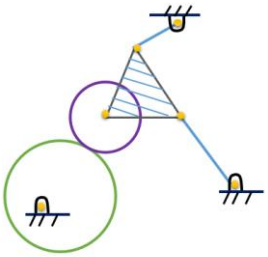
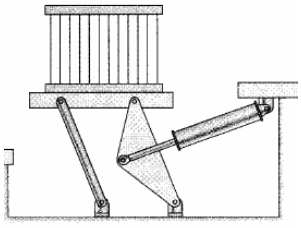
Class : SE **Course Code: 202047** **Max. Marks: 30**

Div: Mechanical **Course Name: Kinematics of Machinery** **Time: 60 Minutes**

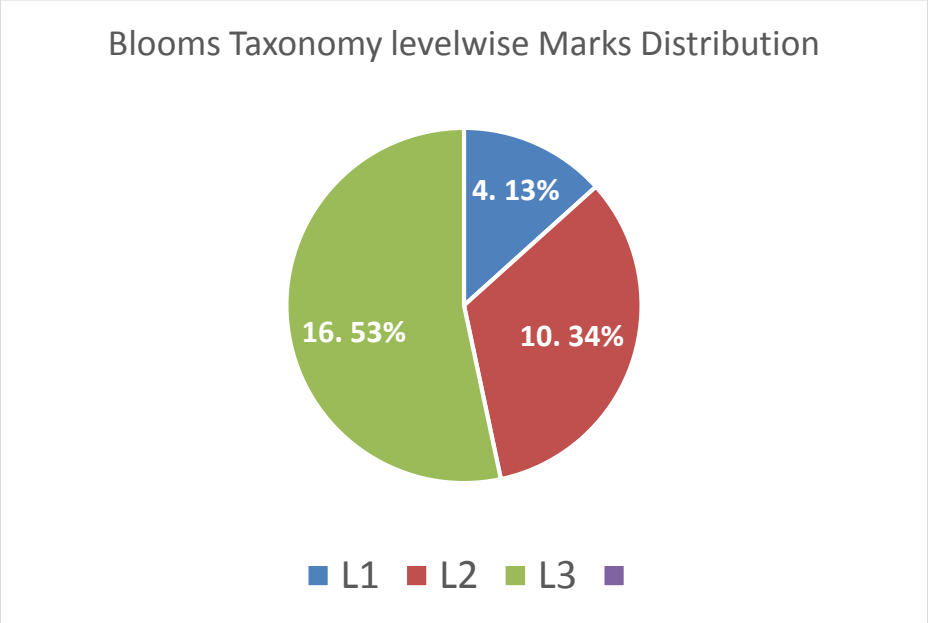
Instructions:

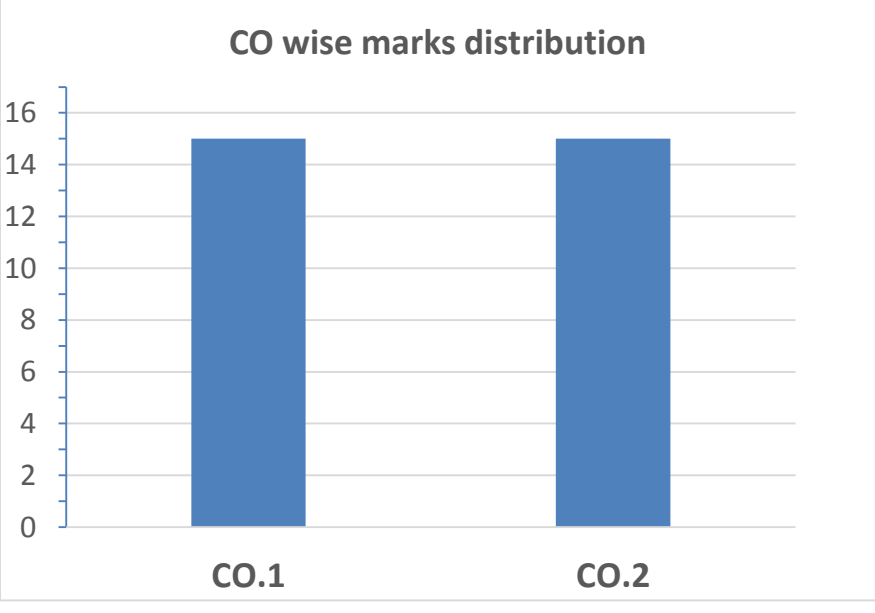
1. **Solve question 1 or 2 and 3 or 4**
2. **Mobile phones and programmable calculators are strictly prohibited**
3. **Assume suitable data whenever required**

Question Paper Mapping of Blooms Taxonomy level and CO

Q. No		Question	Marks	CO	BL	PO	PI
		Unit 1 (for 15 Marks)					
1	A	Evaluate degrees of freedom of mechanism shown in figure. 1  figure. 1	6	1	L3	P2	2.2.2
	B	Differentiate between lower pairs and higher pairs with suitable examples	5	1	L2	P1	1.4.1
	C	Define the following terms : (i) Kinematic chain (ii) Structure (iii) Kinematic pair (iv)Degree of freedom in Mechanism	4	1	L1	P1	1.4.1
OR							
2	A	Evaluate degrees of freedom of mechanism shown in figure. 2  figure. 2	6	1	L3	P2	2.2.2
	B	Differentiate between self-closed and forced closed pairs with suitable examples.	5	1	L2	P1	1.4.1
	C	Explain Spherical pair and Cylindrical pair in terms of i) Suitable diagram, ii) number of degree of freedom, iii) type of pair (lower or higher pair), iv) one example each	4	1	L1	P1	1.4.1

		Unit 2 (for 15 Marks)					
3	A	In Slider Crank Mechanism the stroke of slider is 200mm long & obliquity ratio is 4.5. The crank rotates uniformly at 1000 rpm in CW direction, when the crank is 30 degrees past ODC Find, i) Velocity and acceleration of piston ii) Angular velocity and angular acceleration of connecting rod	10	2	L3	P2	2.2.2
	B	Explain Polar diagram for single Hooke's joint in detail	5	2	L2	P1	1.4.1
OR							
4	A	In an IC engine mechanism the peripheral velocity of crank pin is constant at 150 cm/s and it has instantaneous acceleration of 3750 cm/s2. Find, i) acceleration of piston ii) angular acceleration of connecting rod, when CR is normal to crank and obliquity ratio is 5.	10	2	L3	P2	2.2.2
	B	Hooke's joint connects two non-parallel intersecting shafts. Driving shafts rotates uniformly and driven shaft speed variation is within 15 % of the mean speed. Determine maximum possible inclination between the shafts.	5	2	L2	P2	2.1.2





Marathwada Mitra Mandal's

Institute of Technology, Lohgaon, Pune-47

Unit Test-I

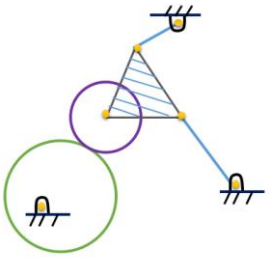
Academic Year: 2022-23 **Semester: II** **Date: 27/03/2023**

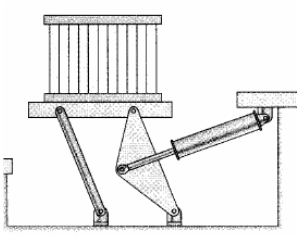
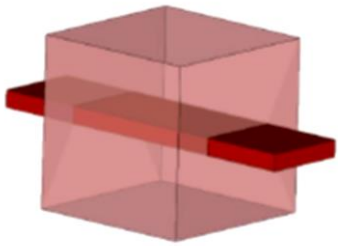
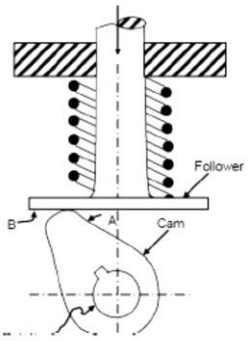
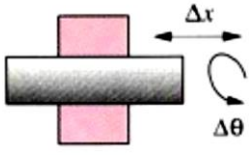
Class : SE **Course Code: 202047** **Max. Marks: 30**

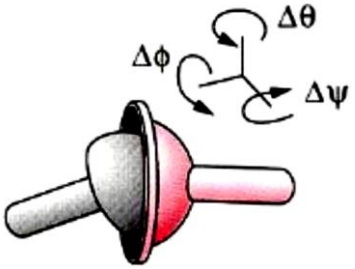
Div: Mechanical **Course Name: Kinematics of Machinery** **Time: 60 Minutes**

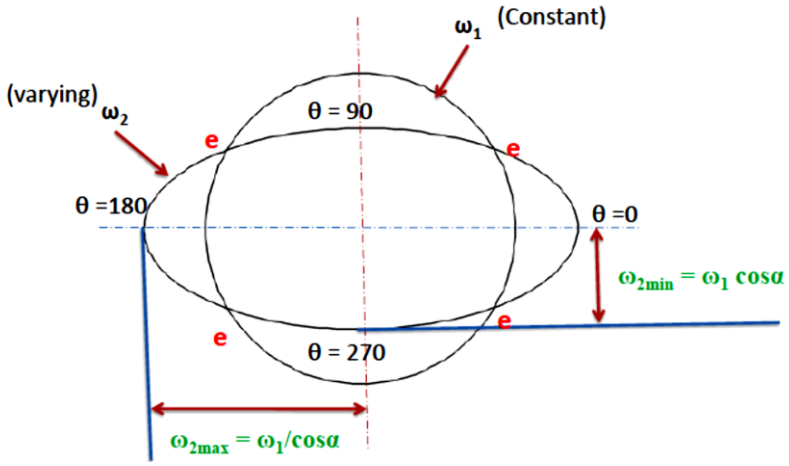
Instructions:

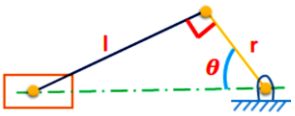
1. **Solve question 1 or 2 and 3 or 4**
2. **Mobile phones and programmable calculators are strictly prohibited**
3. **Assume suitable data whenever required**

Q. No		Question	Marks
		Unit 1 (for 15 Marks)	
1	A	Evaluate degrees of freedom of mechanism shown in figure. 1  figure. 1 L= 6, P1=6, P2=1 F= 3(L-1)-2P1-P2 F=3(6-1)-2(6)-1 **F=2**	6
	B	Differentiate between lower pairs and higher pairs with suitable examples 1. Lower pairs Surface or Area contact Similar contact surfaces Pure sliding or turning eg. All sliding , turning & screw pairs, Universal joint wheel rolling on a surface 2. Higher pairs Point or Line contact Dissimilar contact surfaces Partly sliding & turning eg. Cam follower, Gear drive,	5
	C	Define the following terms : (i) Kinematic chain Assembly of kinematic pairs joined in such a way that each link forms a part of two pairs and the relative motion between the links is completely or successfully constrained (ii) Structure Chain with no relative motion between the links (iii) Kinematic pair Assemblage of kinematic links such that motion between them is contrained motion (iv)Degree of freedom in Mechanism	4

		No. of independent motion a body can have	
		OR	
2	A	Evaluate degrees of freedom of mechanism shown in figure. 2  figure. 2 L= 6, P1=7, P2=0 F= 3(L-1)-2P1-P2 F=3(6-1)-2(7)-0 **F=1**	6
	B	Differentiate between self-closed and forced closed pairs with suitable examples. a) Closed pair/ self closed  Eg. All the Lower pairs & some of the higher pairs b) Unclosed or force closed pair  Spring action Gravity action	5
	C	Explain Spherical pair and Cylindrical pair in terms of i) Suitable diagram, ii) number of degree of freedom, iii) type of pair (lower or higher pair), iv) one example each **Cylindrical pair [DOF = 2]** Lower pair RP = (C)  Cylindric (C) joint—2 *DOF*	4

		Spherical pair [DOF = 3] **Ball and socket joint** Lower pair RRR = (S) 	
		Unit 2 (for 15 Marks)	
3	A	In Slider Crank Mechanism the stroke of slider is 200mm long & obliquity ratio is 4.5. The crank rotates uniformly at 1000 rpm in CW direction, when the crank is 30 degrees past ODC Find, i) Velocity and acceleration of piston ii) Angular velocity and angular acceleration of connecting rod $V_p = r\omega\left[\sin\theta + \frac{\sin 2\theta}{2n}\right]$ $\theta = 180 + 30 = 210$ $past\ i.d.c$ $S = 2 \times r \qquad 0.2 = 2 \times r \qquad \boxed{r = 0.1\ m}$ $\omega = \frac{2\pi N}{60} \qquad \omega = \frac{2\pi 1000}{60} \qquad \boxed{\omega = 104.719\ rad/sec}$ $V_p = r\omega\left[\sin\theta + \frac{\sin 2\theta}{2n}\right] \qquad V_p = 0.1 \times 104.719\left[\sin 210 + \frac{\sin 2 \times 210}{2 \times 4.5}\right]$ $\boxed{V_p = -4.228\ m/s}$ $f_p = r\omega^2\left[\cos\theta + \frac{\cos 2\theta}{n}\right] + r\alpha\left[\sin\theta + \frac{\sin 2\theta}{2n}\right]$ $f_p = 0.1 \times 104.719^2\left[\cos 210 + \frac{\cos 2 \times 210}{4.5}\right]$ $\boxed{f_p = -827.844\ m/sec^2}$	10

		$\omega_{pc} = \frac{\omega \cos\theta}{n}$ $\quad \alpha_{pc} = -\frac{\omega^2}{n} sin\theta + \frac{\alpha}{n} cos\,\theta$ $\omega_{pc} = \frac{104.719 \times \cos 210}{4.5}$ $\quad \alpha_{pc} = -\frac{104.719^2}{4.5} sin210$ $\omega_{pc} = -20.153\ rad/sec$ $\quad \alpha_{pc} = 1218.452 rad/sec^2$	
	B	Explain Polar diagram for single Hooke's joint in detail 	5
		OR	
4	A	In an IC engine mechanism the peripheral velocity of crank pin is constant at 150 cm/s and it has instantaneous acceleration of 3750 cm/s2. Find, i) acceleration of piston ii) angular acceleration of connecting rod, when CR is normal to crank and obliquity ratio is 5. $V = r \times \omega$ $\quad f = r \times \omega^2$ $\frac{V}{\omega} = \frac{f}{\omega^2}$ $\quad \frac{\omega^2}{\omega} = \frac{f}{V}$ $\quad V = r \times \omega$ $\omega = \frac{f}{V}$ $\quad \omega = \frac{37.5}{1.5}$ $\quad 1.5 = r \times 25$ $\omega = 25\ rad/sec$ $\quad r = 0.06$	10



$$\tan\theta = \frac{l}{r} = n$$

$$\tan\theta = 5$$

$$\theta = \tan^{-1} 5$$

$$\theta = 78.69$$

$$f_p = r\omega^2\left[\cos\theta + \frac{\cos 2\theta}{n}\right] + r\alpha\left[\sin\theta + \frac{\sin 2\theta}{2n}\right]$$

$$f_p = 0.06 \times 25^2\left[\cos 78.69 + \frac{\cos 2 \times 78.69}{5}\right]$$

$$f_p = 0.431\ m/sec^2$$

$$\alpha_{pc} = -\frac{\omega^2}{n}\sin\theta + \frac{\alpha}{n}\cos\theta$$

$$\alpha_{pc} = -\frac{25^2}{5}\sin 78.69$$

$$\alpha_{pc} = -122.572\ rad/sec^2$$

B

Hooke's joint connects two non-parallel intersecting shafts. Driving shafts rotates uniformly and driven shaft speed variation is within 15 % of the mean speed. Determine maximum possible inclination between the shafts.

$$q = N_{2max} - N_{2min} \qquad q = N_1\left[\frac{1-\cos^2\alpha}{\cos\alpha}\right]$$

$$q = \frac{N_1}{\cos\alpha} - N_1\cos\alpha \qquad 0.15\ N_1 = N_1\left[\frac{1-\cos^2\alpha}{\cos\alpha}\right]$$

$$q = N_1\left[\frac{1}{\cos\alpha} - \cos\alpha\right] \qquad 0.15 = \left[\frac{1-\cos^2\alpha}{\cos\alpha}\right]$$

5

		$0.15 \cos\alpha = 1 - cos^2\alpha$ $cos^2\alpha + 0.15 \cos\alpha - 1 = 0$ $\alpha = 22.03^o$	

Kinematics of Machinery **AY 2022-23 SEM II**

Unit Test I Scores

		UT 1 (28/3/23)	
Roll No	**Name of Student**	**Exam Score**	**Attendance**
		(30)	
SMA001	Magardhwaj Biradar	0	A
SMA002	Harshad Dhongade	11	P
SMA003	Dasharath Ghode	4	P
SMA004	Pravin Gode	16	P
SMA005	Shreeyash Hendre	22	P
SMA006	Harshal Naykodi	13	P
SMA007	Sunil Pathave	12	P
SMA008	Nikhil Rawate	8	P
SMA010	Rohit Gaikwad	12	P
SMA009	Pratik Salve	22	P
SMA011	Vishal Mane	16	P
SMA112	Vaishnav Panmand	11	P
SMA113	Sohan Bansode	8	P
SMA114	Vishal Gaikwad	22	P
SMA115	Aryan Dalvi	0	A
SMA116	Parshuram Badewar	10	P
SMA117	Aditya Yelwande	0	A
SMA118	Omkar Khattri	6	P
SMA119	Satvik Dongare	15	P
SMA120	Shivani Chavan	0	A
SMA121	Sarang Patil	0	A
SMA122	Abhishek Deshmukh	20	P
SMA123	Shubham Ghadge	10	P
SMA124	Omkar Nagare	12	P
SMA125	Vaishnavi Nangarale	9	P
SMA126	Krushna Garad	10	P
SMA127	Aishawarya Madure	0	A
SMA128	Mahesh Kushwah	14	P
SMA129	Onkar Thete	0	A
SMA130	Poonam Varak	0	A
SMA131	Kajal Ahire	0	A
SMA132	Dipak Gandhale	12	P
SMA133	Nagma Shaikh	6	P
SMA134	Kailas Kamble	13	P
SMA135	Pramod Shelke	16	P
SMA136	Pavan Tawar	16	P
SMA137	Rahul Jadhav	12	P
SMA138	Rohit Naiknaware	14	P
SMA139	Kishor Bhagat	17	P
SMA140	Soham Bhabal	0	A
SMA141	Pratik Kurumkar	13	P
SMA142	Aniket Gawade	14	P
SMA143	Sandip Jagdale	14	P
SMA144	Suyash Pishte	8	P
SMA145	Vaibhav Jadhav	0	A
SMA146	Chandrakant Dhale	18	P
SMA147	Satyam Shirke	14	P
SMA148	Tushar Sonkusale	14	P
SMA149	Dhanashri Phand	0	A
SMA150	Om Ghogare	20	P
SMA151	Ashish Shinde	10	P
SMA153	Rahul Bansode	21	P

"Techno - Social Excellence"

Marathwada Mitramandal's Institute of Technology
Lohgaon, Pune- 411047
Accredited with 'A' Grade by NAAC

" Excellence in the field of Artificial Intelligence & Data Science"

Department of Artificial Intelligence & Data Science

(Academic year 2022-23 (SEM-II)

All students of SE AI&DS are hereby informed that the Unit Test-II is scheduled from 23/05/2023 to 25/05/2023 through offline mode as per following time table. Examination is of 30 Marks All students have to attend examination as per given time.

Time Table of Unit Test-2 (End-Semester Exam) [May-2023]

Day & Date	Time	SE AI&DS
Tuesday 23.05.2023	9:00 to 10:00 am	Statistics
Tuesday 23.05.2023	1:30 to 2:30 pm	Internet of Things
Wednesday 24.05.2023	9:00 to 10:00 am	Data Structures and Algorithms
Wednesday 24.05.2023	1:30 to 2:30 pm	Software Engineering
Thursday 25.05.2023	9:00 to 10:00 am	Management Information System

Note :

Portion for Test : **Unit No. 3, 4, 5 and 6(Descriptive questions)**

Marks: 30

Duration: 1 Hr (60 Min.)

Attendance is compulsory for all papers

Exam Coordinator

Sanjay
HOD

Department of AI & DS
MMIT

CC
1.The Principal
2. Dean Academics
3. All student send through mail

Marathwada Mitra Mandal's

Institute of Technology, Lohgaon, Pune-47

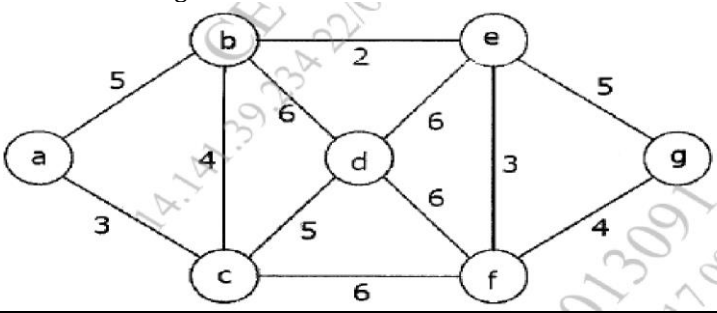
Department of Artificial Intelligence & Data Science

Academic Year: 2022-23 | **Semester: II** | **Date: 24/05/2023**
Class : SE | **Course Code: 210252** | **Max. Marks: 30**
Div: - | **Course Name: Data Structures & Algorithms** | **Time: 60 Minutes**

Unit Test-II

Instructions:

1. **Solve question 1 or 2 and 3 or 4**
2. **Mobile phones and programmable calculators are strictly prohibited**
3. **Assume suitable data whenever required**

Q. No		Question	Marks	Blooms Level	CO
1	A	Consider the given graph and find the shortest path by using Dijkstra's algorithm from 'a' to 'g'. 	8	III	3
	B	What is AVL Tree? Construct the AVL tree for the following data by inserting each of the following data item one at a time 15,20,24,10,13,7,30,36,25	7	VI	4
OR					
2	A	Draw any directed graph with minimum 6 nodes and represent graph using adjacency matrix, adjacency list, adjacency multilist and inverse adjacency list.	7	IV	3
	B	Explain with example Splay Tree	8	II	4
3	A	Create a B tree of order 3 for the following data: 20,10,30,15,12,40,50	7	VI	5
	B	Define Sequential file organization. Give its advantages and disadvantages.	8	I	6
OR					
4	A	What is B+ Tree? Give structure of its internal node. What are the order of B+ tree and characteristics of B+ tree?	8	II	5
	B	Explain linked organization with respect to inverted files.	7	II	6

****

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Institute of Technology, Lohgaon, Pune-47

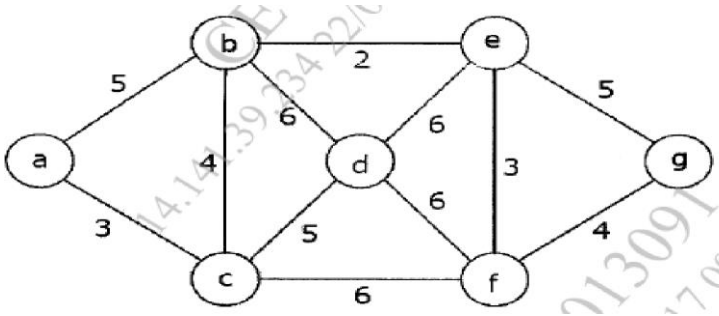
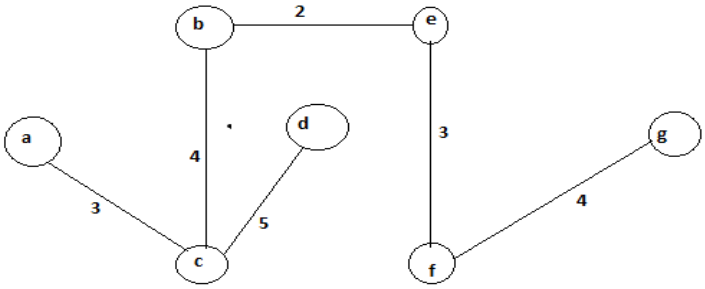
Department of AI & DS

A.Y. 2021-22 (SEM-II)

Class: S.E. (AI & DS)
Subject: Data Structures And algorithms **Max Marks:** 30
EXAM: UNIT TEST-II **Time:** 60 Min.

Instructions:

1. Assume suitable data wherever required.
2. Draw properly labeled diagrams wherever required.
3. Figures on right indicate marks.

Q.1	**A** **Ans**	Consider the given graph and find the shortest path by using Dijkstra's algorithm from 'a' to 'g'.   Total Cost=3+4+5+2+3+4 =**21**	**[5]**
	B **Ans**	What is AVL Tree? Construct the AVL tree for the following data by inserting each of the following data item one at a time 15,20,24,10,13,7,30,36,25	**[6]**

AVL Tree :→

- AVL Tree is a balanced binary search tree.
- AVL is a tree in which the height of the subtrees differ by no more than 1.
- An AVL Tree is a binary tree that is either empty or that consists of two AVL subtrees, T_L & T_R whose heights differ by no more than 1.
- It is also known as Height balanced binary search tree.
- The balanced factor is determined as

$$H_L - H_R \leq 1$$

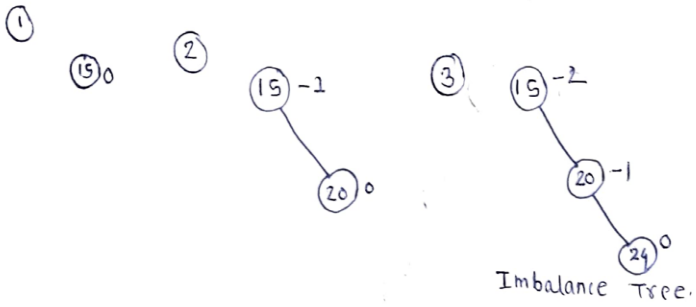
- The balanced factor as the height of the left subtree minus the height of the right subtree.

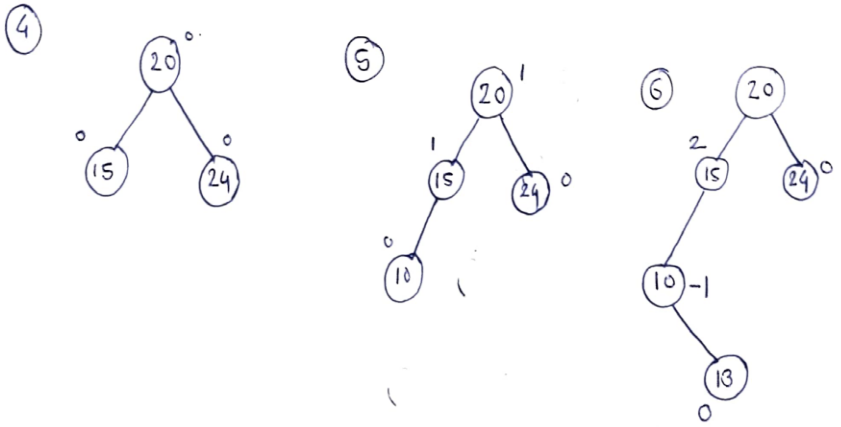
$$H_L - H_R$$

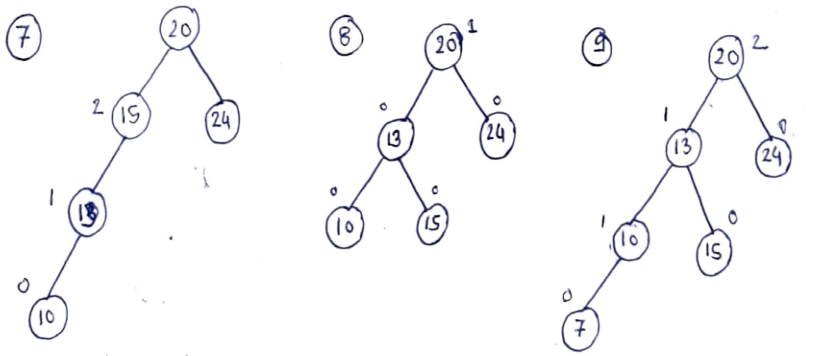
- The balanced factor for any node in AVL tree must be +1, 0, -1
  - → +1 indicates left subtree is higher than right subtree.
  - → -1 indicates right subtree is higher than left subtree.
  - → 0 indicates the subtrees are of same height

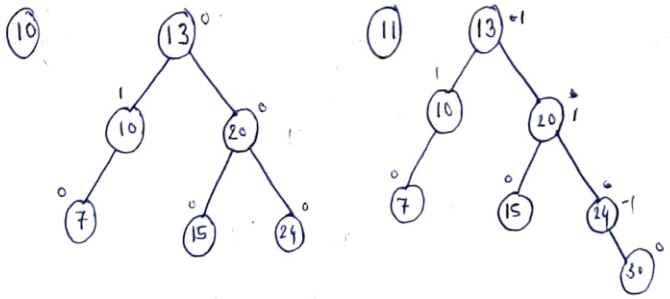
15, 20, 24, 10, 13, 7, 30, 36, 25

Construction of AVL tree.

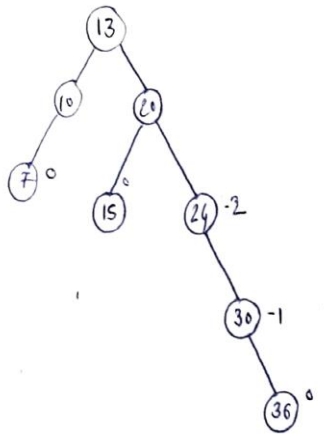






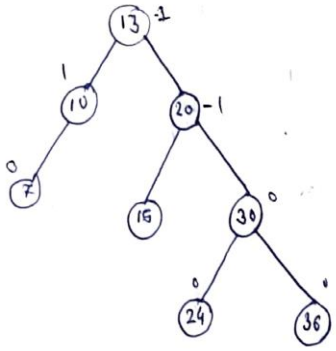


12

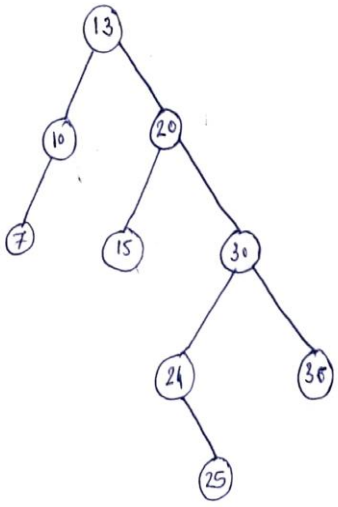


Imbalance tree.

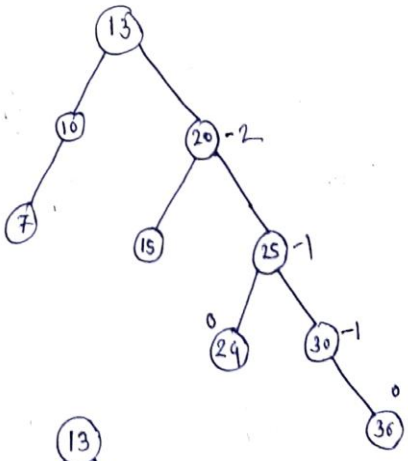
13

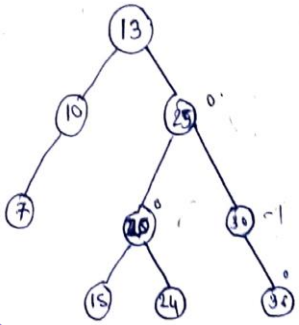


14



Imbalance





Q. 2	A Ans	Draw any directed graph with minimum 6 nodes and represent graph using adjacency matrix, adjacency list, adjacency multilist and inverse adjacency list.	[4]

Adjacency Matrix : →

- The adjacency matrix of a graph G with n vertices is an nxn symmetric binary matrix given by $A = [a_{ij}]$ defined as

$a_{ij} = 1$ if the i^{th} and j^{th} ~~vertices is~~ are ~~nxn symmetric binary matrix~~ adjacent (i.e) there is an edge connecting the i^{th} and j^{th} vertices.

$a_{ij} = 0$ Otherwise, (i.e) if there is no edge linking the vertices.

Example

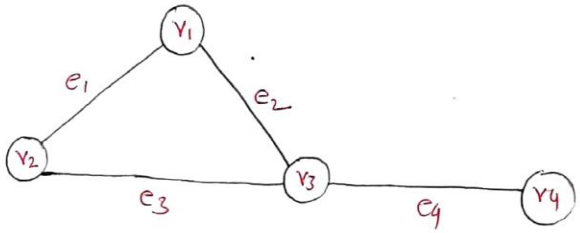


Fig: Graph G.

$$P(V_1, V_4) = \begin{array}{c} \\ 1 \\ 2 \end{array} \begin{array}{c} \begin{array}{cccc} e_1 & e_2 & e_3 & e_4 \end{array} \\ \begin{bmatrix} 0 & 1 & 0 & 1 \\ 1 & 0 & 1 & 1 \end{bmatrix} \end{array}$$

Paths :

1: {e_2, e_4}

2: {e_1, e_3, e_4}.

fig: Path matrix between V_1, V_4 of G.

Linked Representation :→

- It is referred to as adjacency list representation and is comparitively efficient with regard to adjacency matrix representation.

- Given a graph G with n vertices and e edges, the adjacency list opens n head nodes corrosponding to the n vertices of Graph G, each of which points to a singly linked list of nodes, which are adjacent to vertex representing the head node.

Example:-

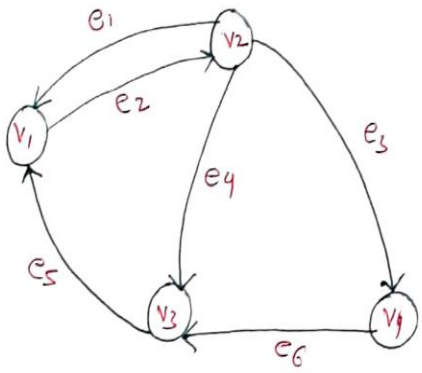


Fig: Graph G.

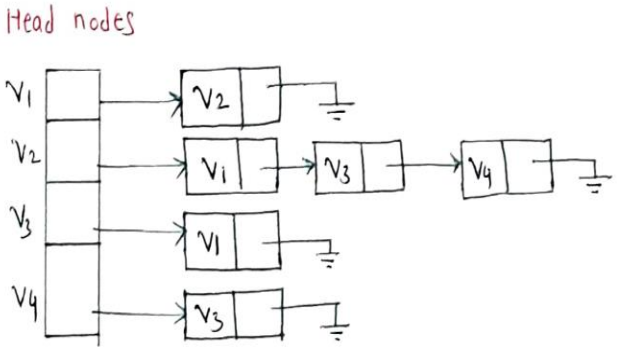


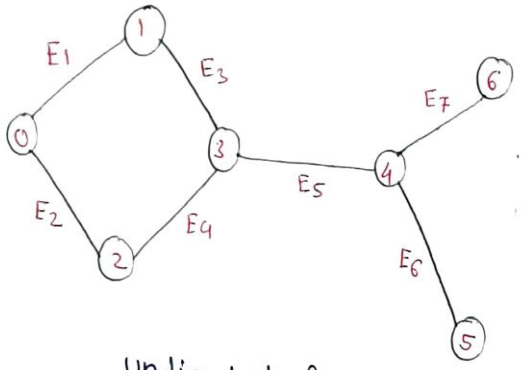
fig: Adjacency list representation of G.

Adjacency Multilist:

- It is modified version of Adjacency list.
- It is Edge based rather than vertex based representation of graph.
- The node structure of such a list can be represented as follows

Visited tag	V_1	V_2	Link 1 for V_1	Link 2 for V_2

- Example: -

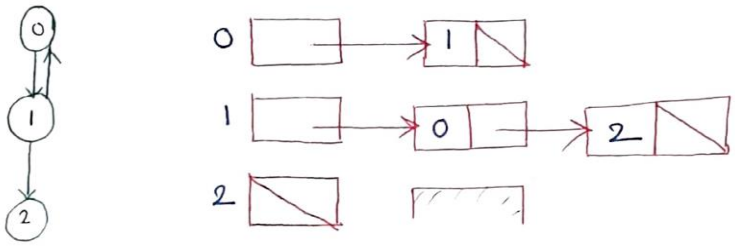


Undirected Graph

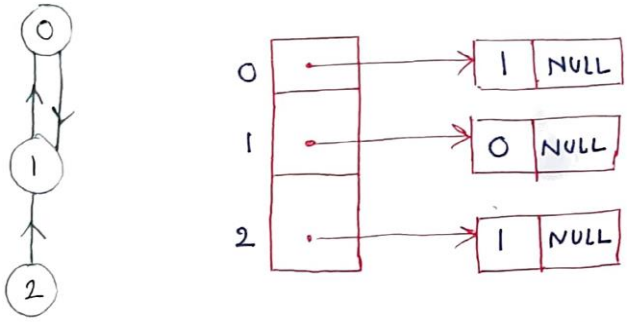
E_1		0	1	Edge2	Edge3
E_2		0	2	NULL	Edge4
E_3		1	3	NULL	Edge4
E_4		2	3	NULL	Edge5
E_5		3	4	NULL	Edge6
E_6		4	5	Edge7	NULL
E_7		4	6	NULL	NULL

Inverse Adjacency list :→

Example :→



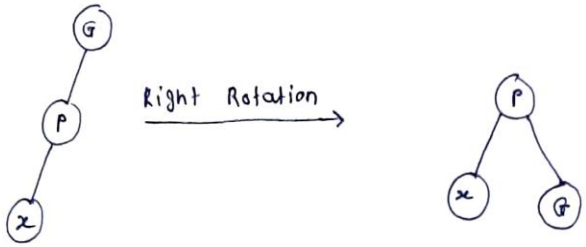
Original Adjacency list



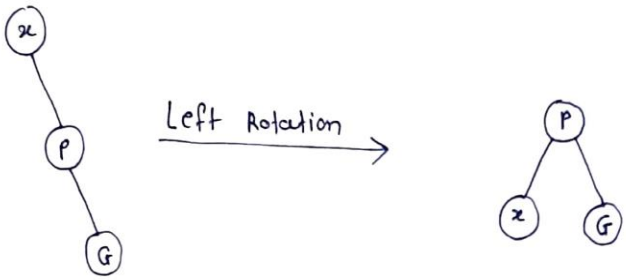
Inverse Adjacency List

Q. 2	**B** **Ans**	Explain with example Splay Tree – A splay tree is a self balancing binary search tree. – The main idea of the splay tree is to bring recently accessed node to root of the tree. – If the search is successful, the node that is searched is splayed and become a new root. Splay operations :– – There are following cases a. Node is root : – simply return the root, doesn't do anything. – zig (Node is left child of root). – zag (Node is right child of root). – zig – zig (Left of left) – zag – zag (Right of right) – zig – zag (Left of right) – zag – zig (Right of left) Case :– 1) zig and zag zig.  	**[5]**

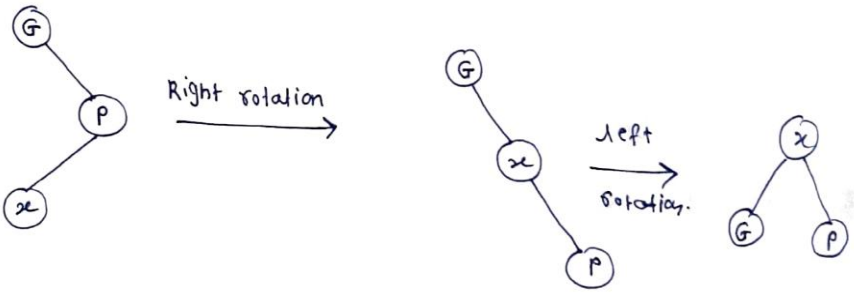
zig – zig



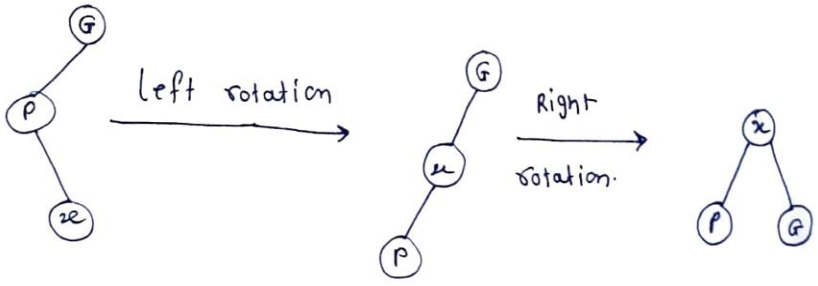
zag – zag

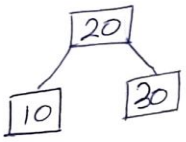
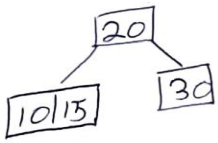
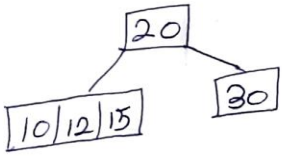
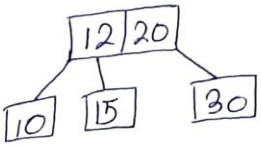


zig – zag

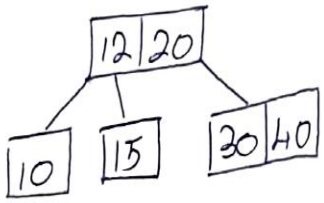


zag – zig

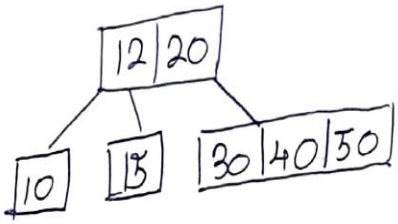


Q.3	**A**	Create a B tree of order 3 for the following data: 20,10,30,15,12,40,50	**[6]**
	Ans	Q) 20, 10, 30, 15, 12, 40, 50 ⟶ B tree order 3 Step 1 :- 20 is inserted. [20] Step 2 :- 10 and 30 are inserted. [10 | 20 | 30] Here the overflow occurs. So we will split the tree. Step 3 :-  Step 3 :- 15 is inserted.  Step 4 :- 12 is inserted.  Here the overflow occurs, so we will split the tree.  	

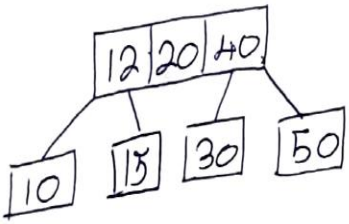
Step 5 :- 40 is insested.



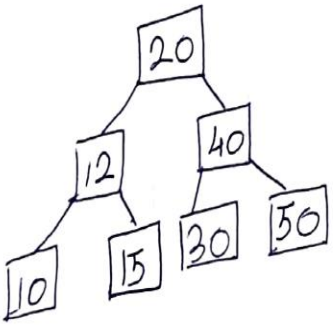
Step 6 :- 50 is insested



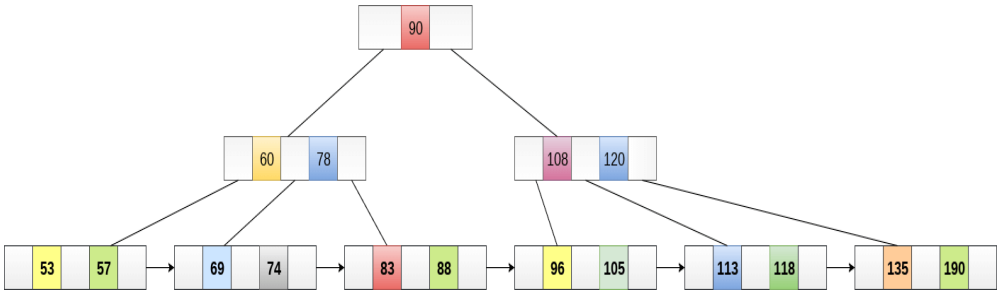
Here the overflow occurs, so we will split the tree.



Step 7 :- Here again the overflow occurs, so we will split the tree.



Q. 3	**B** **Ans**	Define Sequential file organization. Give its advantages and disadvantages. The sequential file organization is one of the categories among various file organizations types. There are two commonly used methods available for organizing the data element in the file storage. The methods are useful to manage and process the data store for sequential file organization. • It is the most common type of file. In this type of file. • A fixed format is used for record. • All records are of the same length. • Position of each field in record and length of field is fixed. • Records are physically ordered on the value of one of the fields - called the ordering field. •  **Advantages** • The sequential file organization is efficient and process faster for the large volume of data. • It is a simple file organization compared to other available file organization methods. • This method can be implemented using cheaper storage devices such as magnetic tapes. • It requires fewer efforts to store and maintain data elements. • The sequential file organization technique is useful for report generation and statistical computation process. • This file organization is a preferred method for calculating aggregates that involve most of the data elements that have to be accessed while performing the computation process. Some of the popular use cases are calculating grades for the students, generating pay slips for the employees, and generating the invoices in the business. **Disadvantages** • The shorting operation is a time-consuming process and more memory space for the shorted file method in the sequential file organization. • The shorting operations iterate for every writes operation such as insert, update, or delete • The traversing time is high in the sequential file organization as for each writes operation, the system or the program control cannot	**[4]**

		find a particular data item directly at one go, it has to traverse through the sequence of data items.	
Q.4	**A**	What is B+ Tree? Give structure of its internal node. What are the order of B+ tree and characteristics of B+ tree?	**[6]**
	Ans	B+ Tree is an extension of B Tree which allows efficient insertion, deletion and search operations. In B Tree, Keys and records both can be stored in the internal as well as leaf nodes. Whereas, in B+ tree, records (data) can only be stored on the leaf nodes while internal nodes can only store the key values. The leaf nodes of a B+ tree are linked together in the form of a singly linked lists to make the search queries more efficient. B+ Tree are used to store the large amount of data which can not be stored in the main memory. Due to the fact that, size of main memory is always limited, the internal nodes (keys to access records) of the B+ tree are stored in the main memory whereas, leaf nodes are stored in the secondary memory. The internal nodes of B+ tree are often called index nodes. A B+ tree of order 3 is shown in the following figure.  **Characteristics of B+ Trees** **Balanced**: B+ Trees are self-balancing, which means that as data is added or removed from the tree, it automatically adjusts itself to maintain a balanced structure. This ensures that the search time remains relatively constant, regardless of the size of the tree. **Multi-level**: B+ Trees are multi-level data structures, with a root node at the top and one or more levels of internal nodes below it. The leaf nodes at the bottom level contain the actual data. **Ordered**: B+ Trees maintain the order of the keys in the tree, which makes it easy to perform range queries and other operations that require sorted data. **Fan-out**: B+ Trees have a high fan-out, which means that each node can have	

		many child nodes. This reduces the height of the tree and increases the efficiency of searching and indexing operations. **Cache-friendly**: B+ Trees are designed to be cache-friendly, which means that they can take advantage of the caching mechanisms in modern computer architectures to improve performance. **Disk-oriented**: B+ Trees are often used for disk-based storage systems because they are efficient at storing and retrieving data from disk.	
	B **Ans**	Explain linked organization with respect to inverted files **Linked organization:** • Linked organizations differ from sequential organizations essentially in that the logical sequence of records is generally different from the physical sequence. • In sequential i th record is placed at location li, then the i+1st record is placed at li + c where c is the length of i th record or some fixed constant. • In linked organization the next logical record is obtained by following link value from present record. Linking in order of increasing primary key eases insertion deletion. • Searching for a particular record is difficult since no index is available, so only sequential search possible. • We can facilitate indexes by maintaining indexes corresponding to ranges of employee numbers eg. 501-700, 701-900. all records with same range will be linked together i a list. • We can generalize this idea for secondary key level also. We just set up indexes for each key and allow records to be in more than one list. This leads to the multi-list structure for file representation **Inverted File Organization:** • In inverted files, only index structure is important. • Record can be stored in any way • Index maintenance is more complex • The inversion process is associated with the information of inverted list • Normally record is searched via a primary key. For example, if staff ID is a primary key. • But the inverted list provides staff ID and further a particular staff's name and other details can be accessed through index	**[6]**

Staff ID index (increasing order)	Occupation index
106	A
150	B
360	C
400	D
700	E

Accountant	B, D
Clerk	A, C, E

Salary index	
2000	E
4000	B, C, D
6000	A

Staff ID	Occupation	Salary	Record
106	Clerk	5000	A
150	Accountant	4000	B
360	Clerk	3000	C
400	Accountant	3500	D
700	Clerk	2000	E

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Department of Artificial Intelligence & Data Science

ACADEMIC YEAR 2022-23 (SEM-II)

Marks of Unit Test-II Exam

Sr. No.	Roll No.	Student Name	STA	IoT	DSA	SE	MIS
1	SE01	Kadam Sumedh Subodh	13	20	26	13	22
2	SE02	Aphale Yash Ramesh	19	18	24	19	21
3	SE03	Bhavsar Apurv Dhiraj	12	16	21	12	18
4	SE04	Bhokare Prasad Sanjay	22	18	22	22	19
5	SE05	Borole Rohit Suhas	10	22	28	10	18
6	SE06	Chaudhari Purvesh Sandip	8	2	15	8	14
7	SE07	Chinmay Nitin Dagade	6	19	27	6	17
8	SE08	Chopade Anurag Anil	16	20	26	16	21
9	SE09	Dahiwal Sainath Shivaji	7	22	20	7	18
10	SE10	Dalvi Ashutosh Suresh	10	21	25	10	22
11	SE11	Deshpande Gautami Sagar	14	19	13	14	17
12	SE12	Gulumkar Krushnali Sandip	12	20	19	12	18
13	SE13	Hage Pratik Vishnu	5	14	25	5	16
14	SE14	Harshal Rajiv Sutar	AB	AB	AB	6	15
15	SE15	Jadhav Vikas Vijaykumar	11	12	12	5	13
16	SE16	Jagdhane Priya Gautam	AB	AB	AB	AB	AB
17	SE17	Jagtap Prerana Parag	AB	20	AB	AB	AB
18	SE18	Jay koshor Chakole	AB	16	AB	9	12
19	SE19	Kalbhor Atharva Ramesh	24	24	26	20	23
20	SE20	Kale Pushkar Anand	14	14	AB	0	15
21	SE21	Karekar Sakshi Mukund	21	21	22	12	19
22	SE22	Lahamge Shruti Jitendar	24	24	9	12	18
23	SE23	Malav Shreyash Sanjay	20	20	22	16	21
24	SE24	Mujawar Khushi Javed	14	14	8	4	16
25	SE25	Muskawad Vidyadhar Ramdas	AB	AB	AB	AB	AB
26	SE26	Nidhi Chandrakant Deshmukh	19	25	24	19	19
27	SE27	Penna Venkata Swapna S.	20	27	24	20	21
28	SE28	Pise Ameya Amit	10	16	2	10	18
29	SE29	Prashika Bhimrao Nikam	AB	AB	AB	AB	AB
30	SE30	Pratiksha Vasant Malunjkar	18	23	24	17	16
31	SE31	Salve Sachidanand Balu	AB	12	AB	3	AB
32	SE32	Sapkal Aditya Prakash	AB	20	AB	AB	AB
33	SE33	Sarnikar Rahul Sanjay	12	18	13	12	13

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34	SE34	Shenkar Akshada Dipak	20	25	13	20	21
35	SE35	Shivam Chahar	AB	21	7	16	18
36	SE36	Thorat Snehal Ankush	26	28	26	14	24
37	SE37	Vidyesh Sujit Patil	20	19	20	17	21
38	SE38	Viraj Sanjay Kurale	19	20	19	4	18
39	SE39	Yedle Sanket Mohan	18	26	18	16	19
Sign of Subject Teacher							

Exam Coordinator

HOD

Prof. Sanjay Agrawal
HoD, AI & DS

M.I.T. INSTITUTE OF TECHNOLOGY ★ PUNE-47

PROJECT BASED LEARNING - II (Assessment Sheet) SE Mech AY 2022-23 Sem-II

PBL Group No.	Names of Group Members	Guide Name	Title of Project Work	Problem Statement Identification & Synopsis Submission (5)	Documentation (Project Report & Continuous Monitoring Sheet submission) (15)	Powerpoint Presentation (10)	Outcome (Project Working Model or Complete Design Submission) (20)	Total (50)
G-1	**SMA106 NAYKODI HARSHAL NITIN**	D. M. Bhoge	Oscillating cylinder	4	12	7	18	**41**
	SMA105 HENDRE SHREEYASH MANOJ			5	14	8	18	**45**
	SMA108 RAWATE NIKHIL NAMDEV			4	11	7	18	**40**
	SMA109 SALVE PRATIK DHONDIBA			4	12	7	17	**40**
	SMA111 MANE VISHAL GOWARDHAN			4	12	7	16	**39**
	SMA127 MADURE AISHAWARYA SHYAM			3	10	6	15	**34**
G-2	**SMA107 PATHAVE SUNIL SOMANATH**	D. M. Bhoge	crank and slotted lever mechanism	4	12	8	18	**42**
	SMA102 DHONGADE HARSHAD D			3	11	8	19	**41**
	SMA103 GHODE DASHARATH TULSHIRAM			3	10	7	18	**38**
	SMA104 GODE PRAVIN YUVRAJ			3	10	7	18	**38**
	SMA114 VISHAL BALASAHEB GAIKWAD			3	10	7	18	**38**
	SMA119 DONGARE SATVIK SANTOSH			4	12	8	18	**42**
G-3	**SMA101 BIRADAR MAGARDHWAJ MARUT**	N. B. Dhamane	Development of guided blade vane compressor	4	13	7	5	**29**
	SMA110 GAIKWAD ROHIT BALASAHEB			4	13	9	6	**32**
	SMA112 PANMAND VAISHNAV ARJUN			4	13	7	5	**29**
	SMA113 BANSODE SOHAN DATTA			4	13	9	6	**32**
	SMA115 DALVI ARYAN RAJARAM			4	13	7	5	**29**
	SMA117 YELWANDE ADITYA P			3	8	6	5	**22**
	SMA118 KHATTRI OMKAR		Fluid Flow Analysis	5	12	8	15	**40**
	SMA121 PATIL SARANG DEVIDAS			5	12	8	15	**40**

PROJECT BASED LEARNING - II (Assessment Sheet) SE Mech AY 2022-23 Sem-II

PBL Group No.	Names of Group Members	Guide Name	Title of Project Work	Problem Statement Identification & Synopsis Submission (5)	Documentation (Project Report & Continuous Monitoring Sheet submission) (15)	Powerpoint Presentation (10)	Outcome (Project Working Model or Complete Design Submission) (20)	Total (50)
G-4	SMA123 GADGE SHUBHAM DAMODAR	R. P. Polas	through Convergent Divergent Nozzle	4	12	8	15	**39**
	SMA125 VAISHNAVI S NANGRALE			4	10	8	15	**37**
	SMA131 AHIRE KAJAL RAJENDRA			4	10	8	15	**37**
	SMA148 TUSHAR HIRALAL SONKUSALE			4	12	8	15	**39**
G-5	**SMA124 NAGARE OMKAR AMBADAS**	S. S. More	Modifacation of Gear Rolling Tester	4	12	8	14	**38**
	SMA116 BADEWAR PARSHURAM M			4	9	6	14	**33**
	SMA136 TAWAR PAVAN GANESH			4	10	7	14	**35**
	SMA137 JADHAV RAHUL KRISHNA			4	13	9	14	**40**
	SMA143 JAGDALE SANDIP SOMNATH			4	9	6	14	**33**
G-6	**SMA147 SHIRKE SATYAM RAJENDRA**	G. L. Allampallewar	Fabrication of low cost solar pump from scrap	5	14	8	17	**44**
	SMA122 DESHMUKH ABHISHEK VILAS			4	10	8	15	**37**
	SMA141 KURUMKAR PRATIK RAJENDRA			5	14	8	17	**44**
	SMA142 GAWADE ANIKET SANJAY			5	14	8	18	**45**
	SMA144 PISHTE SUYASH SHRIKANT			5	12	8	16	**41**
	SMA120 CHAVAN SHIVANI SANJAY			ab	ab	ab	ab	**AB**
G-7	**SMA134 KAMBLE KAILAS NAVANATH**	N. B. Dhamane	Line Follower Robot By using Arduino	4	9	6	10	**29**
	SMA130 VARAK POONAM PANDURANG			4	9	6	10	**29**
	SMA132 GANDHALE DIPAK PRAKASH			3	8	6	5	**22**
	SMA133 SHAIKH NAGMA GUDULAL			3	8	6	5	**22**
	SMA135 SHELKE PRAMOD SHRIRAM			4	9	6	10	**29**

PROJECT BASED LEARNING - II (Assessment Sheet) SE Mech AY 2022-23 Sem-II

PBL Group No.	Names of Group Members	Guide Name	Title of Project Work	Problem Statement Identification & Synopsis Submission (5)	Documentation (Project Report & Continuous Monitoring Sheet submission) (15)	Powerpoint Presentation (10)	Outcome (Project Working Model or Complete Design Submission) (20)	Total (50)
G-8	**SMA126 GARAD KRUSHNA JAGDISH**	D. P. Yesane		5	12	8	16	**41**
	SMA128 KUSHWAH MAHESH HARKISINGH			5	12	8	16	**41**
	SMA129 THETE ONKAAR BHARAT			5	12	8	16	**41**
	SMA138 ROHIT HARI NAIKNAWARE			3	8	6	5	**22**
	SMA139 BHAGAT KISHOR RAJABHAU			5	12	8	16	**41**
	SMA140 BHABAL SOHAM VILAS			3	8	6	5	**22**
G-9	**SMA145 JADHAV VAIBHAV S**	N. B. Dhamane	Heating and humidification apparatus	3	8	6	5	**22**
	SMA146 DHALE CHANDRAKANT B			3	8	6	5	**22**
	SMA149 PHAND DHANASHRI D			3	8	6	5	**22**
	SMA150 GHOGARE OM KALYANRAO			4	12	9	6	**31**
	SMA151 SHINDE ASHISH SHIVAJI			3	8	6	5	**22**
	SMA152 BANSODE RAHUL BAJIRAO			4	12	9	6	**31**

Prof.N.B.Dhamane

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HOD Mechanical

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Lohgaon, Pune-411047

"Towards Ubiquitous Computing Technology"

Department of Computer Engineering

Academic Year: 2022-23 Semester: II

Continuous Assessment Sheet

TE B

Class & Div : TE B

Subject: DSBDAL

Sr. No	Roll No.	Exam seat No.	Name of Student	THEORY ASSIGNMENT						PRACTICAL ASSIGNMENT											TEST			Attedance		Final TW Marks (Out of 50)	
				TH Assign Unit 1	TH Assign Unit 2	TH Assign Unit 3	TH Assign Unit 4	TH Assign Unit 5	TH Assign Unit 6	Assignment 1 PR	Assignment 2 PR	Assignment 3 PR	Assignment 4 PR	Assignment 5 PR	Assignment 6 PR	Assignment 7 PR	Assignment 8 PR	Assignment 9 PR	Assignment 10 PR	Mini Project	Prerequisite Course Test	Unit Test I	Unit Test II	Data Science Course Certificate	Attedance	Total	Final TW
			Out of ->	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	30	30	10	10	250	50
1	TEB01	T190594305	NARWADE RONIT SHARAD	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	11	10	8	219	44
2	TEB02	T190594306	NETANKAR PRAFULLA VINOD	9	9	9	9	9	9	10	10	10	10	10	10	10	10	10	10	9	8	11	12	10	7	211	42
3	TEB03	T190594307	NIMBALKAR SHREYAS GAJANAN	10	9	9	10	10	10	9	9	10	9	9	10	9	10	9	9	9	9	9	0	10	5	193	39
4	TEB04	T190594308	PADIR AKASH GANESH	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	10	22	10	9	230	46
5	TEB05	T190594309	PANDHARKAR SIDDHI RAJENDRA	10	10	10	10	10	10	9	9	9	9	9	9	9	9	9	9	9	9	18	18	10	7	221	44
6	TEB06	T190594311	PATIL ADITYA SURESH	10	10	10	10	10	10	10	9	10	9	10	9	10	9	10	10	10	9	17	13	10	8	223	45
7	TEB07	T190594312	PRANAV DAJIBA PATIL	7	7	7	7	7	7	9	9	9	9	9	9	9	9	9	9	9	2	7	6	10	5	171	34
8	TEB08	T190594313	PATIL SATVIK SUNIL	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	10	10	7	198	40
9	TEB09	T190594314	PATIL SUMEDH ANIL	10	10	10	10	10	9	9	9	9	10	10	10	10	10	9	9	0	8	13	17	10	7	209	42
10	TEB10	T190594317	PATIL YASH UDAYPRAKASH	10	10	10	10	10	9	10	10	10	10	10	9	9	9	9	9	10	8	13	19	10	5	219	44
11	TEB11	T190594316	PATIL YASH DEVENDRA	10	10	10	10	10	9	10	10	10	10	10	9	9	9	9	9	10	8	14	18	10	8	222	44
12	TEB12	T190594319	PAWALE RUTVIK KISAN	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	5	10	10	5	192	38
13	TEB13	T190594320	PAWAR POOJA MARUTI	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	11	15	10	10	225	45
14	TEB14	T190594321	PHADTARE RITESH AVINASH	10	9	9	9	10	10	10	9	9	9	9	10	9	9	10	9	9	8	18	22	10	9	226	45
15	TEB15	T190594322	POTE PALASH SHARAD	9	9	9	9	9	9	8	10	9	9	9	9	9	10	10	9	9	8	7	10	10	9	199	40
16	TEB17	T190594323	RAJA BABU	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	12	10	10	10	221	44
17	TEB18	T190594324	RANBHISE SWAPNIL SUNIL	8	8	8	8	8	9	8	9	9	8	8	9	9	8	9	9	9	8	6	14	10	5	187	37
18	TEB19	T190594326	RATHOD PRANAY BHAURAO	9	9	9	9	9	9	8	9	10	10	10	10	10	9	9	9	9	10	1	16	10	7	201	40
19	TEB20	T190594328	RAUT OMKAR RAJENDRA	7	8	8	8	8	7	9	9	9	8	9	8	8	8	8	8	9	9	0	5	10	5	168	34
20	TEB21	T190594329	ANIKET MADHUKAR RINDHE	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	16	18	10	10	233	47
21	TEB22	T190594330	RUSHIKESH BHALERAO	9	9	9	9	9	9	9	9	10	10	10	10	10	10	10	10	9	10	7	10	10	10	208	42
22	TEB23	T190594331	YERUNKAR SAHIL SHIVAJI	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	8	6	10	10	9	213	43
23	TEB24	T190594332	SALUNKE SAHIL SANTOSH	10	10	10	10	10	9	9	10	10	10	10	10	10	9	9	9	9	9	8	21	10	9	221	44
24	TEB26	T190594334	SARODE SHREYASH MANOJ	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	7	5	19	10	8	202	40
25	TEB27	T190594335	SATHE SHUBHAM NANDKUMAR	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	10	12	19	10	9	213	43
26	TEB28	T190594336	SATRE ROHIT DNYANDEO	9	9	9	9	9	9	10	9	9	9	9	9	9	9	9	8	9	8	12	25	10	8	216	43
27	TEB29	T190594337	CHOUDHARI SAWRI RAJESH	10	10	10	10	10	10	9	10	10	10	10	10	10	9	9	9	9	4	12	18	10	8	217	43
28	TEB30	T190594338	SHAIKH ALTAF TAYYAB	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	15	19	10	8	232	46
29	TEB31	T190594339	SHAIKH IMRAN ASLAM	10	10	10	9	10	9	9	10	9	10	10	10	10	10	10	10	9	10	5	17	10	8	215	43
30	TEB32	T190594340	SHARMA SEJAL	10	10	10	10	10	10	9	10	9	10	10	10	10	10	10	10	9	8	14	12	10	8	219	44
31	TEB33	T190594342	SHELKE MAHESH RAMAKANT	10	10	10	10	10	10	9	10	9	10	10	10	10	10	10	10	9	9	AB	15	10	8	209	42

Sr. No	Roll No.	Exam seat No.	Name of Student	TH Assign Unit 1	TH Assign Unit [illegible]	TH Assign Unit 3	TH Assign Unit 4	TH Assign Unit 5	TH Assign Unit 6	Assigment 1 PR	Assigment 2 PR	Assigment 3 PR	Assigment 4 PR	Assigment 5 PR	Assigment 6 PR	Assigm[illegible] PR	Assigment 8 PR	Assigment 9 PR	Assigment 10 PR	Mini Project	Prerequisite Course Test	Unit Test I	Unit Test II	Data Science Course Certificate	Attedance	Total	Final TW
32	TEB34	T190594343	GANDHALI ADESH SHETH	9	9	9	9	9	10	9	10	9	10	10	9	9	9	9	9	9	7	15	14	10	8	211	42
33	TEB35	T190594345	SHIRKE VISHAKHA VINOD	9	9	10	10	10	10	9	9	10	9	10	10	10	10	10	10	10	10	11	14	10	7	217	43
34	TEB36	T190594346	SHUBHAM DNYANESHWAR ARGADE	9	9	9	9	9	9	8	8	8	8	8	10	10	8	10	10	10	9	AB	16	10	8	195	39
35	TEB37	T190594349	SIMRAN KALOTE	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	AB	24	10	9	223	45
36	TEB38	T190594350	SINGH PRACHI GAJENDRA	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	AB	10	10	9	208	42
37	TEB39	T190594351	SHINDE SNEHAL VITTHAL	9	9	9	9	9	9	9	9	10	10	10	10	10	10	10	10	9	10	13	11	10	7	212	42
38	TEB40	T190594352	SUBRE POONAM VILAS	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	8	17	20	10	8	233	47
39	TEB41	T190594353	TAMBAT ADITI ANAND	9	9	10	10	9	9	9	9	10	9	10	9	10	9	10	9	10	10	12	13	10	9	214	43
40	TEB42	T190594354	TAYADE ADITYA BANDU	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	8	18	12	10	7	225	45
41	TEB43	T190594355	MORE TEJAS SANJAY	7	9	9	9	9	9	9	8	9	8	8	9	8	8	8	8	9	9	AB	0	10	5	168	34
42	TEB44	T190594357	THOMBARE ABHIJEET MARUTI	9	9	10	10	10	10	9	10	10	10	10	10	10	10	10	9	9	10	3	15	10	7	210	42
43	TEB45	T190594358	THORAT JAYESH BHASKAR	9	9	10	10	10	9	8	9	9	9	9	8	8	8	9	9	9	8	10	12	10	6	198	40
44	TEB46	T190594359	TODKAR ABHIJEET RAMLING	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	7	20	10	7	224	45
45	TEB47	T190594360	TRIVEDI RUTUJA SANDIP	10	10	9	10	10	10	10	10	9	9	10	9	10	9	9	9	9	9	18	16	10	7	222	44
46	TEB48	T190594361	PURI TRIVENI MUKUND	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	13	17	10	7	209	42
47	TEB49	T190594362	VAIBHAV VIJAYKUMAR MULE	10	9	10	10	10	9	9	9	9	9	9	9	9	9	9	9	9	10	16	17	10	8	218	44
48	TEB50	T190594363	VAIRAGADE TEJAS MADHUKAR	10	9	10	10	9	10	10	10	10	10	10	10	10	10	10	10	10	9	12	14	10	8	221	44
49	TEB51	T190594364	VEDASHRI MAHESH PHALAK	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	8	8	7	18	18	10	7	210	42
50	TEB52	T190594365	VETAL NISHIKANT DILIP	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	3	9	10	7	208	42
51	TEB53	T190594366	WADILE SHRUTI DHANALAL	10	9	10	9	9	10	8	8	8	8	8	8	8	8	8	8	9	8	16	17	10	6	203	41
52	TEB54	T190594367	WAGH ATHARVA SUBHASH	10	9	10	10	10	9	9	9	9	9	9	9	9	9	9	9	9	9	7	11	10	7	201	40
53	TEB55	T190594368	WAGH DEVIKA PRAMOD	10	9	9	10	10	9	10	9	10	10	10	10	10	10	10	9	9	9	8	13	10	7	211	42
54	TEB56	T190594214	BABAR MAHESH BHOJALING	10	10	9	9	10	10	10	10	9	9	9	10	10	10	10	10	9	10	16	14	10	7	221	44
55	TEB57	T190594216	BADADE OMKAR RAJENDRA	9	9	9	9	8	9	9	9	9	9	9	9	9	8	9	8	8	8	9	8	10	6	190	38
56	TEB58	T190594348	BHOSALE SIDDHI VIKAS	10	10	10	9	10	10	10	10	10	10	9	10	10	10	10	10	10	9	17	20	10	7	231	46
57	TEB59	T190594327	ROUNAK CHATTORAJ	7	7	7	7	7	7	8	8	9	9	9	8	8	8	8	8	8	9	AB	6	0	5	153	31
58	TEB60	T190594225	CHAUDHARI ROSHANI NITIN	10	10	10	9	10	10	9	10	9	10	9	10	10	10	10	9	9	8	4	12	10	7	205	41
59	TEB61	T190594237	DHAMANE DURGESH EKNATH	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	10	5	13	10	7	198	40
60	TEB62	T190594249	GAIKWAD SHANTANU SHARAD	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	9	10	0	9	10	5	171	34
61	TEB63	T190594259	JADHAV AKSHAY VITTHAL	9	9	9	9	10	10	9	9	9	9	9	9	9	9	9	9	9	6	9	9	10	7	196	39
62	TEB64	T190594268	KAMBLE AJAY MANOHAR	10	10	10	10	10	10	10	9	10	10	10	10	10	10	10	10	10	8	0	10	10	7	204	41
63	TEB65	T190594272	KASTURE OMKAR RAVINDRA	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	2	12	10	5	191	38
64	TEB66	T190594296	KAYAPURE MANSI SHRIKANT	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	8	3	12	10	9	195	39
65	TEB67	T190594282	KODGIRE MANSI DEEPAK	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	10	16	10	6	221	44
66	TEB68	T190594285	KUSUMKAR SUYASH PRAKASH	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	12	13	10	8	223	45
67	TEB69	T190594293	MANE AKSHATA NANDKISHOR	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	9	8	3	13	10	5	176	35
68	TEB70	T190594344	SHINDE AKSHAY HARIRAM	8	9	8	9	9	8	8	9	8	9	8	8	8	8	8	8	9	10	6	12	10	6	186	37
69	TEB71	T190594333	TAKAWALE SAMRUDDHI SUNIL	10	10	10	10	10	9	9	10	9	10	10	10	10	10	10	10	10	9	7	13	10	7	213	43
70	TEB72	T190594356	THAKARKE GAJANAN KAMLAKAR	9	10	9	10	9	9	9	10	9	10	10	10	10	10	10	10	10	9	10	10	10	7	210	42
71	TEB73	T190594369	WAHATULE GAURAV DNYANESHWAR	10	10	10	9	10	9	9	10	10	10	10	10	10	10	9	9	9	10	9	8	10	7	208	42
72	TEB74	T190594287	MACHCHA AKANKSHA SUDARSHAN	9	9	9	9	9	9	9	10	9	10	9	10	10	9	9	10	10	7	11	10	10	5	202	40
73	TEB75	T190594370	ZAREKAR SEJAL AVINASH	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	12	12	10	8	221	44

Mr. Chaitanya Bhosale
Subject Teacher

M.I.T. INSTITUTE OF TECHNOLOGY ★ PUNE-47

Mr. Subhash Rathod
HOD

MARATHWADA MITRA MANDAL'S
INSTITUTE OF TECHNOLOGY, LOHGAON PUNE

DEPARTMENT OF MECHANICAL ENGINEERING
BE PROJECT STUDENT & GUIDE LIST
A. Y. 2022 -23 TERM I

Grp No	Exam Seat Number	Group Members	Name of Project Guide	Title of Project	Problem Statement & Synopsis Submission (5)	Progress Presentation No.1 (10)	Progress Presentation No.2 (10)	Stage 1 Report Submission (10)	Final Stage 1 Presentation (15)	Total Marks Out of 50
1	B190590834	LAD ABHISHEK SUDHAKAR	Prof. S. S. More	Development of Virtual Lab Simulation for Two Wire Method	4	9	9	10	13	45
	B190590803	BABALU ANKUSH MEHER			4	9	9	10	13	45
	B190590856	SHINDE CHAITANYA DATTATRAYA			4	9	9	10	13	45
	B190590849	SAWANT AKANKSHA SAMPAT			4	9	9	10	13	45
2	B190590802	ATKIRE KAUSTUBH RAJU	Prof. S. S. More	Design and Fabrication of Multipurpose Agricultural Machine	4	9	9	10	13	45
	B190590840	NIKAM SHUBHAM NAMDEV			4	9	9	10	13	45
	B190590847	RUTVIK ANIL MUTKULE			4	9	9	10	13	45
	B190590860	SUTAR AMRUTA BHARAT			4	9	9	9	13	44
3	B190590818	HANKARE VARSHIKET SHRINIWAS	Dr. G. L. Allampallewar	Design & Finite Element Analysis of Butterfly Damper	4	9	9	10	13	45
	B190590832	KURE SHIVSHANKAR SANJAY			4	9	9	10	13	45
	B190590805	CHANDOLE SWAPNIL SACHIN			4	8	8	8	12	40
	B190590862	THAKARE HRISHIKESH OMPRAKASH			4	9	8	8	12	41
4	B190590853	SHAIKH ZAKIR MAINODDIN	Dr. G. L. Allampallewar	Analysis of energy efficient ceiling cooling system for classroom	3	6	6	5	9	29
	B190590858	SHINDE PRAKASH SURESH			3	6	6	6	10	31
	B190590863	THAKUR RUDRESH PARESH			4	9	9	10	13	45
	B190590850	SAWANT HARSHAL MILIND			4	9	9	8	8	38
5	B190590806	CHAPALKAR ATHARV ANKUSHRAO	Prof. D P Yesane	FEA Analysis of Leg Guard of a Bike using Composite Material	3	6	6	5	9	29
	B190590808	CHIKATE ABHISHEK SHARAD			3	6	6	5	8	28
	B190590864	TUPKAR ANIKET BHARAT			3	6	6	5	7	27
	B190590825	KADALE YASH SANJAY			3	6	5	6	7	27
6	B190590814	DUDHGONDE GOVINDA CHANDU	Prof. D P Yesane	Design and Analysis of Carbon Fiber Motorcycle Helmet	3	6	6	5	8	28
	B190590844	POUL PRATIK RANGANATH			4	8	8	7	10	37
	B190590842	PAWAR VAIBHAV VIJAY			3	6	5	6	7	27
	B190590857	SHINDE MANTHAN ANIL			3	6	5	7	7	28
7	B190590810	DANDADE NANA PRAMOD	Prof. E D Kurhe	Design and Fabrication of Mutlisieve Sand Sieving Machine	3	6	7	7	10	33
	B190590819	HOTKAR NIKHIL SUKHADEO			3	6	8	7	11	35
	B190590822	JADHAV RAMESHWAR MAHADEV			3	6	8	8	12	37
	B190590828	KALE AKSHAY BALKRUSHNA			3	6	8	7	11	35
8	B190590821	JADHAV ONKAR VYANKATESH	Prof. E D Kurhe	Waste Plastic to Thermofuel by Pyrolysis Process	3	6	8	8	8	33
	B190590823	JADHAV RUSHIKESH TANAJI			3	6	8	8	8	33
	B190590824	JOJAR ROHIT BABASAHEB			3	6	8	8	9	34
9	B190590859	SURYAWANSHI PRITAM JANAK	Prof. A S Bhanage	Analysis of front shock absorber of two wheeler through scanning electron	4	8	8	7	10	37
	B190590827	KADAM SHUBHAM VAIJNATH			4	8	8	7	10	37
10	B190590851	SHAIKH IRAPHAN AHAMAD	Prof. A S Bhanage	Power Generation using Foot Step	3	6	7	7	8	31
	B190590852	SHAIKH SOHEL SALIM			3	6	7	6	8	30
	B190590854	SHELKE SANDESH MACHINDRA			AB	AB	AB	AB	AB	AB

Grp No	Exam Seat Number	Group Members	Name of Project Guide	Title of Project	Problem Statement & Synopsis Submission (5)	Progress Presentation No.1 (10)	Progress Presentation No.2 (10)	Stage 1 Report Submission (10)	Final Stage 1 Presentation (15)	Total Marks Out of 50
11	B190590809	CHINCHOLI BHAGESH	Prof.D M Bhoge	Design & Development of Low Temperature Assisting Storage System for Onions	4	9	9	10	13	45
	B190590820	JADHAV AMIT SANJAY			4	9	9	9	12	43
	B190590838	MATKAR SAGAR PARMESHWAR			4	9	9	10	13	45
	B190590855	SHINDE AKSHAY RAVINDRA			4	9	9	9	14	45
12	B190590843	POL OMKAR AJIT	Prof.D M Bhoge	Design & Development and Fabrication of Cyclone type Dust Collector	4	9	9	9	16	47
	B190590848	SAHASRABUDHE OMKAR RAGHAVENDRA			4	9	9	10	13	45
	B190590845	RAMKAR AMOL ASHOK			4	9	9	9	16	47
	B190590830	KOLI VIKAS PUNDLIK			4	9	9	9	13	44
13	B190590839	MUJAWAR SAMIR IMAM	Prof. N. B. Dhamane	Outer Door Handle (ODH) Remover Mechanism	4	9	9	9	13	44
	B190590811	DHAME GOKUL ARUN			4	9	8	8	12	41
	B190590836	MARE AVINASH NAMDEV			AB	AB	AB	AB	AB	AB
	B190590861	TADMOD NASSER HUSAIN			4	9	9	9	12	43
14	B190590807	CHAUHAN AMAN JEEVANSINH	Prof. N. B. Dhamane	Manufacturing of Portable Pneumatic Operated Vertical Honing Machine	4	9	9	8	10	40
	B190590813	DONGRE ABHIJIT DATTATRAY			3	5	5	9	12	34
	B190590817	GIRI SRIPAD VIKAS			4	9	9	8	8	38
	B190590826	KADAM AKASH RAYCHAND			3	7	5	5	10	30
15	B190590841	PATIL VISHAL RAMDAS	Prof. R. P. Polas	Solar Operated Seed Driller And Fogging Sprayer Pump	3	7	5	5	7	27
	B190590865	WAYKAR JAYESH UTTAM			4	9	9	8	9	39
	B190590804	BHATI SANKET GURUDATTA			4	9	9	9	12	43
16	B190590812	DHANDE CHINMAY NARENDRA	Prof. R. P. Polas	Design & Development of Solar Assisted Electric Cycle	4	9	9	10	13	45
	B190590815	ETANE ATHARV NILESH			4	9	9	9	13	44
	B190590816	GHUGUL KUNDAN VITTHAL			4	9	9	9	12	43
	B190590833	KURKURE CHAITANYA TUSHAR			4	9	9	9	13	44
17	B190590837	MATE SUMIT YASHWANT	Prof. R. P. Polas	Design & Fabrication of Sugar Cultivation Attachment	4	9	8	9	13	43
	B190590801	ATISH GANGADHAR LAD			4	9	8	8	13	42
	B190590831	KORHALE HARSHAL AJINATH			4	9	8	8	13	42
	B190590835	LOKHANDE SUYASH RAJARAM			4	9	8	8	12	41

Prof.R.P.Polas

Bharatiwada Mitra Mandal's Institute of Technology PUNE 411047

HOD Mechanical

"Techno-Social Excellence"

M[redacted]thwada Mitra Mandal's Institute of Technology ([redacted]T)

Lohgaon, Pune-411047

DEPERTMENT OF COMPUTER ENGINEERING

Project Evaluation Preperantation Sem-II

Project Review-II

Date :- 17th &18th March 2023

Venue :- E-101

Group No	Roll No	Group Member Name	Guide Name	Project Topic	Marks (30)			Publications		Module implementation	Report Submission	PPT Submission	Project Competition participation	TW
					Project Review-1	Project Review-2	Project Review-3	Marks (10)	Marks (10)	Marks(10)	Marks(10)	Marks(10)	Marks(20)	Marks (100)
2	BEB49	KOMAL KHARSADE	Dr. M.D.Salunke	Facial Emotion Recognization & Detection(Voice Recognition & Detection)	9	9	9	9	9	9	9	9	18	90
	BEB75	SWATI KHOD			9	9	9	9	9	9	9	9	19	91
	BEB51	ANAGHA INGALE			9	9	9	9	9	9	9	9	18	90
	BEB04	SWAPNAJA PAWAR			9	9	9	9	9	9	9	9	19	90
7	BEA43	ABHIJEET EKNATH JADHAV	Ms. M.S.Jagtap	Detection of heart Disease Using ML Techniques	8	8	9	10	10	8	8	8	18	87
	BEA14	ROHIT ARJUN BARSHILE			8	8	9	10	10	8	8	8	19	88
	BEA19	ABHIJIT TUKARAM BOMBALE			8	8	9	10	10	8	8	8	18	87
	BEB07	KIRAN SHIVAJI POTHARE			8	8	8	8	8	9	9	9	19	86
10	BEB28	PRATIK SHANKAR VYAVAHARE	Ms. M.S.Jagtap	Education System with Searh Optimizer	8	8	9	10	10	8	8	8	18	87
	BEA76	JAYDEEP JAGANNATH NARALE			8	8	9	10	10	8	8	8	19	88
	BEA41	ABHISHEK INGALE			8	8	9	10	10	8	8	8	18	87
	BEA13	AKSHAY ASHOK BANGAR			8	8	8	8	8	9	9	9	19	86
17	BEA01	ABHINAV MISHRA	Dr.S.G.Rathod	Algorithm Visualization	10	9	9	10	9	9	9	9	20	94
	BEA05	AKSHAY LAVHAJI PATIL			9	9	10	10	9	10	9	9	20	95
	BEA26	ASHUTOSH DHANAWADE			10	9	9	9	10	9	9	9	20	94
	BEA21	DALVI GAURAV GURUNATH			10	9	10	9	9	9	9	9	20	94
31	BEA61	KOMAL SHARMA	Dr.S.G.Rathod	Mental Health Companion App(Sentiment Analysis)	10	8	10	9	10	9	9	10	20	95
	BEA10	ATHARVA KULKARNI			10	8	10	9	9	9	9	10	20	94
	BEB02	VARAD VIJAY PATIL			10	8	10	10	10	10	8	10	19	95
	BEB42	RANJEET GAIKEWAD			10	8	10	10	10	10	8	10	19	95
15	BEA12	SHIVAM BACHEWAR	Dr.S.G.Rathod	Social Media Web App	10	7	10	10	10	10	7	10	20	94
	BEB17	SHREYAS ZADGE			10	7	10	10	10	10	7	10	20	94
	BEB08	MAHESH RAIPATWAR			10	7	10	10	10	10	7	10	20	94
	BEB06	SARANG PHASALE			10	7	10	10	10	10	7	10	20	94
37	BEB50	SARTHAK SURVE	Dr. M.D.Salunke	Computer Vision for Casualty Detection	9	10	9	9	10	10	10	10	19	94
	BEB59	AMMAR SAKRIWALA			8	9	8	9	9	9	9	9	19	91
	BEB74	ATHARV KALEKAR			8	10	8	9	10	10	10	10	20	94
	BEB63	KARAN DABARE			8	9	8	9	9	9	9	9	19	90
21	BEA65	ANGAD MAGAR	Mr. S.A.Agrawal	Fire Detection using YOLO	8	8	8	9	10	10	8	10	20	91
	BEA20	GAURI BUDRE			8	7	8	9	10	10	7	10	20	89
	BEA23	DEEP BHAKARE			8	8	8	9	10	10	8	10	20	91
	BEA15	VAISHNAVI BHOGADE			8	7	8	9	10	10	7	10	20	89
19	BEB77	ANUSHKA ASHOK DARVATKAR	Mr. S.A.Agrawal	Drug Pill Recognition System using Machine Learning	8	9	8	9	10	10	9	10	20	93
	BEB71	POOJA SANDEEP GUND			8	8	8	9	10	10	8	10	20	91
	BEB68	NEHA DILIP LONDHE			8	8	8	9	10	10	8	10	20	91
	BEB72	KRUSHNA ARVIND DIKE			8	8	8	9	10	10	8	10	20	91

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9	BEB64	JIVAN SHAMRAO LULLE	Mrs. P.V.Deshmukh	College Commune	7	8	8	8	8	8	8	8	18	90
	BEB76	SUSHANT SHINDE			9	9	8	8	9	9	9	9	19	92
	BEB55	MANGESH INGALE			7	7	7	7	7	7	7	7	17	88
	BEB78	REDDY SHUBHAM VIVEK			9	9	9	9	9	9	9	9	20	94
34	BEA56	KEDAR KARCHE	Mr.S.A.Agrawal	Detection of NSFW Content Using Deep Learning	7	8	8	9	10	10	9	9	18	88
	BEB44	SANKET PAWAR			8	8	8	9	10	10	9	9	19	90
	BEB29	ONKAR YADAV			8	8	8	9	10	10	8	9	18	88
	BEA28	KUNAL DINGANE			8	8	8	8	8	8	8	9	19	84
35	BEB31	ANUBHAV BHAT	Mrs.P.V.Deshmukh	Price Negotiator and Chat Bot System	9	9	8	8	9	9	9	10	19	90
	BEB34	SHUBHAM KULKARNI			9	9	9	10	10	10	9	10	19	95
	BEB81	AJINKYA KHEDKAR			9	9	9	10	10	10	9	10	19	95
	BEB32	SHRIRAM MORKHANDIKAR			9	9	9	10	10	10	9	10	19	95
12	BEA79	KSHITIJ PATANGE	Ms.Rohini Mahale	Agumented Reality	8	7	0	8	8	8	7	8	18	90
	BEA68	ADITYA MORE			8	7	0	8	8	8	7	8	19	93
	BEB05	SHUBHAM PHAD			8	7	0	8	8	8	7	8	18	88
11	BEA66	HARSHADA MANKESHWARKAR	Mr. D B Satre	Covid 19 Prediction Using Time series Analysis	9	9	9	10	10	10	9	10	19	95
	BEA63	RUTUJA LOKHANDE			9	9	9	10	10	10	9	10	19	95
	BEA72	MRUNAL YEMALE			9	9	9	10	10	10	9	10	19	95
	BEA53	NAMRTA KASSA			9	9	9	10	10	10	9	10	19	95
23	BEA34	PRANAV GAIKWAD	Mr.N.S.Shaikh	PMT Pravas App	8	8	9	9	9	9	8	9	18	88
	BEA02	ADITYA PACHPILLE			8	8	9	9	9	9	8	9	17	88
	BEA36	SHUBHAM GORE			8	8	9	9	9	9	8	9	19	90
	BEA50	SHUBHAM KANDEKAR			8	8	9	9	9	9	8	9	19	90
29	BEB18	KARAN SISODIYA	Mr.S.G.Rathod	Handwritten character & digit detection for three Language (Devnagari,English	9	9	9	10	10	10	9	10	19	95
	BEB21	CHIRAG TANK			9	9	9	10	10	10	9	10	19	95
	BEB03	SHUBHAM PAWAR			9	9	9	10	10	10	9	10	19	95
33	BEB46	ROHIT VASANTA BADKE	Mr.D.B.Satre	Job recommendation system	8	7	8	9	8	8	7	9	18	82
	BEA49	TANMAY HANMANT KANASE			8	6	8	8	9	8	6	9	19	81
	BEA80	ABHAY YOGRAJ PATIL			8	5	8	7	9	9	5	9	18	78
	BEA04	MAHESH DASHARATH AHER			8	6	8	6	9	9	6	9	19	80
39	BEB52	ONKAR KULKARNI	Mr.Y.B.Dongare	Chat Application Using BLockchain Technology	9	9	9	8	10	10	9	10	20	94
	BEB53	TRUPTI UBALE			9	9	9	8	10	10	9	10	19	93
	BEA57	VRUSHALI KHALKAR			9	9	9	8	10	10	9	10	19	93
	BEA77	GAYATRI NIKAM			8	9	9	8	10	10	9	10	19	92
42	BEA22	DAREKAR SWAPNIL SATYAPRAKASH	Mr.Y.B.Dongare	Malacious App Detection Using Machine Learning	9	9	9	8	4	4	9	4	18	74
	BEA44	JADHAV ANIKET SUBHASH			AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
	BEA54	KATKAR SAURAV SOPAN			9	9	9	0	4	4	9	4	15	63
	BEB09	RATHOD ADARSH NAMDEV			8	8	8	0	4	4	8	4	16	60
13	BEA81	KSHITIJ PATIL	Mr.D.B.Satre	Women's Saftey System Android app	9	9	9	9	10	10	9	10	20	95
	BEB25	KHUSHAL VAIDYA			9	9	9	9	10	10	9	10	19	94
	BEA52	DARSHAN KASHID			9	9	9	9	10	10	9	10	19	94
	BEB20	KSHITIJ SONJE			8	9	9	9	10	10	9	10	19	93

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1	BEA39	SHANTANU SHAM HULE	Mr.D.B.[redacted]	Brain Tumor Detection	9	9	9	10	10	10	9	10	20	96
	BEA38	HARSH SHAM KHANDAGALE			9	9	9	10	10	10	9	10	19	95
	BEA37	SHARVARI GOVELE			9	9	9	10	10	10	9	10	19	95
	BEA40	ATHARVA INGALE			8	9	9	10	10	10	9	10	19	94
6	BEA64	AAKANKSHA DIPAK MAGAONKAR	Ms.U.B.Karanje	Traffic Sign Detection & Classification	9	9	9	10	10	10	9	10	19	95
	BEA32	APARNA KAILASH GADE			9	9	9	10	10	10	9	10	19	95
	BEA60	GAYATRI MILIND KINGE			9	9	9	10	10	10	9	10	19	95
	BEA51	JANVI YASHWANT KANKHAR			9	9	9	10	10	10	9	10	19	95
28	BEB33	PRAYASI BHADKE	Mrs.D.J.Bonde	Cryptocurrency Tracker	8	8	7	8	7	7	8	7	19	79
	BEB37	PRASHANT DHANAWADE			8	7	8	8	7	7	7	7	19	78
	BEB40	DURVESH DHENDE			8	8	6	8	7	7	8	7	19	78
	BEB39	ARCHITA DERE			8	7	9	8	5	5	7	5	19	73
26	BEB26	VEDIKA BIRANJE	Mrs.T.S.Bhoye	Human Fall Detection Using CNN	9	7	9	9	9	9	9	9	16	86
	BEA31	PURUSHOTTAM FUGATE			9	7	9	9	9	9	9	9	18	88
	BEB16	SHIVANI PANDEY			9	7	9	9	9	9	9	9	16	86
	BEA70	SEJAL MORE			9	7	9	9	9	9	9	9	18	88
27	BEA30	FAAIQ YAZDAN	Mrs.T.S.Bhoye	IOT Based Alexa for Home Appliances	9	7	9	9	9	9	9	9	13	83
	BEA06	AMAN UMATE			9	7	9	9	9	9	9	9	18	88
	BEB41	PATWARI SANTOSH			9	7	9	9	9	9	9	9	13	83
	BEB35	YASH DAHAT			9	7	9	9	9	9	9	9	18	88
22	BEA29	DORAGE NEHA SANJAY	Mr.C.S.Bhosale	OBJECT DETECTION AND DISEASE PREDICTION FOR	9	7	7	9	9	9	9	9	15	83
	BEA46	JOSHI PRIYANKA YOGESH			7	8	8	7	7	7	7	7	15	73
	BEA74	MUSALE SAKSHI PRMOD			8	8	6	8	8	8	8	8	15	77
	BEA62	LAMKHADE RUTUJA KAILAS			6	8	9	6	6	6	6	6	15	68
25	BEA08	ANIKET SAWANT	Mr.C.S.Bhosale	Soil Fertilization for Agriclutural System	9	8	9	9	9	9	8	9	15	85
	BEA11	TEJAS BABAR			9	8	9	9	9	9	8	9	15	85
	BEA24	SHREYASI DESAI			9	8	9	9	9	9	8	9	15	85
	BEA07	ANANDI DESHMUKH			9	8	9	9	9	9	8	9	15	85
4	BEB27	VIVEK RAJU HIREKAR	Mr. V.D. Rewaskar	HOSPITAL MANAGEMENT	8	8	8	8	8	8	8	8	18	82
	BEB15	SHISODE OMKAR PRAKSH			8	9	9	8	8	8	9	8	17	84
	BEA67	MOHAMMED SAAD SAGEER ALAM			9	8	9	9	9	9	8	9	16	86
	BEA73	MULLA MOHAMMAD FAIZ RAJESAAB			8	10	8	9	10	10	10	10	20	95
14	BEA48	VAISHNAVI KAMBLE	Mr. V.D. Rewaiskar	GATE Exam Preparation App	8	10	8	9	10	10	10	10	20	95
	BEA03	PAYAL AGARWAL			8	9	8	9	10	10	9	10	20	93
	BEA25	DHANAJAY PHIRKE			8	9	8	9	10	10	9	10	20	93
	BEB13	POORVA SHINDE			5	9	9	9	10	10	9	10	20	91
24	BEB62	ISMAIL NAJIR SHEIKH	Mrs.R.A. Agrawal	College Commune	8	8	8	8	8	8	8	8	18	82
	BEB70	SURAJ VITTHAL GAVALE			8	9	9	8	8	8	9	8	17	84
	BEB66	ABHISHEK ANIL KADAM			9	8	9	9	9	9	8	9	16	86
30	BEB01	SATYAN SUBHASH PATIL	Mrs. D.J.Bonde	Work Module /Automated Attendance System	8	10	8	9	10	10	10	10	20	95
	BEB10	ROHAN RAJKUMAR RAUT			8	10	8	9	10	10	10	10	20	95
	BEB14	SHINGATE RUTUJA ANUL			8	9	8	9	10	10	9	10	20	93
	BEA09	MUAZ MURSAL			8	9	8	9	10	10	9	10	20	93

32	BEA45	SHRAVANI JITENDRA JAMBURE	Mrs. D.J. [redacted]nde	AR for Education	8	10	8	9	10	10	10	10	20	95
	BEA47	SHRIYASH RAMESH KADAM			8	10	8	9	10	10	10	10	20	95
	BEB43	SOHUM SHASHANK GOSAVI			8	9	8	9	10	10	9	10	20	93
	BEB11	RIDHI SHARMA			8	9	8	9	10	10	9	10	20	93
38	BEA59	SANKET KHANDARE	Mr.V.V.Chavan	Online Auction System	9	8	7	8	8	8	8	8	16	80
	BEB30	AADIKA YENARE			9	9	9	9	9	9	9	9	16	88
	BEA27	ROHAN RAMESH DHAWALE			8	8	8	7	7	7	8	7	16	76
	BEA18	ABHAY SANJAY BIRAMANE			8	8	8	8	8	8	8	8	16	80
41	BEB57	VISHWAJEET BHALERE	Mr.V.V.Chavan	Tree Leaf Diesase Detection	8	8	8	8	8	8	8	8	16	80
	BEB60	SHIVAM RAHINJ			9	9	9	8	8	8	9	8	16	84
	BEB38	UMESH BHOSALE			8	8	8	8	7	7	8	7	16	77
	BEB58	RENUKA CHALAWADE			8	8	8	8	7	7	8	7	16	77
3	BEA42	JACOB ABINESH JOSEPH	Mrs. S.K.Patil	SOLDIER HEALTH MONITORING SYSTEM USING IOT	9	9	10	8	9	9	9	9	20	92
	BEB45	MADHUR SHINDE			9	9	10	8	9	9	9	9	20	92
	BEA71	TEJAS MORE			9	9	10	8	8	8	9	8	20	89
	BEA58	APURVA KHANDAGLE			9	9	10	8	8	8	9	8	20	89
8	BEB80	RUCHIKA BHOITE	Mr. S.S.Chaudhari	VirtuSoft Using Gesture Recognition	8	10	8	9	10	10	10	10	20	95
	BEB61	PRACHI SHINDE			8	10	8	9	10	10	10	10	20	95
	BEB65	VAISHNAVI MAHAJAN			8	9	8	9	10	10	9	10	20	93
	BEB47	RAKHI MANAWARE			8	9	8	9	10	10	9	10	20	93
16	BEA69	KARTIK MORE	Mrs. S.K.Patil	Metacommerce (Shopping Experince to customer)Graphics Concept	9	9	10	8	8	8	9	8	20	89
	BEB69	OMKAR KARANDE			10	9	10	8	8	8	9	8	19	89
	BEA16	SHUBHAM BHOLE			9	10	10	8	8	8	10	8	20	91
	BEB67	SNEHAL BARAWKAR			8	9	10	8	8	8	9	8	20	88
18	BEA82	RADHIKA RAKESH PATIL	Mr. S.S.Chaudhari	Prediction of Student performance to Improve Learning Experience using	8	10	8	9	10	10	10	10	20	95
	BEA78	JAGRUTI DHANANJAY NIKAM			8	10	8	9	10	10	10	10	20	95
	BEB22	SHITAL BHAURAV THANKE			8	9	8	9	10	10	9	10	20	93
	BEA75	SHRUTIKA NAIK			8	9	8	9	10	10	9	10	20	93
36	BEB12	PRATIK SALUNKHE	Mrs.U.B.Karanje	Underwater Target Detection using YOLO V4	8	8	9	10	8	8	8	8	20	87
	BEA55	SUJIT KAVITAKE			8	9	9	9	8	8	9	8	20	88
	BEB19	UDAY SONJE			8	8	9	5	8	8	8	8	20	82
	BEA35	SWAPNIL GAWALI			8	9	9	9	8	8	9	8	20	88
40	BEB23	KOMAL THOKE	Mr.A.K.Bhise	Terrorisim Activity detection using social media	9	9	9	9	9	9	9	9	18	90
	BEB73	SNEHAL SHINDE			9	9	9	9	9	9	9	9	19	92
	BEB48	SWAPANALI CHAUDHAR			9	9	9	9	9	9	9	9	17	88
	BEB24	PRATIKSHA TOMARE			9	8	9	8	9	9	8	9	17	86
20	BEA33	GAYATRI GAIKWAD	Mrs.U.B.Karanje	Breast Cancer Detection	9	7	9	5	6	6	7	6	18	73
	BEA17	MAYURI BHUTKAR			9	7	9	5	6	6	7	6	19	74
	BEB36	SRUSHTI RAUT			9	8	9	7	6	6	7	6	20	78
	BEA23	DEEP BHAKRE			9	7	9	8	7	7	7	7	20	81
5	BEB56	PRTIDNYA SHIKARE	Mr.A.K.Bhise	Health Cure System	9	8	8	9	8	8	8	8	18	86
	BEB79	POONAM JAGTAP			9	9	9	9	9	9	9	9	19	92
	BEB54	PRATIKSHA SHELAR			9	8	8	8	8	8	8	8	17	84
	BEB31	ANUBHAV BHAT			9	8	8	9	8	8	8	8	17	85

Project Coordinator

HOD

M.M. INSTITUTE OF TECHNOLOGY PUNE-47

MMIT, Lohgaon, Pune -47
Department of Computer Engineering
Class: TE (A) (2022-2023)
SEMINAR CONTINUOUS ASSESMENT

R.N.	Seat No.	Name Of Student	Seminar Topic	(10 Marks)	Presentation	Punctuality	Paper	Answer	(50 Marks)	Submitted
TEA01	T190594201	ADITY MISHRA	3D display technology	9	9	10	9	8	45	YES
TEA02	T190594202	AHER ADITYA PRAKASH	Edge Computing	9	9	9	9	9	45	YES
TEA03	T190594203	AKSHAY DINESH VAJANAM	AUTOMATON	10	9	9	8	9	45	YES
TEA04	T190594204	AMOL DESHMUKH	Physical Systems:	9	10	9	9	9	46	YES
TEA05	T190594206	ANSHUL PATIL	Lifi Technology	9	9	9	9	9	45	YES
TEA06	T190594207	ANUPAM PANDEY	Text Recognition	9	9	9	9	9	45	YES
TEA07	T190594208	ASAWALE SIMANT RAMDAS	system using AI and	10	10	7	10	10	47	YES
TEA08	T190594209	ASHOK BABASAHEB BADADE	AI	10	10	7	8	9	44	YES
TEA09	T190594210	ATHWAL DHRUV KIRAN	Blockchain Medical Se	8	9	9	9	9	44	YES
TEA10	T190594211	ATHWAL YASH KIRAN	AI& ML in Medical sci	10	9	8	8	9	44	YES
TEA11	T190594212	ATTARDE HIMANSHU UDAY	Communication	9	9	9	9	8	44	YES
TEA12	T190594213	AVATE ASHISH BASAVARAJ	humans	8	9	8	9	8	42	YES
TEA13	T190594215	BACHUWAR NIDHI MILIND	Presence Detection of	8	9	8	9	8	42	YES
TEA14	T190594217	BADGUJAR GAURAV NARENDRA	Fingerprint Payment	9	8	9	9	9	44	YES
TEA15	T190594218	BADMANJI SHUBHANKAR BALKRISHI	convolution neural	9	9	9	8	10	45	YES
TEA16	T190594219	BAMBAL YASH PRAMOD	ChatGPT	8	8	8	8	8	40	YES
TEA17	T190594220	BARVE SHRADDHA VISHNU	Technology	8	9	9	9	9	44	YES
TEA18	T190594221	BHOMBE MAYURESH DATTATRAY	Data science and Big data analytics	8	8	8	8	7	39	YES
TEA19	T190594222	BHOR SAKSHI BABURAO	Prediction of Heart Diseases using neural networks	8	8	7	8	8	39	YES
TEA20	T190594226	CHETAN NAVNATH SANAP	Foreign Language Teaching by Artificial intelligence	7	9	9	8	7	40	YES
TEA21	T190594227	CHOUDHARI ABOLI ROHIDAS	Blue Brain Technology.	9	9	8	9	9	44	YES
TEA22	T190594228	DAGADE DHANASHRI ASHOK	Performance Evaluation of Blockchains Towards Sharing of Digital Twins	9	8	7	8	8	40	YES

M.I.T. INSTITUTE OF TECHNOLOGY ★ PUNE-47

TEA23	T190594230	DAVID MALCOLM MICHAEL	Machine learning for Cloud Security	9	9	7	8	8	41	YES
TEA24	T190594231	DEOKAR YASHRAJ SUNILRAO	Android App Development	8	7	7	6	7	35	YES
TEA25	T190594232	DEORE ADITYA CHANDRASHEKHAR	Cluster Computing	8	9	9	8	8	42	YES
TEA26	T190594233	DESAI SUYASH ULHAS	Wireless Voting System by using Biometric fingerprint & Retina scanning	8	9	9	9	9	44	YES
TEA27	T190594234	DESHMUKH VAIBHAV BALASAHEB	Security in smart device	8	8	8	8	9	41	YES
TEA28	T190594235	DEVKAR SHIVAM RAJENDRA	Quantum Computing	9	9	8	9	8	44	YES
TEA29	T190594236	DHAKAD KARTIKAY OMKARSINGH	Role of E-Service Quality (E-SQ) on Customer's Online Buying Intention'	10	9	9	8	8	44	YES
TEA30	T190594238	DHAMANE RUTIK APPA	Traffic Control system	8	7	7	9	8	39	YES
TEA31	T190594241	DHARANE YASH TANAJI	Traffic Control system	9	9	8	8	8	42	YES
TEA32	T190594242	DHAS SAKSHI SANTOSHKUMAR	LI-FI technology	8	8	8	8	8	40	YES
TEA33	T190594243	DHAVAN RUSHIKESH VIJAY	Emergency medical service using IOT	9	9	7	8	8	41	YES
TEA34	T190594245	DOLASE SHIVAM DATTATRAY	Automobile Dynamic Multimedia Cloud Computing	7	9	8	9	9	42	YES
TEA35	T190594246	FAIZAN ZAMEER MULLA	Li-Fi Technology	7	8	8	9	9	41	YES
TEA36	T190594247	GADEKAR PRATHAMESH PRATAP	AI in Military	7	8	8	7	7	37	YES
TEA37	T190594248	GAIKWAD PRATHAMESH VINOD	Color Detection	9	7	9	8	8	41	YES
TEA38	T190594250	GATKAL MRUNALI SANJAY	Pill Camera technology	8	8	8	8	8	40	YES
TEA39	T190594252	GITE KARAN RAMDAS	Mobile device security	8	8	9	9	7	41	YES
TEA40	T190594253	GODSE KARN DATTA	Data science analytics in medical information	9	8	8	8	8	41	YES
TEA41	T190594254	GOKAK PAVAN VADIRAJ	Green computing for IoT	9	7	10	10	9	45	YES
TEA42	T190594255	HULE SAKSHI RAM	Detection of Autism Disorder Using Machine Learning	8	8	7	8	8	39	YES

M. INSTITUTE OF TECHNOLOGY ★ M. PUNE-47

TEA43	T190594257	INJAPURI DEVENDRA RAMESH	Prediction of Chronic Kidney Disease- A Machine Learning Perspective	8	8	6	9	8	39	YES
TEA44	T190594258	JADHAV ABHISHEK SANJAY	Blockchain Energy and Utilities	9	8	9	7	7	40	YES
TEA45	T190594261	JADHAV NISHAD SHIVAJI	Intelegent drone sysytem	6	6	7	5	6	30	YES
TEA46	T190594262	JAGTAP SAKSHI RAM	Exploration of Big-Data Analytics in Healthcare	8	9	8	9	8	42	YES
TEA47	T190594263	JAGTAP TIYA SURESH	3D internet	9	9	9	8	8	43	YES
TEA48	T190594264	KADAM PRAJWAL VIKAS	FoodX - System to Reduce Food Waste	9	9	8	8	8	42	YES
TEA49	T190594265	KAKADE OM BHAUSAHEB	Deep learning in agriculture	7	6	5	6	6	30	YES
TEA50	T190594266	KALE SANTOSH PRAVIN	Heart rate monitoring system	9	9	9	8	9	44	YES
TEA51	T190594267	KALE SUMIT ABHANG	Is AI loosing the human jobs	7	6	7	5	7	32	YES
TEA52	T190594269	KAPADI AAYUSH MAHESH	AI in Education	9	8	7	8	7	38	YES
TEA53	T190594270	KARAN KUMAR	Holographic in 3D	9	8	7	8	7	39	YES
TEA54	T190594271	KARNAVAT NEEL SANDEEP	CYBERSECURITY OF SMART ELECTRIC CHARGING	10	9	9	9	8	45	YES
TEA55	T190594273	KASWA YASH SANJIVKUMAR	Cryltocurrency	9	8	8	8	8	41	YES
TEA56	T190594275	KATVATE PANDIT CHANDRAKANT	Attendance System using Face Recognition	9	9	8	8	8	42	YES
TEA57	T190594276	KAUSHAL SURESH MORE	Medicine Robotics	9	9	8	8	8	42	YES
TEA58	T190594277	KAVITAKE ADITYA ARUN	Interactive IoT Based Speech Controlled Home Automation System	8	9	9	8	8	42	YES
TEA59	T190594280	KHARCHE SAKET MILIND	Edge computing	10	9	9	9	9	46	YES
TEA60	T190594281	KINGRE JAY BHAGUJI	Home Automation (IoT)	8	8	9	8	8	41	YES

M.M. INSTITUTE OF TECHNOLOGY ★ PUNE-47

TEA61	T190594283	KOTE DINESH MADHUKAR	Smart Vehicle Parking System Using IOT	9	8	8	9	9	44	YES
TEA62	T190594284	KOTHAWADE PRATHAMESH SANJAY	Voting system using Blockchain	9	9	10	9	8	45	YES
TEA63	T190594286	LONIKAR RENUKA KISHOR	Cloud computing and it's security issues	9	9	8	8	8	42	YES
TEA64	T190594288	MADHUMITA ASHIS MAHATA	Use of the IQRF Technology in IoT based smart cities	9	9	8	9	9	44	YES
TEA65	T190594289	MAHAJAN DEVESH PRAVIN	5G technolgy	10	9	9	9	9	46	YES
TEA66	T190594290	MALAYIL ABHIJITH SURESH	Logic Gates	9	9	9	8	8	43	YES
TEA67	T190594291	MALI PARAG MANOJ	Meta Search Engine	9	8	9	9	9	44	YES
TEA68	T190594292	MANDAR SURESHRAO MASKE	Online Job Portal	9	9	10	9	8	45	YES
TEA69	T190594294	MANE KSHITIJ NAVIN	COMPUTER FORENSICS	6	6	6	6	6	30	YES
TEA70	T190594295	MANEESH CHEJARA	Drone Technology And Changing World.	9	10	10	9	9	47	YES
TEA71	T190594297	MATE JAY SANJAY	Crypto currency (bitcoin)	9	8	7	8	8	40	YES
TEA72	T190594298	MEGHASHREE KEDA PAWAR	IOT Based Traffic Management System	9	8	7	8	7	39	YES
TEA73	T190594299	MHARGUDE PRANAV ANKUSH	Blue brain	9	8	8	8	6	39	YES
TEA74	T190594300	MHASKE ANUSHKA VIKRAM	Educational Data Minir	8	8	9	8	9	42	YES
TEA75	T190594301	MORE ANJALI SUDHIR	Iris Scanning Technology	8	8	9	8	9	42	YES
TEA76	T190594302	MORE NIKHIL GANGADHAR	Virtual Reality	9	8	9	8	8	42	YES
TEA77	T190594303	MORE SAKSHI SURESH	Blockchain and its security	7	8	9	8	7	39	YES
TEA78	T190594304	NARSALE PRASAD SANTOSH	Smart Irrigation system	8	9	8	9	8	42	YES

Coordinator

HOD

Marathwada Mitra Mandal's Institute of Technology
PUNE
411047

Assignment with co mapping

Name of subject:- Fluid Mechanics
Class:- Second year

Unit I

Sr. No.	Question	CO1	CO2	CO3	CO4	CO5	CO6
1	Define the following fluid properties:- Density, Weight density, specific volume and specific gravity of a fluid.	✓					
2	What is the difference between dynamic and kinematic viscosity?	✓					
3	State the Newton's law of viscosity and give examples of its applications.	✓					
4	One litre of crude oil weighs 9.6 N. Calculate the specific weight, density and specific gravity.	✓					
5	A plate 0.025mm distant from a fixed plate, moves at 50cm/sec and requies a force of 1.471 N/m2 to maintain this speed. Determine the fluid viscosity between the plates in the poise.	✓					
6	Determine the specific gravity of fluid having viscosity 0.0.7 poise and kinematic viscosity 0.042stokes.	✓					
7	Define pressure. Obtain an expression for the pressure intensity at a point in a fluid.	✓					
8	The pressure intensity at a point ina fluid is given 4.9N/cm2. Find the corresponding height of a fluid when it is a) water and b)an oil of specific gravity 0.8	✓					
9	A pipe contains an oil of specific gravity 0.8 A differential manometer connected at the two points A and B of the pipe shows a difference in mercury level as 20cm. Find the difference of pressure at the two points.	✓					

Assignment with co mapping

Name of subject:- Fluid Mechanics
Class:- Second year

Unit II

Sr. No.	Question	CO1	CO2	CO3	CO4	CO5	CO6
1	Explain the terms:- Path line, Streak line, Stream line and Stream tube.	✓	✓				
2	Define:- Velocity potential function, Stream. function and Flow net		✓				
3	The diameters of pipe at the section 1 and 2 are 15cm and 20cm. Find the discharge through the pipe if velocity of water at section 1 is 4 m/sec. Determine also the velocity at section 2.		✓				
4	The velocity vector in a fluid flow is given bt $V = 2x^3i-5x^2yj+4tk$. Find the velocity and acceleration of a fluid particle at (1,2,3) at time t=1.		✓				
5	What is Euler's equation of motion? How will you obtain Bernoulli's equation from it?		✓				
6	Water is flowing through a pipe of 100mm diameter. Under a pressure of 19.62 N/cm^2 (gauge) and its mean velocity of 3 m/sec. Find the total head of the water at a cross section, which is 8m above the datum line.		✓				
7	A horizontal venturimeter with inlet and thorat diameters 30cm and 15cm is used to measure the flow of water. The reading of differential manometer connected to inlet and throat is 10cm of mercury. Determine the rate of flow. Take $C_d = 0.98$		✓				

Assignment with co mapping

Name of subject:- Fluid Mechanics
Class:- Second year

Unit III

Sr. No.	Question	CO1	CO2	CO3	CO4	CO5	CO6
1	Define the terms dimensional analysis and model studies.			✓			
2	What do you mean by dimensionless numbers? Name any four dimensionless numbers. Define and explain Reynold's number, Froude's number and Mach number. Derive expressions for any above two numbers.			✓			
3	In 1:30 model of spillway, the velocity and discharge are 1.5 m/sec and 2 m^3/sec. Find the corresponding velocity and discharge in the prototype.			✓			
4	Define:- Laminar boundary layer, turbulent boundary layer, laminar sub layer, boundary layer thickness, displacement thickness and momentum thickness.			✓			
5	Explain Separation of Boundary layer.			✓			
6	For a velocity profile in laminar boundary layer given as $(u/U) = (3/2)(y/\delta) - (1/2)(y/\delta)^3$. find the thickness of the boundary layer and shear stress 1.8 m from the leading edge of plate. The plate is 2.5m long and 1.5 m wide and is placed in water which is moving with a velocity of 15 cm per second. Find the drag on one side of the plate if the viscosity of water = 0.01 poise			✓			

Assignment with co mapping

Name of subject:- Fluid Mechanics
Class:- Second year

Unit IV

Sr. No.	Question	CO1	CO2	CO3	CO4	CO5	CO6
1	What is Hagen Poiseuille's equation? Derive an expression for Hagen Poiseuille's formula.				✓		
2	A crude oil of viscosity 0.9 poise and specific gravity 0.8 is flowing through a horizontal circular pipe of diameter 80 mm and of length 15m. Calculate the difference of pressure at the two ends of the pipe, if 50 kg of the oil is collected in a tank in 15 seconds.				✓		
3	How would you distinguish between hydrodynamically smooth and rough boundaries?				✓		
4	What do you mean by Prandtl's mixing length theory? Find an expression for shear stress due to Prandtl.				✓		
5	How will you determine the loss of head due to friction in pipes by using (i) Darcy formula and (ii) Chezy's formula?				✓		
6	Find the head loss due to friction in a pipe of diameter 250 mm and length 60 m, through which water is flowing at a velocity of 3 m/sec using (I) Darcy formula and (ii) Chezy's formula for which C = 55. Take kinematic viscosity for water is 0.01 stoke.				✓		
7	Find the diameter of a pipe of length 2500 m when the rate of flow of water through the pipe is 0.25 m^3/sec and head loss due to friction is 5 m. Take C = 50 in Chezy's formula.				✓		

Assignment with co mapping

Name of subject:- Fluid Mechanics
Class:- Second year

Unit V

Sr. No.	Question	CO1	CO2	CO3	CO4	CO5	CO6
1	Find the velocity of flow and rate of flow of water through a rectangular channel of 5 m wide and 2 m deep, when it is running full. The channel is having bed slope of 1 in 3000. Take Chezy's constant C = 50.					✓	
2	Explain the terms:- I) Rapidly varied flow Ii) Gradually varied flow					✓	
3	Find the discharge through a trapezoidal channel of width 6 m and side slope of 1 horizontal to 3 vertical. The depth of flow of water is 3 m and Chezy's constant, C = 60. The slope of the bed of the channel is given 1 in 5000.					✓	
4	A rectangular channel carries water at the rate of 500 litres/ sec when bed slope of 1 in 10000 and carries a discharge of 1000 lit/sec when flowing half full. Take the value of Manning's N = 0.02					✓	
5	The specific energy for a 60 wide rectangular channel is to be 5 kg m/kg. If the rate of flow of water through the channel is $24m^2$/sec, determine the alternate depths of flow.					✓	
6	Find the slope of free water surface in rectangular channel of width 15 m, having depth of flow 4 m. the discharge through the channel is 40 m^3/sec. The bed slope of the channel is having a slope of 1 in 4000. Take the value of Chezy's constant, C=50.					✓	

Assignment with co mapping

Name of subject:- Fluid Mechanics
Class:- Second year

Unit VI

Sr. No.	Question	CO1	CO2	CO3	CO4	CO5	CO6
1	Explain classification of bed slopes.						✓
2	Define:- total drag on a body, resultant force on a body, coefficient of drag and coefficient of lift.						✓
3	A flat plate 2 m x 2 m moves at 40 km/hour in a stationary air of density 1.25 kg/m^3. if the coefficient of drag and lift are 0.2 and 0.8 find I) lift force ii) drag force iii) resultant force iv) the power required to keep the plate in motion.						✓
4	A flat plate 2 m x 2 m moves at 40 km/hour in stationary air of density 1.25 kg/ m^3 if the coefficient of drag and lift are 0.2 and 0.8 find the lift force, drag force, resultant force and the power required to keep the plate in motion.						✓
5	Define stagnation points. How the position of the stagnation points for a rotating cylinder in a uniform flow is determined? What is the condition for single stagnation point?						✓
6	Explain the terms: I) Friction drag II) Pressure drag and profile drag						✓

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Lohgaon, Pune - 411047

"Towards Ubiquitous Computing Technology"

DEPARTMENT OF CIVIL ENGINEERING

SUBMISSION SHEET OF SE CIVIL (Assignment)

Name of Subject:- Fluid Mechanics

Roll. No.	Name of Student	Sign
SCA01	AGLAVE ASHISH DATTATRAY	
SCA02	BABAR YASHRAJ SHIVAJI	
SCA03	BHOSALE BHAGYASHREE RAMESHWAR	
SCA04	CHAUDHARI SAHIL RAMESH	
SCA05	INGALE PRAKASH BHAUSAHEB	
SCA06	INGALE SHUBHAM TABAJI	
SCA07	KHANDVE AMEY SANJAY	
SCA08	KOLI MANSI SUDHIR	
SCA09	MAHAJAN PRATHMESH N.	
SCA10	MAINDAD ASHWINI BALAJEE	
SCA11	REWALE ROHAN ROHIDAS	
SCA12	SHAIKH AMAR ISAK	
SCA13	SHINDE ASHWINI RANGNATH	
SCA14	TAWARE SUYASH RAJU	
SCA15	ZAREKAR NIKHIL RAJENDRA	
SCA16	UGALE DIKSHA	
SCA17	KAMBLE ABHISHEK SATISH	
SCA18	KHADE ARATI SANAJAY	
SCA19	GALANDE SUMEDH CHANDRAKANT	
SCA20	ROSHNI MANOJ PALANDE	
SCA21	BHOSALE YASH SANJAY	
SCA22	WAGH CHETAN VITTHAL	
SCA23	BHORTAKE RAJ ATUL	
SCA24	KHATKALE ADITYA ANIL	
SCA25	BHORTAKE DEVYANI SNEHAL	
SCA26	KHADE ANIKET SATISHRAO	Aniket
SCA27	YADAV SAYALEE SHANTARAM	
SCA28	WAGH PRASAD ANIL	

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DEPARTMENT OF CIVIL ENGINEERING

Roll. No.	Name of Student	Sign
SCA29	RAWLE PRASHANT UMAKANT	
SCA30	GIRASE KRUSHNA DEVISING	
SCA31	AYARE ROHIT KANIFNATH	
SCA32	WARALE ANUJ SADASHIV	
SCA33	KAKADE DNYANESHWAR GAUTAM	
SCA34	CHAVAN SATYAM NANASAHEB	
SCA35	JANGALE SANTOSHI PANDURANG	
SCA36	POTENAVARU RAHUL TUKARAM	
SCA37	PAWAR VISHAL POPAT	
SCA38	BESULKE PRANALI SACHIN	
SCA39	PIDGE VAISHNAVI RAMAKANT	
SCA40	KULKARNI VIRACH VIJAY	
SCA41	GUGLE SUYOG RAJKUMAR	
SCA42	MORE SHREYA SHIVAJI	
SCA43	MUKUL VIJAY SALVE	
SCA44	RODE NIKITA ARJUN	AB
SCA45	VARE RUTIK BALWANT	
SCA46	KAJAL MANIKRAO KHANDARE	
SCA47	MAPARI AKASH SANJAY	
SCA48	NAYAK AKASH SHAMBHU	
SCA49	SIDDHANT AMOL SARVATE	
SCA50	FIZA AHESAN SHAIKH	
SCA51	EKTA BHARAT PATEL	
SCA52	PRATHAMESH YOGESH DESHMUKH	AB
SCA53	VEDANT PRASHANT GHULE	AB
SCA54	NIRANJAN GOPAL KUMBHARKAR	AB
SCA55	PRANAY CHANDRAKANT ANKUSHRAO	
SCA56	GADHAVE MANISH TANAJI	AB
SCA57	DEVKAR SHUBHAM SHREERAM	AB
SCA58	PASALKAR OM VITTHAL	AB

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Roll. No.	Name of Student	Sign
SCA59	BHUMBE HARSHAL DIPAK	AB
SCA60	MESARE AJAY SANJAY	AB
SCA61	TANPURE NILESH BHAGWAN	AB

Class Teacher
Prof. R. S. Fegade

HOD
Prof. L. A. Deshmukh

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(Affiliated to Savitribai Phule Pune University)
(Accredited with 'A' Grade by NAAC)

''येथे बहुतांचे हित''

Department of

Mechanical Engineering/ Computer Engineering/

Civil Engineering/Artificial Intelligence & Data Science /

Mechatronics Engineering/Engineering Science

Certificate

This is to certify that Mr./Ms. Sahil Ramesh Chaudhari

of Class SE, Roll No 4, and University Exam Seat No. _____

has successfully completed all the assignments as the Term work/Practical for the subject Fluid Mechanics during Semester I / II of academic year 2022 - 2023.

PSC

Faculty In-charge

leena

HOD

Principal

Department of
Mechanical Engineering/ Computer Engineering/
Civil Engineering/Artificial Intelligence & Data Science / Mechatronics Engineering
/Engineering Science

Academic Year: 20 22 - 20 23 **Semester:** I/II

Name of Student: Sahil Ramesh Chaudhari

Subject Name: Fluid Mechanics

Class: SE **Roll No:** 4 **Exam Seat No:**

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3	Assignment - 3	12 - 15	10/9/22	15/10/22		
4	Assignment - 4	16 - 19	15/10/22	20/11/22		
5	Assignment - 5	20 - 25	20/11/22	27/11/22		
6	Assignment - 6	26 - 27	27/11/22	10/12/22		

Faculty In-charge: Prof. R. S. Fegade

Signature:

Date:

Fluid Mechanics

Assignment No. - 1

1 Define the following fluid properties:
Density, weight density, specific volume and specific gravity of fluid.

⟹ 1) Density : It is also called as specific mass. It is defined as the mass of fluid per unit its volume.

2) Weight density : The weight per unit volume of a substance or object

3) Specific volume : It is recipriprocal of the density of the material, which is the mass per unit volume

4) Specific gravity : The ratio of the density of a substance to the density of same standard when both densities are obtained by weighing in air.

2 What is the difference between dynamic and kinematic viscosity?

⟹

Kinematic viscosity	Dynamic Viscosity
1) Diffusivity of the momentum	1) Absolute viscosity
2) Inertia as well as viscous force	2) The viscous force of the fluid
3) Denoted by 'v'	3) Denoted by 'μ'
4) The ratio of dynamic viscosity to density	4) The ratio of shear stress to shear strain
5) Dependent	5) Independend
6) when viscous force is dominant	6) when inertia as well as viscous force is dominant
7) m/s^2	7) Ns/m^2

3 what is Euler's eqn of motion? How will you obtain Bernoulli's eqn from it.

⇒ $\frac{dP}{\rho} + ydz + vdv = 0$ ... Euiler's eqn of motion

Eulers eqn for a steady flow of an ideal fluid along a streamline is a relation between velocity, pressure and density of a moving fluid. It is based on Newton's second law of motion. The integration of the eqn gives Bernoulli's eqn in the form of energy per unit weight of the following fluid.

4 State Newtons law of viscosity and viscosity and give examples and its applications

⇒ Newton's law of viscosity states that the shear stress between adjacent fluid layers is proportional to the velocity gradients between shear stress and the rate of angular deformation for one-dimensional flow of fluids

Applications: It tells the relations between the shear stress and the shear rate of a liquid. It is used in fields like acrodynamics and reservoir engineering it determines the flow characteristics of fluid such as oil, water, honey and air.

5 Define Pressure obtained an expression for the pressure intensity at a point in a fluid.

⇒ Pressure is defined as the physical force exerted on an object The force applied is perpendicular to the surface of objects per unit area. The basic formula for pressure is f/A (force per unit area) Consider an imaginary cylinder inside the liquid, made up of g same liquid. Since the cylinder is in equilibrium. According to Archimedes principle

$T \pi r^2 (h_2 - h_1)$

tangent $= mg = \rho v g = \rho A h g$

$\frac{f}{A} = h\rho g$

$\therefore$ Pressure $P = h\rho g$

6 One liter of cruid oil weighs 9.6 N Calculate the specific weight, density and specific gravity.

$V = 1$ liter $= 10^{-3}\ m^3$

The specific weight of any substance is defined as the weight of the substance per unit ~~are~~ volume.

Specific weight $= \frac{w}{V}$

Wt of cruid oil is $w = 9.6$ N

Specific weight $= \frac{9.6}{10^{-3}} = 9600\ N/m^2$

Density of any substance is defined as the mass of any substance per unit volume.

$\therefore$ Density $= \frac{m}{V}$

mass will be $w = mg$

$m = \frac{w}{g} = \frac{9.6}{9.81} = 0.9785$ Kg

$\therefore$ Density $= \frac{0.9785}{10^{-3}} = 978.59\ Kg/m^3$

The specific gravity is defined as the ratio of the density of any fluid to the density of standard fluid or water.

$\therefore$ specific gravity $= \frac{\rho f}{\rho w} = \frac{978}{1000} = 0.978$

M.M.I.T

Page No: Date:

7 Determine the specific gravity of fluid having viscosity 0.07 poise and kinematic viscosity 0.042 stokes.

⟹ Given: Viscosity of the liquid (μ) = 0.007

Poise = $\frac{0.07}{10}$ = 0.007 Ns/m^2

Kinematic viscosity of the liquid (ν) = 0.042

Stokes = 0.042 cm^2/s

= 0.042×10^{-4} m^2/s

The eqn for the kinematic viscosity of a liquid (ν)

= $\frac{\text{Viscosity of liquid}}{\text{density of the liquid}}$

i.e $\nu = \mu/\rho$

= 0.042×10^{-4} m^2/s

= $\frac{0.007}{\rho}$ Ns/m^2

$\therefore \rho$ = 1666.67 Kg/m^3

eqn for specific gravity of a liquid = $\frac{\text{Density of liquid}}{\text{Density of water}}$

$\therefore$ Specific gravity of liquid = $\frac{1666.67 \text{ Kg/m}^3}{1000 \text{ Kg/m}^3}$

= 1.66

8 The pressure intensity at a point in a fluid is given 4.9 N/cm^2. Find the corresponding height of a fluid when it is a) water and b) an oil specific gravity is 0.8

⟹ Given: $P = 4.9 \text{ N/cm}^2 = 4.9 \times 10^4 \text{ N/m}^2$

$S = 0.8$

$P = \rho g h$

i) water $P = \rho g h$

$4.9 \times 10^4 = 1000 \times 9.81 \times h$

$h = 4.99$ m

2) oil s = $\frac{\rho oil}{\rho water}$

s = 85 = $\frac{\rho oil}{1000}$

ρoil = 500 kg/m³

P = ρgh

4.9 x 10⁴ = 500 x 9.81 x h

h = $\frac{4.9 \times 10^4}{50 \times 9.81}$

h = 6.24 m

3) A plate 0.025 mm distance from a fixed plate, moves at 50 cm/sec and requires force of 1.471 N/m² to maintain this speed Determine fluid viscosity between the plates in the poise.

⟹ Distance between plates dy = 0.025 mm = 0.025 x 10⁻³ m

velocity of upper plate, u = 50 cm/s = 0.5 m/s

Force on upper plate, f = 1.471 N/m²

let,

The fluid viscosity between the plates i.e μ

$\tau = \mu \frac{du}{dy}$

du → change of velocity = 4 - 0 = 4 = 0.5 m/s

dy → change of distance = 0.025 x 10⁻³ m

T → force per unit area = 1.471 N/m²

$1.471 = \frac{\mu \times 0.5}{0.075 \times 10^{-3}}$

$\mu = \frac{1.471 \times 0.075 \times 10^{-3}}{0.5}$

$\mu = 7.355 \times 10^{-5}$ Ns/m^2

$\mu = 7.355 \times 10^{-5} \times 10$

$\mu = 7.355 \times 10^{-4}$ Poise

PSV

SAVITRIBAI PHULE PUNE UNIVERSITY

(Formerly University of Pune)

EXAMINATION CIRCULAR NO.121 OF. 2023

BACHELOR OF ENGINEERING (2019 PATTERN)

Examination of INSEM MARCH/APRIL-2023

(Under Faculty of SCIENCE AND TECHNOLOGY: B)ENGINEERING)

INSTRUCTIONS FOR CANDIDATES

- Candidates are required to be present at the examination centre, THIRTY MINUTES before the stipulated time.
- Candidates are forbidden from taking any material into the examination hall that can be treated as a malpractice.
- Candidates are requested to see the Notice Board at their center of examination regularly for changes if any that may be notified later in the program.
- No request shall be granted for change in time or date for the University Examination on any ground.
- Candidates are requested to note the Day, Date and Time of Paper.
- Candidates are permitted to use stencils at the time ofexamination.
- The exchanges of side-rules, drawing instruments of other materials used in the examination hall is not permitted at the time of examination. Candidates must bring their own instruments and will not be allowed to borrow from each other under any circumstances.
- Use of non-programmable battery operated electronic pocket size Calculator is allowed. The exchange of Calculators is not allowed. Electronics Devices including mobile are not allowed at the time of examination.
- The written examination will be conducted in the following order.

B.E. AUTOMOBILE ENGINEERING

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Hybrid and Electric Vehicle	416489
Wednesday, 05/04/2023	Automotive System Design	416490
Thursday, 06/04/2023	(ELECTIVE - V) Alternative Fuels and Emission control	416491 A
	(ELECTIVE - V) Renewable Energy	416491 B
Saturday, 08/04/2023	(ELECTIVE - VI) Transport Management and Automobile Industry	416492 A
	(ELECTIVE - VI) Automotive Safety	416492 B
	(ELECTIVE - VI) Process Planning and Cost Estimation	416492 C

B.E. BIOTECHNOLOGY

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Bioprocess Modeling and Simulation	415471
Wednesday, 05/04/2023	Plant Engineering and Project costing	415472
Thursday, 06/04/2023	(ELECTIVE - V) Biomaterials	415473 A
	(ELECTIVE - V) Molecular diagnostics	415473 B
	(ELECTIVE - V) Bio-therapeutics Technology	415473 C
Saturday, 08/04/2023	(ELECTIVE - VI) Management and Entrepreneurship	415474 A
	(ELECTIVE - VI) IPR, Intellectual Property Rights.	415474 B
	(ELECTIVE - VI) Industrial Organization and Management	415474 C

B.E. CHEMICAL ENGINEERING

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Process Modeling and Simulation	409349
Wednesday, 05/04/2023	Process Engineering Costing & Plant Design	409350
Thursday, 06/04/2023	(ELECTIVE - V) Energy Audit and Conservation	409351 A
	(ELECTIVE - V) Chemical Process Safety	409351 B
	(ELECTIVE - V) Computational Fluid Dynamics	409351 C
	(ELECTIVE - V) Advanced Materials	409351 D
Saturday, 08/04/2023	(ELECTIVE - VI) Catalysis	409352 A
	(ELECTIVE - VI) Nanotechnology	409352 B
	(ELECTIVE - VI) Fuel Cell Technology	409352 C
	(ELECTIVE - VI) Petrochemical Engineering	409352 D

B.E. CIVIL ENGINEERING

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Dams and Hydraulics Structures	401011
Wednesday, 05/04/2023	Quantity Surveying, Contracts and Tenders	401012
Thursday, 06/04/2023	(ELECTIVE - V) Earthquake Engineering	401013 A
	(ELECTIVE - V) Structural Design of Bridges	401013 B
	(ELECTIVE - V) Irrigation and Drainage	401013 C
	(ELECTIVE - V) Design of Precast and Composite Structures	401013 D
	(ELECTIVE - V) Hydropower Engineering	401013 E
	(ELECTIVE - V) Structural Audit and Retrofitting of Structures	401013 F
Saturday, 08/04/2023	(ELECTIVE - VI) TQM and MIS	401014 A
	(ELECTIVE - VI) Advanced Transportation Engineering	401014 B
	(ELECTIVE - VI) Geo Synthetic Engineering	401014 C
	(ELECTIVE - VI) Structural Design of Foundations	401014 D
	(ELECTIVE - VI) Green Structures and Smart Cities	401014 E
	(ELECTIVE - VI) Rural Water Supply and Sanitation	401014 F

B.E. COMPUTER ENGINEERING

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	High Performance Computing	410250
Wednesday, 05/04/2023	Deep Learning	410251
Thursday, 06/04/2023	(ELECTIVE - V) Natural Language Processing	410252 A
	(ELECTIVE - V) Image Processing	410252 B
	(ELECTIVE - V) Software Defined Networks	410252 C
	(ELECTIVE - V) Advanced Digital Signal Processing	410252 D
Saturday, 08/04/2023	(ELECTIVE - VI) Pattern Recognition	410253 A
	(ELECTIVE - VI) Soft Computing	410253 B
	(ELECTIVE - VI) Business Intelligence	410253 C
	(ELECTIVE - VI) Quantum Computing	410253 D

B.E. ELECTRICAL ENGINEERING

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Switchgear and Protection	403148
Wednesday, 05/04/2023	Advanced Electrical Drives & Control	403149
Thursday, 06/04/2023	(ELECTIVE - V) Digital Control System	403150 A
	(ELECTIVE - V) Restructuring and Deregulation	403150 B
	(ELECTIVE - V) Smart Grid	403150 C
	(ELECTIVE - V) Sensor Technology (Open Elective)	403150 D
Saturday, 08/04/2023	(ELECTIVE - VI) EHV AC Transmission	403151 A
	(ELECTIVE - VI) Illumination Engineering	403151 B
	(ELECTIVE - VI) Electromagnetic Fields	403151 C
	(ELECTIVE - VI) AI and ML (Open Elective)	403151 D

B.E. ELECTRONICS ENGINEERING

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Process Instrumentation	404210
Thursday, 06/04/2023	(ELECTIVE - V) Biomedical Electronics	404211 A
	(ELECTIVE - V) Artificial Intelligence and Neural Network	404211 B
	*(ELECTIVE - V) Android Development	404191 C
	(ELECTIVE - V) Audio Video Engineering	404211 C
	(ELECTIVE - V) Automotive Electronics	404211 D
Saturday, 08/04/2023	(ELECTIVE - VI) Renewable Energy System & DSM	404212 A
	(ELECTIVE - VI) Wireless Sensor Network	404212 B
	*(ELECTIVE - VI) Remote Sensing	404192 C
	*(ELECTIVE - VI) Digital Marketing	404192 D

* Subjects common with BE E&TC 2019 course

B.E. ELECTRONICS & TELECOMMUNICATION ENGINEERING

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Fiber Optic Communication	404190
Thursday, 06/04/2023	(ELECTIVE - V) Biomedical Signal Processing	404191 A
	(ELECTIVE - V) Industrial Drives & Automation	404191 B
	(ELECTIVE - V) Android Development	404191 C
	(ELECTIVE - V) Embedded System Design	404191 D
	(ELECTIVE - V)Mobile Computing	404191 E
Saturday, 08/04/2023	(ELECTIVE - VI) System on Chip	404192 A
	(ELECTIVE - VI) Nano Electronics	404192 B
	(ELECTIVE - VI) Remote Sensing	404192 C
	(ELECTIVE - VI) Digital Marketing	404192 D

B.E. INFORMATION TECHNOLOGY

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Distributed Systems	414450
Thursday, 06/04/2023	(ELECTIVE - V) Software Defined Networks	414451 A
	(ELECTIVE - V) Social Computing	414451 B
	(ELECTIVE - V) Natural Language Processing	414451 C
	(ELECTIVE - V) Soft Computing	414451 D
	(ELECTIVE - V) Game Engineering	414451 E
Saturday, 08/04/2023	(ELECTIVE - VI) Ethical Hacking and Security	414452 A
	(ELECTIVE - VI) Augmented and Virtual Reality	414452 B
	(ELECTIVE - VI) Business Analytics and Intelligence	414452 C
	(ELECTIVE - VI) Blockchain Technology	414452 D

B.E. INSTRUMENTATION & CONTROL

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Process Instrumentation	406268
Wednesday, 05/04/2023	Advanced Embedded System	406269
Thursday, 06/04/2023	(ELECTIVE - V) Electric Vehicles	406270 A
	(ELECTIVE - V) Safety Instrumentation Systems	406270 B
	(ELECTIVE - V) Renewable Energy Systems	406270 C
	(ELECTIVE - V) Optical Instrumentation	406270 D
Saturday, 08/04/2023	(ELECTIVE - VI) Cyber Security	406271 A
	(ELECTIVE - VI) Automation in Agriculture	406271 B
	(ELECTIVE - VI) Environmental Instrumentation	406271 C

B.E. MECHANICAL ENGINEERING

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Computer Integrated Manufacturing	402048
Wednesday, 05/04/2023	Energy Engineering	402049
Thursday, 06/04/2023	(ELECTIVE - V) Quality and Reliability Engineering	402050 A
	(ELECTIVE - V) Energy Audit and Management	402050 B
	(ELECTIVE - V) Manufacturing Systems and Simulation	402050 C
	(ELECTIVE - V) Engineering Economics and Financial Management	402050 D
	(ELECTIVE - V) Organizational Informatics	402050 E
	(ELECTIVE - V) Computational Multi Body Dynamics	402050 F
Saturday, 08/04/2023	(ELECTIVE - VI) Process Equipment Design	402051 A
	(ELECTIVE - VI) Renewable Energy Technologies	402051 B
	(ELECTIVE - VI) Automation and Robotics	402051 C
	(ELECTIVE - VI) Industrial Psychology and Organizational Behavior	402051 D
	(ELECTIVE - VI) Electrical and Hybrid Vehicle	402051 E

B.E. MECHANICAL SANDWICH

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Design of Transmission Elements** TIME: 09.30 AM TO 11.00 AM.	402066
Wednesday, 05/04/2023	Machine Dynamics and Vibration	402067
Thursday, 06/04/2023	Artificial Intelligence in Mechanical Engineering	402068
Saturday, 08/04/2023	(ELECTIVE - I) Automobile Engineering	402069 A
	(ELECTIVE - I) Refrigeration and Air-Conditioning	402069 B
	(ELECTIVE - I) Fluid Power Control	402069 C
	(ELECTIVE - I) Additive Manufacturing	402045 C
	(ELECTIVE - I) Automation and Robotics	402051 C
Monday, 10/04/2023	(ELECTIVE - II) Product Design and Development	402045 A
	(ELECTIVE - II) Operations Research	402045 D
	(ELECTIVE - II) Electrical and Hybrid Vehicle	402051 E
	(ELECTIVE - II) Quality and Reliability Engineering	402050 A
	(ELECTIVE - II) Internet of Things	402044 E

Note: ** Please note the Timing

B.E. PRINTING TECHNOLOGY

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Operations Management in Printing and Packaging	408290
Wednesday, 05/04/2023	Adhesives and Coatings in Packaging	408291
Thursday, 06/04/2023	(ELECTIVE - V) Food and Pharmaceutical Packaging	408288 A
	(ELECTIVE - V) Printed Electronics	408288 B
Saturday, 08/04/2023	(ELECTIVE - VI) Sustainable Packaging	408289 A
	(ELECTIVE - VI) Management Information Systems and Data Science	408289 B

B.E. PRODUCTION ENGINEERING

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Computer Integrated Design and Manufacturing	411088
Wednesday, 05/04/2023	Industrial Robotics	411089
Thursday, 06/04/2023	(ELECTIVE - V) E-Mobilty in Automobile	411090 A
	(ELECTIVE - V) Smart Manufacturing	411090 B
	(ELECTIVE - V) Manufacturing System design	411090 C
	(ELECTIVE - V) Ergonomics and Work Management	411090 D
Saturday, 08/04/2023	(ELECTIVE - VI) Facility Planning	411091 A
	(ELECTIVE - VI) Additive Manufacturing	411091 B
	(ELECTIVE - VI) Reliability Engineering	411091 C
	(ELECTIVE - VI) Data Analytics	411091 D

B.E. PRODUCTION SANDWICH ENGINEERING

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Thursday, 06/04/2023	(ELECTIVE - V) Supply Chain Management	411134 A
	(ELECTIVE - V) Plant Engineering and Maintenance	411134 B
	(ELECTIVE - V) Industrial Relation and Human Resource Management	411134 C
	(ELECTIVE - V) Marketing mgmt.	411134 D

B.E. HONORS/MINORS

SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Tuesday, 11/04/2023	Land Use and Land Cover	401403
	Tunnel Engineering	401303
	Brand and Packaging Management	408216
	Block Chain Solutions	404183 HBCT
	Artificial Intelligence in Robotics	404183 HR
	3D Printing Applications & Entrepreneurship	402016 MJ
	e-Vehicle Standards, Charging & Safety	302036 MJ
	Sustainable Energy Conversion Systems	402026 MJ
	Systems Engineering Management	302046 MJ
	Soft Computing and Deep Learning	410303
	Information Systems Management	410403
	Artificial Intelligence for Big Data Analytics	410503
	Internet of Things Security	410603
	Application Development using Augmented Reality and Virtual Reality	410703

Ganeshkhind, Pune - 411 007
Ref.No/XCT/277
Date: 20/03/2023

Director
Board of Examinations and Evaluation

Total No. of Questions : 4]

SEAT No. : [ ]

PA-10221

[Total No. of Pages : 2

[6010]-97

B.E. (Mechanical) (In-Sem)

ENERGY ENGINEERING

(2019 Pattern) (Semester - VIII) (402049)

Time : 1 Hour] ***[Max. Marks : 30***

Instructions to the candidates:

1) ***Attempt Q1 or Q2 and Q3 or Q4.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.***
5) ***Assume suitable data, if necessary.***

Q1) a) In a steam power plant, steam is supplied at 100 bar and 500^{0}C. The condenser pressure is 0.035 bar. In first stage, the steam is expanded to its saturation condition where the pressure measures to be 9.55 bar and then reheated to its original temperature. In second stage, expansion takes place to condenser pressure. Determine: **[6]**

i) Pump work

ii) Totalturbine work

iii) Cycle Efficiency

b) Explain Fluidized bed combustion system with neat sketch. State its advantages and disadvantages. **[5]**

c) Write a note on Energy crisis in India. **[4]**

OR

Q2) a) In a steam power plant, steam enters the turbine at 30 bar and 400^{0}C. The condenser pressure is 0.1 bar. The feed water heater of direct contact type operates at a pressure of 5 bar. Determine: **[6]**

i) Fraction of steam extracted from turbine (kg/kg of steam)

ii) Thermal Efficiency of a cycle

iii) Specific steam consumption

b) Explain Lamont Boiler with neat sketch. **[5]**

c) Write a note on Energy Policy of India. **[4]**

P.T.O.

Q3) a) Following observations were made on a surface condenser during a test on surface condenser: **[6]**

Barometric reading = 760 mm of Hg
Condenser vacuum = 705 mm of Hg
Mean condensate temperature = 35^0C
Condensate collected = 2000 kg/hr
Quantity of cooling water circulated = 60000 kg/hr
Rise in temperature of cooling water = 16^0C
Hot well temperature = 28^0C
Inlet temperature of water = 20^0C
Determine:

i) Vacuum efficiency
ii) Condenser efficiency
iii) Mass of air present per unit volume of condenser

b) What are types of Ash handling systems? Elaborate mechanical ash handling with simple diagram. **[5]**

c) What is a function of following main components of closed type cooling system? **[4]**

i) Air Pump
ii) Hot well
iii) Cooling Tower
iv) Make up water pump

OR

Q4) a) Following observations were made on a surface condenser during a test on surface condenser: **[6]**

Barometric reading = 720 mm of Hg
Condenser vacuum = 663.75 mm of Hg
Mean temperature of condenser = 30°C
Condensate temperature = 23^0C.
Condensate collected = 500 kg/hr
Quantity of cooling water circulated = 18000 kg/hr
Rise in temperature of cooling water = 14^0C
Determine:

i) Dryness fraction of steam entering condenser
ii) Capacity of air pump in m^3/min
iii) Mass of air discharged in kg/min

b) Write a note on carbon credits and footprints. **[5]**

c) Write note on-single and double deck cooling pond. **[4]**

◆ ◆ ◆

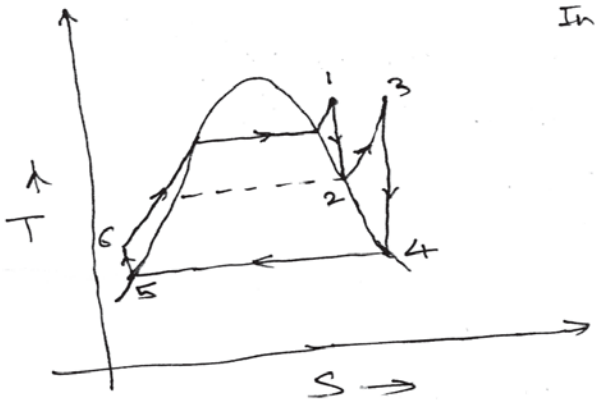
Total No. of Questions : 4] **[Total No. of Pages : 10**

PA-9483

[6010]-S-97
B.E. (Mechanical) (Insem)
ENERGY ENGINEERING
(2019 Pattern) (Semester - VIII) (402049)

SOLUTION

Q.1) A)



Given:

In a steam power plant,

$P_1 = 100$ bar, $T_1 = 500^\circ C$

$P_2 = 9.55$ bar, $P_4 = 0.035$ bar

$T_3 = 500^\circ C$

To find out:

i) $W_p = ?$

ii) $(W_T)_{net} = W_{HPT} + W_{LPT} = ?$

iii) $\eta_{th} = ?$

Solution:

From steam tables / using Mollier chart,

$h_1 = 3373$ kJ/kg

$h_2 = 2778$ kJ/kg

$h_3 = 3478.8$ kJ/kg

$h_4 = 2322$ kJ/kg

$\because h_{f5} = 112$ kJ/kg & $x_4 = 0.907$

from $S_3 = S_4 = 7.812 - \frac{(7.812 - 7.763)}{1} \times 0.55$

$= 7.785$ kJ/kg K

$W_p = \frac{P_1 - P_4}{10}$

$= \frac{100 - 0.035}{10}$

$= 99.965/10$

$= 9.9965$

$\therefore W_p \approx 10$ kJ/kg

(2 marks)

$$(W_T)_{net} = W_{HPT} + W_{LPT}$$
$$= (h_1 - h_2) + (h_3 - h_4)$$
$$= 1751 \text{ kJ/kg}$$

2 marks

Cycle efficiency,

$$\eta_{cycle} = \frac{(h_1 - h_2) + (h_3 - h_4) - W_p}{(h_1 - h_{f6}) + (h_3 - h_2)}$$

$$\therefore \eta_{cycle} = 44\ \%$$

2 marks

Q.1) B)

FBC sketch & explanation 3 marks

Advantages & disadvantages 2 marks

Q.1) C)

Energy Crisis in India 4 marks

meaning

causes

Remedies should be explained.

Q.2) A)

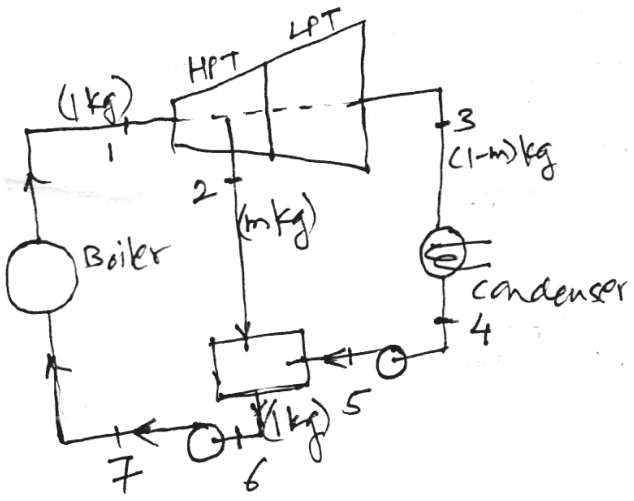
Given:

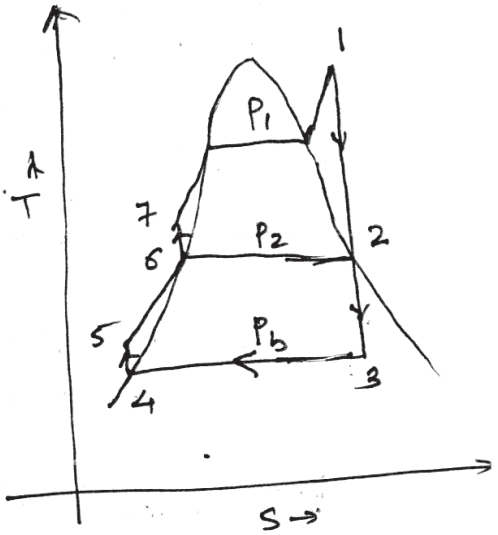
$P_1 = 30$ bar,

$T_{sup_1} = 400^\circ C$,

$P_b = 0.1$ bar

$P_2 = 5$ bar





from mollier's diagram,

$h_1 = 3231$ kJ/kg

$h_2 = 2795$ kJ/kg

$h_3 = 2195$ kJ/kg

from steam tables,

$h_4 = h_{f_4} = 191.8$ kJ/kg at 0.1 bar

$h_6 = h_{f_6} = 640.1$ kJ/kg at 5 bar

$W_{P_1} = \frac{5-0.1}{10} = 0.5$ kJ/kg $\therefore 0.5 = h_5 - h_4 \Rightarrow h_5 = 192.3$ kJ/k

$W_{P_2} = \frac{30-5}{10} = 2.5$ kJ/kg $\therefore 2.5 = h_7 - h_6 \Rightarrow h_7 = 642.6$ kJ/kg

Energy balance for direct contact type FWH (open),

$$m \cdot h_2 + (1-m) h_5 = 1 \cdot h_6$$

$$\therefore m = 0.172 \text{ kg/kg of steam}$$ 2 marks

$$W_T = W_{HPT} + W_{LPT}$$
$$= 1(h_1 - h_2) + (1-m)(h_2 - h_3)$$
$$= 932.8 \text{ kJ/kg}$$

$$W_p = W_{p1} + W_{p2}$$
$$= 0.5 + 2.5$$
$$= 3 \text{ kJ/kg}$$

$$\therefore W_s = W_T - W_p$$
$$= 929.8 \text{ kJ/kg}$$

$$Q_i = Q_{boiler} = h_1 - h_7$$
$$= 2588.5 \text{ kJ/kg}$$

$$\eta_{th} = \frac{W_s}{Q_i} = \frac{929.8}{2588.5} = 35.92\%$$ 2 marks

Specific steam consumption

$$= \frac{3600}{W_s}$$

$$SR \text{ or } SSC = 3.872 \text{ kg/kWh}$$ 2 marks

Q.2) B) Lamont Boiler sketch 2 marks
Explanation 3 marks

Q.3) C) Energy Policy of India 4 marks

Q.3) A)

for a surface condenser,

P_{abs} in condenser $= P_{baro} - P_{vac}$

$= 760 - 705$

$= 55$ mm of Hg

$\therefore P_c = 0.0733273$ bar

at 35°C, from steam tables,

$P_s = 0.05622$ bar

$\therefore P_s = 42.168$ mm of Hg

$\therefore P_a = P_c - P_s$

$= 0.0733273 - 0.05622$

$= 0.017107$ bar

i) $\eta_{vacuum} = \frac{P_{baro} - P_c}{P_{baro} - P_s}$

$= \frac{760 - 55}{760 - 42.168}$

$\therefore \eta_{vacuum} = 98.21\%$ 2 marks

ii) Saturation temp of steam corresponding to condenser pressure $P_c = 0.0733273$ bar,

$t_s = 39.88°C$

$\therefore \eta_{condenser} = \frac{t_o - t_i}{t_s - t_i}$

$= \frac{16}{39.88 - 20}$

$\therefore \eta_{cond} = 80.48\%$ 2 marks

(iii)

Heat lost by steam = heat gained by cooling water

$\dot{m}_{condensate}(h_{inlet} - h_{outlet}) = \dot{m}_w C_{pw} \Delta T$

$\therefore \dot{m}_{cond.}[(h_f + x h_{fg}) - h_f] = \dot{m}_w C_{pw} \Delta T$

$\therefore \frac{2000}{3600}[(146.56 + x \times 2418.8) - 4.187 \times 28] = \frac{60000}{3600} \times 4.187 \times 18$

$\therefore x = 0.81876$

mass of air present,

$m_a = \frac{P_a V_a}{R T_a}$

$= \frac{0.017073 \times 1004}{0.287 \times (35 + 273)}$

$m_a = 0.059$ kg / m³ of condensate volume

2 marks

(Q. 3) B) List of diff. types of ash handling systems 1 mark

Diagram of mechanical ash handling 2 marks

Explanation —"— 2 marks

(Q. 3) C) Function of components - 1 mark each

Air pump, Hot well,

Cooling tower, make up water pump

4 components

Total 4 marks

Q. 4) A)

Pabs in condenser,

$P_c = P_{baro} - P_{vacuum}$

$= 720 - 663.25$

$= 56.25$ mm of Hg

$= 0.0749938$ bar

(i) Heat lost by steam = Heat gained by cooling water

$m_{condensate} [h_{inlet} - h_{outlet}] = (\dot{m} c \Delta T)_w$

$\frac{500}{3600}[(125.68 + x \times 2430.7) - 4.187 \times 23] = \frac{1800}{3600} \times 4.187 \times 14$

$\therefore \boxed{x = 0.858}$ 2 marks

(ii) Rate of steam flow in condenser,

$\dot{V} = \frac{500}{60} \times 32.929 \times 0.858$

Capacity of air pump $= 234.89$ m³/min

OR

$\dot{v} = x v_g = 0.858 \times 32.929$

$= 28.187$ m³/kg

$\dot{V} = \frac{500}{60} \times 28.187$ 2 marks

$\therefore$ capacity of air pump $= 234.89$ m³/min

(iii) mass of air $m_a = \frac{P_a V_a}{R T_a}$

at 30°C, from steam table,

$P_s = 0.04242$ bar

& $P_a = P_c - P_s$

$= 0.07499938 - 0.04242$

$= 0.0325738$ bar

$\therefore m_a = \frac{0.0325738 \times 100 \times 234.89}{0.287 \times 303}$

$\boxed{m_a = 8.7934 \quad kg/min}$

2 marks

Q.4) B) shortnote on Carbon credits 3 marks

carbon footprints 2 marks

Q.4) C) Diagram & explanation of:

Single check cooling pond – 2 marks

Double check cooling pond – 2 marks

Total No. of Questions : 4]

PA-9483

[6010]-S-97
B.E. (Mechanical) (Insem)
ENERGY ENGINEERING
(2019 Pattern) (Semester - VIII) (402049)

Time : 1 Hour] ***[Max. Marks : 30***

Instructions to the candidates:

1) ***Attempt Q.1 or Q.2, Q.3 or Q.4.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right of each question indicate full marks.***
4) ***Assume suitable data wherever necessary and mention the same clearly.***
5) ***Use of steam tables, Mollier chart and calculator is allowed.***

Marking Scheme

Q No	Marking scheme	Total Marks
Q.1 A	i. Pump work = 9.9965 = 10 kJ/kg 2 marks ii. Totalturbine work =1751 kJ/kg 2 marks iii. Cycle Efficiency = 44 % 2 marks	**[6]**
Q.1 B	Fluidized bed combustion system sketch and explanation 3 marks advantages and disadvantages 2 marks	**[5]**
Q.1 C	Energy crisis in India 4 marks	**[4]**
	OR	
Q.2 A	i. Fraction of steam extracted = 0.172 kg/kg of steam2 marks ii. Thermal Efficiency of a cycle = 35.92 % 2 marks iii. Specific steam consumption = 3.872 kg/kWh 2 marks	**[6]**
Q.2B	Lamont Boiler Sketch 2 marks Explanation 3 marks	**[5]**
Q.2C	Energy Policy of India 4 marks	**[4]**
Q.3A	i. Vacuum efficiency = 98.21 % 2 marks ii. Condenser efficiency = 80.48 % 2 marks iii. mass of air present = 0.019 kg/m3 of condensate volume 2 marks	**[6]**
Q.3B	Enlist of Different types of Ash handling systems1 mark Diagram of mechanical ash handling 2 marks Explanation 2 marks	**[5]**
Q. 3C	Function of components i. Air Pump1 mark ii. Hot well1 mark iii. Cooling Tower1 mark iv. make up water pump1 mark	**[4]**

	OR	
Q.4A	i. Dryness fraction of steam entering condenser = 0.856 2 marks ii. Capacity of air pump = 234.89 m^3/min2 marks iii. mass of air discharged = 8.7934 kg/min 2 marks	**[6]**
Q.4B	Carbon credits3 marks Carbon footprints 2 marks	**[5]**
Q.4C	Diagram and explanation single deck cooling pond 2 marks Diagram and explanation double deck cooling pond 2 marks	**[4]**

Savitribai Phule Pune University

Examination Session 2023

Marks Inward System for Colleges

2306281126030

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6/28/2023

College Name	CEGP013870 - MARATHWADA MITRA MANDAL'S INSTITUTE OF TECHNOLOGY		
Pattern Name	7041966 - B.E. (2019 PAT.) (MECHANICAL)	**Batch No**	202304026199
Subject Name	402049 - Energy Engineering	**Exam Type**	IN OUT OF 30
Teacher Name	Kurhe Eknath Dnyandeo (Mob. No.: 9860803580) - Internal Examiner		

Total Students	Present Students	Absent Students	Not Applicable	Detained
63	61	2	0	0

Seat No	Marks/Grade	Seat No	Marks/Grade	Seat No	Marks/Grade
B190590801	17	B190590826	8	B190590853	10
B190590802	20	B190590827	21	B190590854	12
B190590803	23	B190590828	8	B190590855	12
B190590804	18	B190590830	16	B190590856	16
B190590805	10	B190590831	17	B190590857	16
B190590806	12	B190590832	12	B190590858	(AB)
B190590807	13	B190590833	18	B190590859	17
B190590808	16	B190590834	21	B190590860	17
B190590809	26	B190590835	10	B190590861	17
B190590810	12	B190590836	19	B190590862	(AB)
B190590811	12	B190590837	15	B190590863	18
B190590812	17	B190590838	16	B190590864	12
B190590813	16	B190590839	19	B190590865	15
B190590814	13	B190590840	20		
B190590815	14	B190590841	7		
B190590816	18	B190590842	16		
B190590817	12	B190590843	16		
B190590818	15	B190590844	16		
B190590819	12	B190590845	17		
B190590820	15	B190590847	16		
B190590821	12	B190590848	12		
B190590822	12	B190590849	14		
B190590823	12	B190590850	8		
B190590824	13	B190590851	14		
B190590825	0	B190590852	17		

Stamp & Authorized Signatory

SAVITRIBAI PHULE PUNE UNIVERSITY

(Formerly University of Pune)

EXAMINATION CIRCULAR NO. 191 OF. 2023

BACHELOR OF ENGINEERING(2019 COURSE)

Examination of APR/MAY-2023

(Under Faculty of SCIENCE AND TECHNOLOGY : B)ENGINEERING)

INSTRUCTIONS FOR CANDIDATES

- Candidates are required to be present at the examination centre, THIRTY MINUTES before the stipulated time.
- Candidates are forbidden from taking any material into the examination hall that can be treated as a malpractice.
- Candidates are requested to see the Notice Board at their center of examination regularly for changes if any that may be notified later in the program.
- No request shall be granted for change in time or date for the University Examination on any ground.
- Candidates are requested to note the Day, Date and Time of Paper.
- Candidates are permitted to use stencils at the time of examination.
- The exchanges of side-rules, drawing instruments of other materials used in the examination hall is not permitted at the time of examination. Candidates must bring their own instruments and will not be allowed to borrow from each other under any circumstances.
- Use of non-programmable battery operated electronic pocket size Calculator is allowed. The exchange of Calculators is not allowed. Electronics Devices including mobile are not allowed at the time of examination.
- The written examination will be conducted in the following order.

B.E. AUTOMOBILE

SEMESTER - VII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 21-06-2023	416481	Automotive Testing and Certification
Thursday 22-06-2023	416482	Machine and Vehicle Dynamics
Friday 23-06-2023	416483	Industrial Engineering* **Time:- 3.00 PM. TO 5.00 PM.**
Saturday 24-06-2023	416484 A	(ELECTIVE - III) Artificial Intelligence and Machine Learning
	416484 B	(ELECTIVE - III) Automotive Control Systems
	402044 E	(ELECTIVE - III) Internet of Things**
Monday 26-06-2023	416485 A	(ELECTIVE - IV) Finite Elements Analysis
	416485 B	(ELECTIVE - IV) Computational Fluid Dynamics

SEMESTER - VIII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 07-06-2023	416489	Hybrid and Electric Vehicle
Friday 09-06-2023	416490	Automotive System Design
Wednesday 14-06-2023	416491 A	(ELECTIVE - V) Alternative Fuels and Emission control
	416491 B	(ELECTIVE - V) Renewable Energy
Friday 16-06-2023	416492 A	(ELECTIVE - VI) Transport Management and Automobile Industry
	416492 B	(ELECTIVE - VI) Automotive Safety
	416492 C	(ELECTIVE - VI) Process Planning and Cost Estimation

NOTE: -

* PLEASE NOTE THE TIME

** COMMON WITH MECHANICAL ENGINEERING

BIOTECHNOLOGY

SEMESTER - VII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Wednesday 21-06-2023	415461	Biochemical Engineering
Thursday 22-06-2023	415462	Bioinformatics
Saturday 24-06-2023	415463 A	(ELECTIVE - III) Bioprocess Equipment Design
	415463 B	(ELECTIVE - III) Environmental Biotechnology
	415463 C	(ELECTIVE - III) Genomics
Monday 26-06-2023	415464 A	(ELECTIVE - IV) Bioenergy and Renewable Resources
	415464 B	(ELECTIVE - IV) Nanotechnology
	415464 C	(ELECTIVE - IV) Stem Cell Biology and Regenerative Medicine

SEMESTER - VIII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Wednesday 07-06-2023	415471	Bioprocess Modeling and Simulation
Friday 09-06-2023	415472	Plant Engineering and Project costing
Wednesday 14-06-2023	415473 A	(ELECTIVE - V) Biomaterials
	415473 B	(ELECTIVE - V) Molecular diagnostics
	415473 C	(ELECTIVE - V) Bio-therapeutics Technology
Friday 16-06-2023	415474 A	(ELECTIVE - VI) Management and Entrepreneurship
	415474 B	(ELECTIVE - VI) IPR, Intellectual Property Rights.
	415474 C	(ELECTIVE - VI) Industrial Organization and Management

B.E. CHEMICAL

SEMESTER - VII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Wednesday 21-06-2023	409341	Process Dynamics and Control
Thursday 22-06-2023	409342	Chemical Reaction Engineering- II
Friday 23-06-2023	409343	Chemical Engineering Design
Saturday 24-06-2023	409344 A	(ELECTIVE - III) Environmental Engineering
	409344 B	(ELECTIVE - III) Membrane Technology
	409344 C	(ELECTIVE - III) Industrial Piping
	409344 D	(ELECTIVE - III) Petroleum Refining
Monday 26-06-2023	409345 A	(ELECTIVE - IV) Chemical Process Synthesis
	409345 B	(ELECTIVE - IV) Industrial Management &Entrepreneurship
	409345 C	(ELECTIVE - IV) Green Technology
	409345 D	(ELECTIVE - IV) Advance Separation Processes

SEMESTER - VIII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Wednesday 07-06-2023	409349	Process Modeling and Simulation
Friday 09-06-2023	409350	Process Engineering Costing & Plant Design
Wednesday 14-06-2023	409351 A	(ELECTIVE - V) Energy Audit and Conservation
	409351 B	(ELECTIVE - V) Chemical Process Safety
	409351 C	(ELECTIVE - V) Computational Fluid Dynamics
	409351 D	(ELECTIVE - V) Advanced Materials
Friday 16-06-2023	409352 A	(ELECTIVE - VI) Catalysis
	409352 B	(ELECTIVE - VI) Nanotechnology
	409352 C	(ELECTIVE - VI) Fuel Cell Technology
	409352 D	(ELECTIVE - VI) Petrochemical Engineering

B.E. CIVIL

SEMESTER - VII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Wednesday 21-06-2023	401001	Foundation Engineering
Thursday 22-06-2023	401002	Transportation Engineering
Saturday 24-06-2023	401003 A	(ELECTIVE - III) Coastal Engineering
	401003 B	(ELECTIVE - III) Advanced Design of Concrete Structures
	401003 C	(ELECTIVE - III) Integrated Water Resources Planning & Management
	401003 D	(ELECTIVE - III) Finite Element Method
	401003 E	(ELECTIVE - III) Data Analytics
	401003 F	(ELECTIVE - III) Operation Research
Monday 26-06-2023	401004 A	(ELECTIVE - IV) Air Pollution and Control
	401004 B	(ELECTIVE - IV) Advanced Design of Steel Structures
	401004 C	(ELECTIVE - IV) Statistical Analysis and Computational Method
	401004 D	(ELECTIVE - IV) Airport and Bridge Engineering
	401004 E	(ELECTIVE - IV) Design of Prestressed Concrete Structures
	401004 F	(ELECTIVE - IV) Formwork and Plumbing Engineering

B.E. CIVIL

SEMESTER - VIII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Wednesday 07-06-2023	401011	Dams and Hydraulics Structures
Friday 09-06-2023	401012	Quantity Surveying, Contracts and Tenders
Wednesday 14-06-2023	401013 A	(ELECTIVE - V) Earthquake Engineering
	401013 B	(ELECTIVE - V) Structural Design of Bridges
	401013 C	(ELECTIVE - V) Irrigation and Drainage
	401013 D	(ELECTIVE - V) Design of Precast and Composite Structures
	401013 E	(ELECTIVE - V) Hydropower Engineering
	401013 F	(ELECTIVE - V) Structural Audit and Retrofitting of Structures
Friday 16-06-2023	401014 A	(ELECTIVE - VI) TQM and MIS
	401014 B	(ELECTIVE - VI) Advanced Transportation Engineering
	401014 C	(ELECTIVE - VI) Geo Synthetic Engineering
	401014 D	(ELECTIVE - VI) Structural Design of Foundations
	401014 E	(ELECTIVE - VI) Green Structures and Smart Cities
	401014 F	(ELECTIVE - VI) Rural Water Supply and Sanitation

B.E. COMPUTER

SEMESTER - VII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 21-06-2023	410241	Design and Analysis of Algorithms
Thursday 22-06-2023	410242	Machine Learning
Friday 23-06-2023	410243	Blockchain Technology
Saturday 24-06-2023	410244 A	(ELECTIVE - III) Pervasive Computing
	410244 B	(ELECTIVE - III) Multimedia Techniques
	410244 C	(ELECTIVE - III) Cyber Security and Digital Forensics
	410244 D	(ELECTIVE - III) Object Oriented Modeling and Design
	410244 E	(ELECTIVE - III) Digital Signal Processing
Monday 26-06-2023	410245 A	(ELECTIVE - IV) Information Retrieval
	410245 B	(ELECTIVE - IV) GPU Programming and Architecture
	410245 C	(ELECTIVE - IV) Mobile Computing
	410245 D	(ELECTIVE - IV) Software Testing and Quality Assurance
	410245 E	(ELECTIVE - IV) Compilers

SEMESTER - VIII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 07-06-2023	410250	High Performance Computing
Friday 09-06-2023	410251	Deep Learning
Wednesday 14-06-2023	410252 A	(ELECTIVE - V) Natural Language Processing
	410252 B	(ELECTIVE - V) Image Processing
	410252 C	(ELECTIVE - V) Software Defined Networks
	410252 D	(ELECTIVE - V) Advanced Digital Signal Processing
Friday 16-06-2023	410253 A	(ELECTIVE - VI) Pattern Recognition
	410253 B	(ELECTIVE - VI) Soft Computing
	410253 C	(ELECTIVE - VI) Business Intelligence
	410253 D	(ELECTIVE - VI) Quantum Computing

B.E. ELECTRICAL

SEMESTER - VII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 21-06-2023	403141	Power System Operation & Control
Thursday 22-06-2023	403142	Advanced Control System
Saturday 24-06-2023	403143 A	(ELECTIVE - III) PLC and SCADA
	403143 B	(ELECTIVE - III) Power Quality Management
	403143 C	(ELECTIVE - III) High Voltage Engineering
	403143 D	(ELECTIVE - III) Robotics and Automation
Monday 26-06-2023	403144 A	(ELECTIVE - IV) Alternate Energy System
	403144 B	(ELECTIVE - IV) Electrical & Hybrid Vehicle
	403144 C	(ELECTIVE - IV) Special-purpose Machines
	403144 D	(ELECTIVE - IV) HVDC & FACTS

SEMESTER - VIII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 07-06-2023	403148	Switchgear and Protection
Friday 09-06-2023	403149	Advanced Electrical Drives & Control
Wednesday 14-06-2023	403150 A	(ELECTIVE - V) Digital Control System
	403150 B	(ELECTIVE - V) Restructuring and Deregulation
	403150 C	(ELECTIVE - V) Smart Grid
	403150 D	(ELECTIVE - V) Sensor Technology (Open Elective)
Friday 16-06-2023	403151 A	(ELECTIVE - VI) EHV AC Transmission
	403151 B	(ELECTIVE - VI) Illumination Engineering
	403151 C	(ELECTIVE - VI) Electromagnetic Fields
	403151 D	(ELECTIVE - VI) AI and ML (Open Elective)

B.E. ELECTRONICS & TELECOMMUNICATION

SEMESTER - VII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Wednesday 21-06-2023	404181	Radiation & Microwave Theory
Thursday 22-06-2023	404182	VLSI Design and Technology
Friday 23-06-2023	404183	Cloud Computing
Saturday 24-06-2023	404184 A	(ELECTIVE - III) Speech Processing
	404184 B	(ELECTIVE - III) PLC SCADA & Automation
	404184 C	(ELECTIVE - III) JAVA Script
	404184 D	(ELECTIVE - III) Embedded & RTOS
	404184 E	(ELECTIVE - III) Modernized IoT
Monday 26-06-2023	404185 A	(ELECTIVE - IV) Data Mining
	404185 B	(ELECTIVE - IV) Electronic Product Development
	404185 C	(ELECTIVE - IV) Deep Learning
	404185 D	(ELECTIVE - IV) Low Power CMOS
	404185 E	(ELECTIVE - IV) Smart Antennas

SEMESTER - VIII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Wednesday 07-06-2023	404190	Fiber Optic Communication
Wednesday 14-06-2023	404191 A	(ELECTIVE - V) Biomedical Signal Processing
	404191 B	(ELECTIVE - V) Industrial Drives & Automation
	404191 C	(ELECTIVE - V) Android Development
	404191 D	(ELECTIVE - V) Embedded System Design
	404191 E	(ELECTIVE - V)Mobile Computing
Friday 16-06-2023	404192 A	(ELECTIVE - VI) System on Chip
	404192 B	(ELECTIVE - VI) Nano Electronics
	404192 C	(ELECTIVE - VI) Remote Sensing
	404192 D	(ELECTIVE - VI) Digital Marketing

B.E. ELECTRONICS

SEMESTER - VII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Wednesday 21-06-2023	404201	VLSI Design
Thursday 22-06-2023	404202	Advanced Power Electronics
Friday 23-06-2023	404203	Electronic System Design
Saturday 24-06-2023	404184 A	(ELECTIVE - III) Speech Processing *
	404184 C	(ELECTIVE - III) Java Script*
	404204 A	(ELECTIVE - III) Internet of Things
	404204 B	(ELECTIVE - III) Software Defined Radio
	404204 C	(ELECTIVE - III) Testing and Verification for SOC design
Monday 26-06-2023	404185 D	(ELECTIVE - IV) Low power CMOS*
	404185 E	(ELECTIVE - IV) Smart Antennas*
	404205 A	(ELECTIVE - IV) Mobile Communication
	404205 B	(ELECTIVE - IV) Embedded Systems
	404205 C	(ELECTIVE - IV) Optimization Techniques

SEMESTER - VIII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Wednesday 07-06-2023	404210	Process Instrumentation
Wednesday 14-06-2023	404191 C	(ELECTIVE - V) Android Development *
	404211 A	(ELECTIVE - V) Biomedical Electronics
	404211 B	(ELECTIVE - V) Artificial Intelligence and Neural Network
	404211 C	(ELECTIVE - V) Audio Video Engineering
	404211 D	(ELECTIVE - V) Automotive Electronics
Friday 16-06-2023	404192 C	(ELECTIVE - VI) Remote Sensing *
	404192 D	(ELECTIVE - VI) Digital Marketing *
	404212 A	(ELECTIVE - VI) Renewable Energy System & DSM
	404212 B	(ELECTIVE - VI) Wireless Sensor Network

NOTE: * COMMON WITH E.& TC.

B.E. INFORMATION TECHNOLOGY

SEMESTER - VII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 21-06-2023	414441	Information and Storage Retrieval
Thursday 22-06-2023	414442	Software Project Management
Friday 23-06-2023	414443	Deep Learning
Saturday 24-06-2023	414444 A	(ELECTIVE - III) Mobile Computing
	414444 B	(ELECTIVE - III) High Performance Computing
	414444 C	(ELECTIVE - III) Multimedia Technology
	414444 D	(ELECTIVE - III) Smart Computing
Monday 26-06-2023	414445 A	(ELECTIVE - IV) Bioinformatics
	414445 B	(ELECTIVE - IV) Introduction to DevOps
	414445 C	(ELECTIVE - IV) Computer Vision
	414445 D	(ELECTIVE - IV) Wireless Communications

SEMESTER - VIII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 07-06-2023	414450	Distributed Systems
Wednesday 14-06-2023	414451 A	(ELECTIVE - V) Software Defined Networks
	414451 B	(ELECTIVE - V) Social Computing
	414451 C	(ELECTIVE - V) Natural Language Processing
	414451 D	(ELECTIVE - V) Soft Computing
	414451 E	(ELECTIVE - V) Game Engineering
Friday 16-06-2023	414452 A	(ELECTIVE - VI) Ethical Hacking and Security
	414452 B	(ELECTIVE - VI) Augmented and Virtual Reality
	414452 C	(ELECTIVE - VI) Business Analytics and Intelligence
	414452 D	(ELECTIVE - VI) Blockchain Technology

B.E. INSTRUMENTATION & CONTROL

SEMESTER - VII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 21-06-2023	406261	Process Control Techniques
Thursday 22-06-2023	406262	Project Engineering and Management
Saturday 24-06-2023	406263 A	(ELECTIVE - III) Digital Image Processing
	406263 B	(ELECTIVE - III) Data Analytics
	406263 C	(ELECTIVE - III) Wireless Sensor Networks
	406263 D	(ELECTIVE - III) Process Modelling and Optimization
Monday 26-06-2023	406264 A	(ELECTIVE - IV) Cloud Computing
	406264 B	(ELECTIVE - IV) Soft Computing
	406264 C	(ELECTIVE - IV) Automotive Instrumentation
	406264 D	(ELECTIVE - IV) Advanced Control System

SEMESTER - VIII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 07-06-2023	406268	Process Instrumentation
Friday 09-06-2023	406269	Advanced Embedded System
Wednesday 14-06-2023	406270 A	(ELECTIVE - V) Electric Vehicles
	406270 B	(ELECTIVE - V) Safety Instrumentation Systems
	406270 C	(ELECTIVE - V) Renewable Energy Systems
	406270 D	(ELECTIVE - V) Optical Instrumentation
Friday 16-06-2023	406271 A	(ELECTIVE - VI) Cyber Security
	406271 B	(ELECTIVE - VI) Automation in Agriculture
	406271 C	(ELECTIVE - VI) Environmental Instrumentation

B.E. MECHANICAL

SEMESTER - VII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 21-06-2023	402041	Heating Ventilation Air-Conditioning and Refrigeration
Thursday 22-06-2023	402042	Dynamics of Machinery
Friday 23-06-2023	402043	Turbomachinery * **Time:- 3.00 PM. TO 5.00 PM**
Saturday 24-06-2023	402044 A	(ELECTIVE - III) Automobile Design
	402044 B	(ELECTIVE - III) Design of Heat Transfer Equipments
	402044 C	(ELECTIVE - III) Modern Machining Processes
	402044 D	(ELECTIVE - III) Industrial Engineering
	402044 E	(ELECTIVE - III) Internet of Things
	402044 F	(ELECTIVE - III) Computational Fluid Dynamics
Monday 26-06-2023	402045 A	(ELECTIVE - IV) Product Design and Development
	402045 B	(ELECTIVE - IV) Experimental Methods in Thermal Engineering
	402045 C	(ELECTIVE - IV) Additive Manufacturing
	402045 D	(ELECTIVE - IV) Operations Research
	402045 E	(ELECTIVE - IV) Augmented Reality and Virtual Reality

NOTE: - * PLEASE NOTE THE TIME

B.E. MECHANICAL

SEMESTER - VIII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Wednesday 07-06-2023	402048	Computer Integrated Manufacturing
Friday 09-06-2023	402049	Energy Engineering
Wednesday 14-06-2023	402050 A	(ELECTIVE - V) Quality and Reliability Engineering
	402050 B	(ELECTIVE - V) Energy Audit and Management
	402050 C	(ELECTIVE - V) Manufacturing Systems and Simulation
	402050 D	(ELECTIVE - V) Engineering Economics and Financial Management
	402050 E	(ELECTIVE - V) Organizational Informatics
	402050 F	(ELECTIVE - V) Computational Multi Body Dynamics
Friday 16-06-2023	402051 A	(ELECTIVE - VI) Process Equipment Design
	402051 B	(ELECTIVE - VI) Renewable Energy Technologies
	402051 C	(ELECTIVE - VI) Automation and Robotics
	402051 D	(ELECTIVE - VI) Industrial Psychology and Organizational Behavior
	402051 E	(ELECTIVE - VI) Electrical and Hybrid Vehicle

B.E. MECHANICAL SANDWICH

SEMESTER - VII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Saturday 24-06-2023	402064	ENERGY ENGINEERING AND MANAGEMENT(SELF-STUDY-III)
Monday 26-06-2023	402065	INDUSTRIAL ENGINEERING AND ORGANIZATIONAL MANAGEMENT(SELF-STUDY-IV)

SEMESTER - VIII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 07-06-2023	402066	Design of Transmission Elements * **Time:- 3.00 PM. TO 6.00 PM.**
Friday 09-06-2023	402067	Machine Dynamics and Vibration
Monday 12-06-2023	402068	Artificial Intelligence in Mechanical Engineering
Wednesday 14-06-2023	402069 A	(ELECTIVE - I) Automobile Engineering
	402069 B	(ELECTIVE - I) Refrigeration and Air-Conditioning
	402069 C	(ELECTIVE - I) Fluid Power Control
	402045 C	(ELECTIVE - I) Additive Manufacturing
	402051 C	(ELECTIVE - I) Automation and Robotics
Friday 16-06-2023	402044 E	(ELECTIVE - II) Internet of Things
	402045 A	(ELECTIVE - II) Product Design and Development
	402045 D	(ELECTIVE - II) Operations Research
	402050 A	(ELECTIVE - II) Quality and Reliability Engineering
	402051 E	(ELECTIVE - II) Electrical and Hybrid Vehicle

NOTE: - * PLEASE NOTE THE TIME

B.E. PRINTING TECHNOLOGY

SEMESTER - VII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 21-06-2023	408283	Gravure Printing Techniques
Thursday 22-06-2023	408284	Digital Printing Techniques
Saturday 24-06-2023	408281 A	(ELECTIVE - III) Paper Board and Corrugation Package Technology
	408281 B	(ELECTIVE - III) Polymer Science
Monday 26-06-2023	408282 A	(ELECTIVE - IV) Multimedia Advertising
	408282 B	(ELECTIVE - IV) Process Optimization and Total Quality Management in Printing

SEMESTER - VIII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 07-06-2023	408290	Operations Management in Printing and Packaging
Friday 09-06-2023	408291	Adhesives and Coatings in Packaging
Wednesday 14-06-2023	408288 A	(ELECTIVE - V) Food and Pharmaceutical Packaging
	408288 B	(ELECTIVE - V) Printed Electronics
Friday 16-06-2023	408289 A	(ELECTIVE - VI) Sustainable Packaging
	408289 B	(ELECTIVE - VI) Management Information Systems and Data Science

B.E. PRODUCTION ENGINEERING

SEMESTER - VII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 21-06-2023	411081	Automation and Control Engineering
Thursday 22-06-2023	411082	Operations Research
Saturday 24-06-2023	411083 A	(ELECTIVE - III) Simulation, Modeling and Digital Twin
	411083 B	(ELECTIVE - III) Total Quality management
	411083 C	(ELECTIVE - III) Artificial Intelligence in Manufacturing
	411083 D	(ELECTIVE - III) World Class Manufacturing
Monday 26-06-2023	411084 A	(ELECTIVE - IV) Plant Maintenance and industrial safety
	411084 B	(ELECTIVE - IV) Surface Engineering
	411084 C	(ELECTIVE - IV) Reverse Engineering
	411084 D	(ELECTIVE - IV) Entrepreneurship and Innovations

SEMESTER - VIII

Time:- 3.00 PM. TO 5.30 PM.

Day & Date	Paper Code	Subject
Wednesday 07-06-2023	411088	Computer Integrated Design and Manufacturing
Friday 09-06-2023	411089	Industrial Robotics
Wednesday 14-06-2023	411090 A	(ELECTIVE - V) E-Mobilty in Automobile
	411090 B	(ELECTIVE - V) Smart Manufacturing
	411090 C	(ELECTIVE - V) Manufacturing System design
	411090 D	(ELECTIVE - V) Ergonomics and Work Management
Friday 16-06-2023	411091 A	(ELECTIVE - VI) Facility Planning
	411091 B	(ELECTIVE - VI) Additive Manufacturing
	411091 C	(ELECTIVE - VI) Reliability Engineering
	411091 D	(ELECTIVE - VI) Data Analytics

B.E. PRODUCTION SANDWICH ENGINEERING

SEMESTER - VII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Wednesday 21-06-2023	411121	Manufacturing Automation
Thursday 22-06-2023	411122	Operations Research
Saturday 24-06-2023	411123 A	(ELECTIVE - III) Additive Manufacturing
	411123 B	(ELECTIVE - III) Industrial Robotics
	411123 C	(ELECTIVE - III) Reliability Engineering
	411123 D	(ELECTIVE - III) Micro-Electro mechanical systems
Monday 26-06-2023	411124 A	(ELECTIVE - IV) Creative Product Design
	411124 B	(ELECTIVE - IV) Mechatronics
	411124 C	(ELECTIVE - IV) CAD/CAM
	411124 D	(ELECTIVE - IV) Data analytics

SEMESTER - VIII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Wednesday 14-06-2023	411134 A	(ELECTIVE - V) Supply Chain Management
	411134 B	(ELECTIVE - V) Plant Engineering and Maintenance
	411134 C	(ELECTIVE - V) Industrial Relation and Human Resource Management
	411134 D	(ELECTIVE - V) Marketing mgmt.

B.E. HONORS/MINORS

SEMESTER - VII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Tuesday 27-06-2023	401301	Work Method Statement Making
	401401	Traffic and Transportation Planning
	402014 MJ	Additive Manufacturing System Design
	402024 MJ	Electrical Energy Systems
	302034 MJ	Modelling and Simulation of EHV
	302044 MJ	System modelling and simulation
	404181 HR	Industrial Robotics & Automation
	404181 HBCT	Smart Contracts & Cryptocurrency
	408214	Sustainable Packaging
	410301	Machine Learning
	410401	Internet of Things and Embedded Security
	410501	Machine Learning and Data Science
	410601	Machine Learning for Internet of Things
	410701	Virtual Reality in Game Development

B.E. HONORS/MINORS

SEMESTER - VIII

Time:- **3.00 PM. TO 5.30 PM.**

Day & Date	Paper Code	Subject
Monday 19-06-2023	401303	Tunnel Engineering
	401403	Land Use and Land Cover
	402016 MJ	3D Printing Applications & Entrepreneurship
	402026 MJ	Sustainable Energy Conversion Systems
	302036 MJ	e-Vehicle Standards, Charging & Safety
	302046 MJ	Systems Engineering Management
	404183 HR	Artificial Intelligence in Robotics
	404183 HBCT	Block Chain Solutions
	408216	Brand and Packaging Management
	410303	Soft Computing and Deep Learning
	410403	Information Systems Management
	410503	Artificial Intelligence for Big Data Analytics
	410603	Internet of Things Security
	410703	Application Development using Augmented Reality and Virtual Reality

Ganeshkhind, Pune - 411 007

Ref.No/XCT: 391

Date:09/05/2023

Director,
Board of Examinations and Evaluation

Total No. of Questions : 8]

SEAT No. :

P656

[Total No. of Pages : 4

[6004]-617

B.E. (Semester - VIII)

MECHANICAL

Energy Engineering

(402049) (2019 Pattern)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right of each question indicate full marks.***
4) ***Assume suitable data wherever necessary and mention the same clearly.***
5) ***Use of steam tables, Mollier chart and calculator is allowed.***

Q1) a) The runoff data of one river at a particular site is as below. **[6]**

Sr. No.	Month	Discharge in millions of Cu m per month	Sr. No.	Month	Discharge in millions of Cu m per month
1.	Jan.	80	7.	July.	150
2.	Feb.	40	8.	Aug.	250
3.	March.	50	9.	Sept.	200
4.	Apr.	0	10.	Oct.	120
5.	May.	20	11.	Nov.	80
6.	June .	100	12.	Dec.	100

From above data Determine

i) Mean Flow

ii) Draw Flow Duration Curve

P.T.O.

b) Describe with simple diagram Plant Layout of High Capacity Diesel Engine Power Plant. **[6]**

c) Discuss working of Sodium Graphite reactor with its diagram. **[6]**

OR

Q2) a) Elaborate function of different components of high head hydro-electric power plant with simple diagram. **[6]**

b) Explain following in brief related to diesel power plant **[6]**

i) Site selection criteria

ii) Applications

c) Discuss working of Pressurized Water Reactor with its diagram and limitations. **[6]**

Q3) a) The air enters the compressor of 5 MW capacity gas-turbine power plant at1bar, 30 degrees Celsius. The maximum cycle temperature, pressure is 550 degrees Celsius, 5 bar respectively. The two stage expansion with reheating pressure of 2.24 bar is used in the plant. In the re-heater gas is heated up to maximum cycle temperature. The gases are expanded up to 1 bar in second turbine. The isentropic efficiency of compressor, both turbines is 80%, 85% respectively. Take adiabatic index for air gas as 1.4,1.33 respectively. Take specific heat for air, gas as 1 kJ/Kg-K, 1.15 kJ/Kg-K respectively. Neglect mass flow rate of fuel. Draw cycle arrangement and T-s diagram and determine **[9]**

i) The thermal efficiency of cycle

ii) Mass flow rate of air

b) Define cogeneration. Why Cogeneration technique is used in gas power cycle? Discuss Cogeneration in gas power cycle with simple block diagram. **[8]**

OR

Q4) a) Air enters the compressor of a gas.turbine power plant having capacity 10 MW at 1 bar and 27 degrees Celsius. The maximum cycle temperature, pressure is 577 degrees Celsius, 6.5 bar respectively. The two stage compression with perfect inter-cooling arrangement is incorporated in the plant. The compression in both stages and expansion in turbine are isentropic. Take adiabatic index, specific heat for both air and gas as 1.4,1 kJ/Kg-K respectively. Assume calorific value of fuel as 45 MJ/Kg. Draw cycle arrangement and T-s diagram and determine **[9]**

i) The thermal efficiency of cycle with considering effect mass flow rate of fuel on air.

ii) Fuel consumption on per hour basis (with inter-cooling arrangement)

b) Describe the Integrated Gasification Combined Cycle plant with cycle arrangement, merits and demerits. **[8]**

Q5) a) A steam power station has an installed capacity of 120 MW and maximum demand of 100 MW. The coal consumption is 0.4 kg per kWh and cost of coal is Rs. 80 per ton. The annual expenses on salary bill of staff and other overhead charges excluding cost of coal are Rs. 50×10^5. The power station works at a load factor of 0.5 and the capital cost of the power station is Rs. 4×10^5. If the rate of interest and depreciation is 10%. Determine total annual energy generation and the cost of generating per kWh. **[6]**

b) Elaborate the typical layout of electrical equipment in power plant with diagram. **[6]**

c) List out various methods of thermal energy storage. Describe anyone method with simple diagram. **[5]**

OR

Q6) a) A power generation station with maximum demand as 20 MW having following annual data. Capacity factor = 0.4, Load factor =0.6 and use factor = 0.45. **[6]**

Determine

i) Annual energy produced

ii) Reserve capacity over and above peak load

iii) Number of hours during which plant is not working

b) State main functions of circuit breaker. Describe working of any one circuit breaker system with diagram. **[6]**

c) Describe methods of estimation of Energy pricing. **[5]**

Q7) a) Elaborate working of Low temperature flat plate collector solar power plant with diagram and advantages. **[6]**

b) Discuss the working of superheated steam geothermal energy system with diagram and disadvantages. **[6]**

c) Explain working principle of fuel cells? Enlist different types of fuel cells. **[6]**

OR

Q8) a) Explain following terms in brief related to wind power systems **[6]**

i) Cut-out Speed

ii) Cut-in Speed

iii) Betz Limit

iv) Rated Speed

v) Blade Tip ratio

vi) Co-efficient of power

b) Discuss the working of Claude's Ocean Thermal Energy system with simple diagram and advantages. **[6]**

c) Write note on:- Open type MHD system. **[6]**

P. D. Kuche
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Total No. of Questions : 8]

[Total No. of Pages : 8

P-10382

[6004]-S-617

B.E. (Mechanical)

ENERGY ENGINEERING

(2019 Pattern) (Semester - VIII) (402049)

Solution & Marking Scheme

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right of each question indicate full marks.***
4) ***Assume suitable data wherever necessary and mention the same clearly.***
5) ***Use of steam tables, Mollier chart and calculator is allowed.***

Q.1 A [6]

The runoff data of one river at a particular site is as below.

Sr No	Month	Discharge in million of Cu m per month	Sr No	Month	Discharge in million of Cu m per month
1.	Jan	80	7.	July	150
2.	Feb	40	8.	Aug	250
3.	March	50	9.	Sept	200
4.	Apr	0	10.	Oct	120
5.	May	20	11.	Nov	80
6.	June	100	12.	Dec	100

From above data(1) Determine Mean Flow (2) Draw Flow Duration Curve

- **Solution**

From the given runoff data

(1) Mean Flow (1 mark)

=(80+40+50+0+20+100+150+220+200+120+80+100)/12=1160/12=96.67 million Cu per month

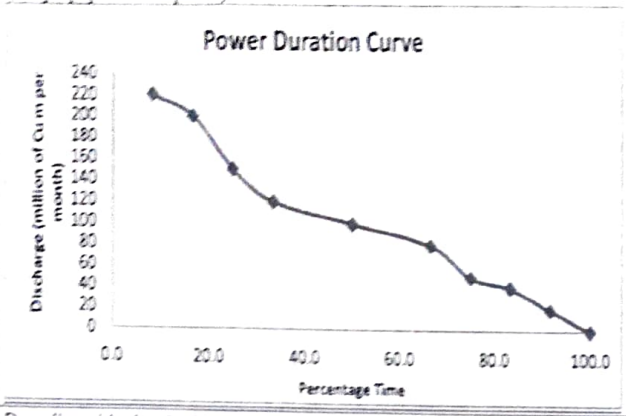
2) Draw Flow Duration Curve Table/Calculations (3 marks)

Discharge in million Cu per month	Total no. of months during which flow is available	Percentage Time
0	12	100.0
20	11	91.7
40	10	83.3
50	9	75.0
80	8	66.7
100	6	50.0
120	4	33.3
150	3	25.0
200	2	16.7

P.T.O.

	220	1	8.3

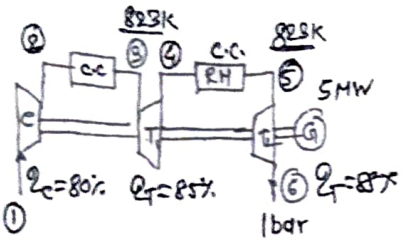
Flow Duration Curve (2 marks)
(Graph paper not required)

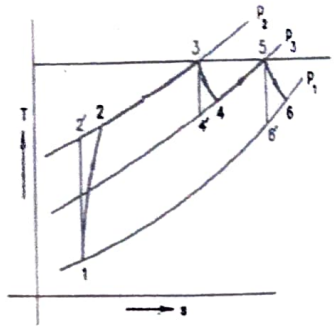


Q.1 B	Describe with simple diagram Plant Layout of High Capacity Diesel Engine Power Plant • **simple diagram for Plant Layout of High Capacity Diesel Engine Power Plant – 3 marks** • Explanation-3 **marks**	[6]
Q.1 C	Discuss working of Sodium Graphite reactor with its diagram • **Simple block diagram of Sodium Graphite Reactor – 3 marks** • **Explanation (fuel, moderator and coolant) -3 marks**	[6]
	OR	
Q.2 A	Elaborate function of different components of high head hydro-electric power plant with simple diagram. • **Simple block diagram of high head hydro-electric power plant – 3 marks** • **Explanation on functions of dam, trash rack, spillway, penstock, tunnel**	[6]
Q.2B	Explain following in brief related to diesel power plant i. Site selection criteria ii. Applications • **Site selection criteria of diesel power plant with explanation – 6 points – 4 marks** • Listing of Applications of diesel power plant– 6points – **2marks**	[6]
Q.2C	Discuss working of Pressurized Water Reactor with its diagram and limitations • **Simple block diagram of Pressurized Water Reactor – 2 marks** • **Explanation (fuel, moderator and coolant) -2 marks** • **Limitations with explanation -2 marks**	[6]
Q.3A	The air enters the compressor of 5 MW capacity gas-turbine power plant at 1 bar, 30 degrees Celsius. The maximum cycle temperature, pressure is 550 degrees Celsius, 5 bar respectively. The two stage expansion with reheating pressure of 2.24 bar is used in the plant. In the reheater gas is heated up to maximum cycle temperature. The gases are expanded up to 1 bar in second turbine. The isentropic efficiency of compressor, both turbines is 80%, 85% respectively. Take adiabatic index for air gas as 1.4,1.33 respectively. Take specific heat for air, gas as 1 KJ/Kg-K, 1.15 KJ/Kg-K respectively. Neglect mass flow rate of fuel. Draw cycle arrangement and T-s diagram and determine	[9]

(a) The thermal efficiency of cycle
(b) Mass flow rate of air

Solution :-





Cycle arrangement + TS — 2 marks

$T_1 = 30+273 = 303\,K$, $T_3 = T_5 = 550+273 = 823\,K$

$P_1 = 1\,bar$ $P_2 = 5\,bar$ $P_i = 2.24\,bar$

$\frac{T_2'}{T_1} = \left(\frac{P_2}{P_1}\right)^{\frac{\gamma-1}{\gamma}}$ $T_2' = 480\,K$ $(\gamma = 1.4)$

$\eta_c = \frac{T_2' - T_1}{T_2 - T_1}$ $\therefore T_2 = 524\,K$
(0.8)

$\frac{T_3}{T_4'} = \left(\frac{P_2}{P_1}\right)^{\frac{\gamma-1}{\gamma}}$ $\therefore T_4' = 674\,K$ $(\gamma = 1.33)$

$\eta_T = 0.85 = \frac{T_3 - T_4}{T_3 - T_4'}$ $\therefore T_4 = 696\,K$

$\frac{T_5}{T_6'} = \left(\frac{P_2}{P_1}\right)^{\frac{\gamma-1}{\gamma}}$ $\therefore T_6' = 674\,K$ $(\gamma = 1.33)$

$\eta_T = 0.85 = \frac{T_5 - T_6}{T_5 - T_6'}$ $\therefore T_6 = 696\,K$ All temp — 2 mks

Determination of Mass flow rate of air

$P_{out} = max\ W_{net}$ (as mf is neglected)

$W_{net} = W_{T_1} + W_{T_2} - W_c$

$W_{T_1} = W_{T_2} = C_{pg}(T_3 - T_4) = 1.15 \times (823 - 696) = 146\ \frac{kJ}{kg}$

$W_c = C_{pa}(T_2 - T_1) = 1 \times (524 - 303) = 221\ \frac{kJ}{kg}$

$\therefore W_{net} = 2 \times W_{T_1} \oplus W_c$
$= 2 \times 146 - 221 = 71\ kJ/kg$

$P_{out} = max\ W_{net}$

$\therefore m_a = \frac{5000}{W_{net}}$ $\therefore m_a = 70.42\,kg/s.$

$\boxed{m_a = 70.42\,kg/s}$ ——— 2 marks

Determination of thermal efficiency of cycle

$\eta_{cycle} = \frac{W_{net}}{Q_{sup}}$

$Q_{sup} = Q_{cc_1} + Q_{cc_2}$

$Q_{cc_1} = C_{pg}(T_3 - T_2) = 344 \frac{kJ}{kg}$ $C_{pg} = 1.15 \frac{kJ}{kg\,K}$

$Q_{cc_2} = C_{pg}(T_5 - T_4) = 146 \frac{kJ}{kg}$

$Q_{sup} = 490 \frac{kJ}{kg}$

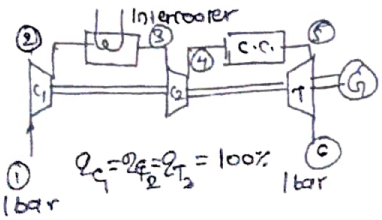
$\therefore \eta_{cycle} = \frac{W_{net}}{Q_{sup}}$

$= 14.488\ \%\ 14.5\%$

$\eta_{cycle} = 14.5\%$ ——— 3 marks

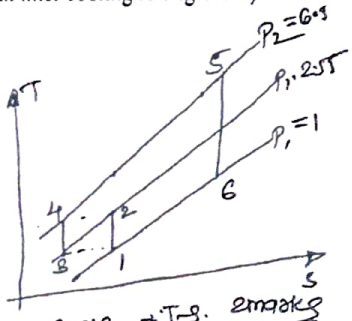
Q. 3B	Define cogeneration. Why Cogeneration technique is used in gas power cycle? Discuss Cogeneration in gas power cycle with simple block diagram. • **Definition of cogeneration- 2 marks** • **Need of Cogeneration in Gas power cycle -2 marks** • **Diagram of Cogeneration in GTPP (With process heating OR GT-ST cogeneration) 2 marks** • **Explanation of Cogeneration in GTPP (With process heating OR GT-ST cogeneration) 2 marks**	[8]
	OR	
Q.4A	Air enters the compressor of a gas-turbine power plant having capacity 10 MW at 1 bar and 27 degrees Celsius. The maximum cycle temperature, pressure is 577 degrees Celsius, 6.5 bar respectively. The two stage compression with perfect inter cooling arrangement is incorporated in the plant. The compression in both stages and expansion in turbine are isentropic. Take adiabatic index, specific heat for both air and gas as 1.4, 1 KJ/Kg-K respectively. Assume calorific value of fuel as 45 MJ/Kg. Draw cycle arrangement and T-s diagram and determine (*a*) The thermal efficiency of cycle with considering effect mass flow rate of fuel on air. (*b*) Fuel consumption on per hour basis (with inter cooling arrangement)	[9]

Solution



$\eta_c = \eta_{c_1} = \eta_{c_2} = 100\%$

$P_i = \sqrt{P_1 P_3} = \sqrt{6.5} = 2.55$ bar



cycle + T-s arrangement ——— 2 marks

$T_1 = 300K \quad T_5 = 850K$

$\frac{T_2}{T_1} = \left(\frac{P_2}{P_1}\right)^{\frac{\gamma-1}{\gamma}}$ $\quad T_2 = 392K$

$T_1 = T_3 = 300K$

$\frac{T_5}{T_6} = \left(\frac{P_2}{P_1}\right)^{\frac{\gamma-1}{\gamma}}$ $\quad \therefore T_6 = 498K$

$\frac{T_4}{T_3} = \left(\frac{P_1}{P_1}\right)^{\frac{\gamma-1}{\gamma}}$ $\quad T_4 = 392K$ — All temp — 1 marks

Determination of fuel consumption considering effect of m$_f$ on m$_a$

$C_{pg}(m_a + m_f)(T_5 - T_4) = m_f \times CV$

$C_{pg}\left(\frac{m_a}{m_f} + 1\right)(T_5 - T_4) = CV.$

$m_a/m_f + 1 = 98.2$

$m_a/m_f = 97.2$ — 1 marks

$W_{net} = W_{net} \times m_f$

$W_{net} = W_T - (W_{C_1} + W_{C_2})$

$W_T = C_{pg}(T_5 - T_6) = 352 kJ/kg$

$W_{C_1} = W_{C_2} = C_{pa}(T_2 - T_1) = 92 kJ/kg$

$W_c = W_{C_1} + W_{C_2} = 184 kJ/kg$

$W_{net} = (m_a + m_f) W_T - m_a \times W_c$

$\frac{W_{net}}{m_f} = \left(\frac{m_a}{m_f} + 1\right) W_T - \frac{m_a}{m_f} \times W_c$

$= 16682$ KJ/kg of fuel.

$\therefore m_f \times 16682 = P_{net} = 10 \times 10^3$

$\therefore m_f = 0.6 kg/s$

$= 2158 kg/hr$

$\boxed{m_f = 0.6 kg/s \text{ or } 2158 kg/hr}$ — 3 marks

Determination of cycle efficiency considering m_f

$\eta = \frac{(m_a + m_f) C_{pg}(T_5 - T_6) \oplus 2 \times C_{pa} \times m_a \times (T_2 - T_1)}{C_{pg}(m_a + m_f)(T_5 - T_4)}$

$= \frac{(m_a/m_f + 1) C_{pg}(T_5 - T_6) \oplus 2 \times C_{pa}\left(\frac{m_a}{m_f}\right)(T_2 - T_1)}{C_{pg}(m_a/m_f + 1)(T_5 - T_4)}$

$= \frac{98.2 \times 1 (850 - 498) - 2 \times 1 \times 97.2 \times (392 - 300)}{1 \times (98.2) \times (850 - 392)}$

$\boxed{\eta = 37\%}$ 2 marks

Q.4B	Describe the Integrated Gasification Combined Cycle plant with cycle arrangement, , merits and demerits. • **cycle arrangement of IGCC- 2 marks** • **Description of IGCC- 2 marks** • **Explanation of Merits of IGCC- 2 marks** • **Explanation of demerits of IGCC- 2 marks**	[8]
Q. 5 A	A steam power station has an installed capacity of 120 MW and maximum demand of 100 MW. The coal consumption is 0.4 kg per kWh and cost of coal is Rs. 80 per ton. The annual expenses on salary bill of staff and other overhead charges excluding cost of coal are Rs.50×10^5. The power station works at a load factor of 0.5 and the capital cost of the power station is Rs. 4×10^5. If the rate of interest and depreciation is 10%. Determine total annual energy generation and the cost of generating per kWh. • **Solution** Average load = maximum demand × load factor Average load = 100 × 0.5 = 50 MW = 50 × 1000 = 50,000 kW Energy produced per year = Average Load × 365× 24 Energy produced per year = 50.000 × 365 × 24 **Energy produced per year = 438×10^6 kWh.** **(2 marks)** Coal consumption = $438 \times 10^6 \times (0.4/1000) = 175.2 \times 10^3$tones **Annual Cost** (1) Cost of coal = $175.2 \times 10^3 \times 80$ = Rs. 14.016×10^6 (2) Salaries = Rs. 5×10^6 (3) Interest and depreciation = $(10/100) \times 4 \times 10^5$ = Rs. 0.04×10^6 Total cost = Rs. 14.016×10^6+ Rs. 5×10^6+ Rs. 0.04×10^6 = Rs. 19.056×10^6 = Rs. 19056×10^3 Cost of generation per kWh = Rs. $19.056 \times 10^6/438 \times 10^6$ kWh **=0.0435 Rs./ kWh** **Cost of generation per kWh = 4.35 Paisa/kWh. OR 0.0435 Rs./ kWh** **(4 marks)**	[6]
Q. 5 B	Elaborate the typical layout of electrical equipment in power plant with diagram. • **Layout of electrical equipment in power plant - 3 marks** • **Description -3 marks**	[6]
Q. 5 C	List out various methods of thermal energy storage. Describe anyone method with simple diagram. • **List of various methods of thermal energy storage-1 mark** • **Diagram of any one thermal energy storage-2 marks** • **Explanation of thermal energy storage-2 marks**	[5]
	OR	
Q. 6 A	A power generation station with maximum demand as 20 MW having following annual data. Capacity factor = 0.4, Load factor =0.6 and use factor = 0.45. Determine- 1) Annual energy produced 2) Reserve capacity over and above peak load 3) Number of hours during which plant is not working	[6]

	• **Solution** Average load = maximum demand × load factor Average load = 20 × 0.6 = 12 MW = 12 × 1000 = 12,000 kW Energy produced per year = Average Load × 365× 24 Energy produced per year = 12,000 × 8760 i **Energy produced per year = 105.12 × 10^6 kWh** (2 marks) capacity factor = Average load / Plant capacity therefore, Plant capacity = 12 MW/ 0.4= 30 MW Reserve capacity = Plant capacity - maximum demand = 30 -20 ii **Reserve capacity = 10 MW** (2 marks) Use factor / capacity factor = 8760 / (t= no of operational hours) therefore, t= no of operational hours = 8760 × capacity factor / Use factor =8760 × 0.4 / 0.45 = 7787 hours Number of nonoperational hours = 8760 – 7787 iii **Number of nonoperational hours = 973 hours** (2 marks)	
Q. 6 B	State main functions of circuit breaker. Describe working of any one circuit breaker system with diagram • **main functions of circuit breaker-2 marks** • **Diagram of circuit breaker (any one type) -2 marks** • **Working of circuit breaker system-2 marks**	[6]
Q. 6 C	Describe methods of estimation of Energy pricing • **List of various methods of estimation of Energy pricing -2 mark** • **Explanation on estimation of Energy pricing-3 marks**	[5]
Q. 7 A	Elaborate working of Low temperature flat plate collector solar power plant with diagram and advantages • **Diagram of LT flat plate collector solar power plant--3 marks** • **Description-2 marks** • **Major Advantages-1 mark**	[6]
Q. 7 B	Discuss the working of superheated steam geothermal energy system with diagram and disadvantages • **Diagram of superheated steam geothermal energy system --3 marks** • **Description-2 marks** • **Disadvantages-1 mark**	[6]
Q. 7 C	Explain working principle of fuel cells? Enlist different types of fuel cells. • **List of various types of fuel cells -2 mark** • **Conceptual diagram of fuel cells-2 mark** • **Description--2 marks**	[6]
	OR	
Q. 8 A	Explain following terms in brief related to wind power systems i. Cut-out Speed ii. Cut-in Speed iii. Betz Limit iv. Rated Speed v. Blade Tip ratio	[6]

	vi. Co-efficient of power • **Explanation on each term (1 mark) (1×6=6 marks)**	
Q. 8 B	Discuss the working of Claude's Ocean Thermal Energy system with simple diagram and advantages • **Diagram of Claude's OTEC--3 marks** • **Description-2 marks** • **Major Advantages-1 mark**	[6]
Q. 8 C	Write note on:- Open type MHD system • **Diagram of Open type MHD system --3 marks** • **Description-2 marks** • **Advantages/ disadvantages-1 mark**	[6]

Mechanical Engineering Department OR/PR Timetable Schedule

2022-23 Sem-1

All Students of TE, BE Mechanical Engineering students are here by informed that their OR/PR/TW Examination of 2022-23 SEM-I is scheduled from 15/11/2022 to 25/11/2022. All students must attend this exam as per schedule. No one will be allowed after allotted time.

Pattern	Class	Semester	Academic Year	Subject Name & Code	Examination Head (PR/OR/TW)	No. of Students	Proposed Examination Date: From	Proposed Examination Date: To	Time	Name of Internal Examiner	Mobile No.
2019	TE	I	2022-23	Mechatronics - 302044	OR	86+1	22/11/2022	23/11/2022	9.00 AM Onwards	Dr. S. V. Mutalikdesai	9960179702
		I	2022-23	Heat & Mass Transfer (HMT)-302042	PR	86+1	22/11/2022	23/11/2022	9.00 AM Onwards	E. D. Kurhe	9860803580
		I	2022-23	Design of Machine Elements (DME) - 302043	OR	90	25/11/2022	25/11/2022	9.00 AM Onwards	D. P. Yesane	8380067235
		I	2022-23	Numerical & Statistical Methods (NST)-302041	TW	86	15/11/2022	15/11/2022	9.00 AM Onwards	S. S. More	9619404221
		I	2022-23	Digital Manufacturing Laboratory - 302046	TW	86	17/11/2022	17/11/2022	9.00 AM Onwards	S. S. More	9619404221
		I	2022-23	Skill Development - 302047	TW	86	18/11/2022	19/11/2022	9.00 AM Onwards	N. B. Dhamane	9860028501
		II	2022-23	Artificial Intelligence &Machine Learning (AIML)- 302049	OR	5	20/11/2022	20/11/2022	9.00 AM Onwards	S. S. More	9619404221
		II	2022-23	Computer Aided Engineering (CAE) - 302050	PR	5	26/11/2022	26/11/2022	9.00 AM Onwards	Dr. G. L. Allampallewar	9765480244
		II	2022-23	Design of Transmission Systems (DTS) -302051	OR	4	23/11/2022	23/11/2022	9.00 AM Onwards	D. P. Yesane	8380067235
2019	BE	I	2022-23	Heating, Ventilation and Air Conditioning (HVAC) - 402041	OR	65	21/11/2022	21/11/2022	9.00 AM Onwards	S. G. Nerkar	9326367732
		I	2022-23	Turbomachinery - 402043	OR	65	22/11/2022	23/11/2022	9.00 AM Onwards	Prof. R P POLAS	7841982059
		I	2022-23	Turbomachinery - 402043	TW	65	22/11/2022	23/11/2022	9.00 AM Onwards	Prof. R P POLAS	7841982059
		I	2022-23	Dynamics of Machinery - 402042	OR	65	22/11/2022	23/11/2022	9.00 AM Onwards	Prof. D M Bhoge	9623633902
		I	2022-23	Project - I - 402047	OR	65	25/11/2022	25/11/2022	9.00 AM Onwards	Prof. S S MORE	9619404221
		I	2022-23	Project - I - 402047	OR	65	24/11/2022	25/11/2022	9.00 AM Onwards	Prof. R P POLAS	7841982059
		I	2022-23	Project - I - 402047	TW	65	24/11/2022	25/11/2022	9.00 AM Onwards	Prof. S S MORE	9619404221
		I	2022-23	Project - I - 402047	TW	65	24/11/2022	25/11/2022	9.00 AM Onwards	Prof. R P POLAS	7841982059

Mechanical Engineering Department OR/PR Timetable Schedule

2022-23 Sem-1

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Pattern	Class	Semester	Academic Year	Subject Name & Code	Examination Head (PR/OR/TW)	No. of Students	Proposed Examination Date: From	Proposed Examination Date: To	Time	Name of Internal Examiner	Mobile No.
		I	2022-23	Data Analytics Laboratory - 402046	TW	65	24/11/2022	24/11/2022	9.00 AM Onwards	Dr. S. V. Mutalikdesai	9960179702
		II	2022-23	Project - II - 402053	OR	1	24/11/2022	24/11/2022	9.00 AM Onwards	Prof. R P POLAS	7841982059
		II	2022-23	Project - II - 402053	TW	1	24/11/2022	24/11/2022	9.00 AM Onwards	Prof. R P POLAS	7841982059
2015	BE	I	2022-23	Energy Engineering - 402047	OR	If Any	24/11/2022	24/11/2022	9.00 AM Onwards	E. D. Kurhe	9860803580
2015	BE	I	2022-23	Mechanical System Design	OR	1	25/11/2022	25/11/2022	9.00 AM Onwards	D. P. Yesane	8380067235

S. G. Nerkar
Exam Coordinar

Marathwada Mitra Mandal's Institute of Technology
PUNE
411047

Prof. S. S. More
HoD, Mechanical Engineering

Mechanical Engineering Department OR/PR Timetable Schedule

2022-23 Sem-1

EXTERNAL EXAMINER ALLOTMENT

All Students of TE Mechatronics Engineering are here by informed that their OR/PR/TW Examination of 2022-23 SEM I is scheduled from 15/11/2022 to 25/11/2022. All students must attend this exam as per schedule. No one will be allowed after allotted time.

Pattern	Class	Semester	Academic Year	Subject Name & Code	Examination Head (PR/OR/TW)	No. of Students	Proposed Examination Date: From	Proposed Examination Date: To	Time	Name of Internal Examiner	Mobile No.	Name of External Examiner	Mobile no.	bcuid id of external
2019	TE	I	2022-23	Mechatronics - 302044	OR	86+1	22/11/2022	23/11/2022	9.00 AM Onwards	S.V. Mutalikdesai	9960179702	Prof. Shivaji T. Dudhbhate	9158150078	52201691078
		I	2022-23	Heat & Mass Transfer (HMT)-302042	PR	86+1	22/11/2022	23/11/2022	9.00 AM Onwards	E.D.Kurhe	9860803580	Prof. Kundan Kolambe	9158868787	52201693053
		I	2022-23	Design of Machine Elements (DME) - 302043	OR	90	24/11/2022	25/11/2022	9.00 AM Onwards	D.P.Yesane	8380067235	Dr. Kishor Waghulde	9373236304	53201500900
		I	2022-23	Numerical & Statistical Methods (NST)-302041	TW	86	15/11/2022	15/11/2022	9.00 AM Onwards	S S More	9619404221	NA	NA	NA
		I	2022-23	Digital Manufacturing Laboratory - 302046	TW	86	17/11/2022	17/11/2022	9.00 AM Onwards	S S More	9619404221	NA	NA	NA
		I	2022-23	Skill Development - 302047	TW	86	17/11/2022	18/11/2022	9.00 AM Onwards	N B Dhamane	9860028501	NA	NA	NA
		II	2022-23	Artificial Intelligence &Machine Learning (AIML)- 302049	OR	5	20/11/2022	20/11/2022	9.00 AM Onwards	S S More	9619404221	NA	NA	NA
		II	2022-23	Computer Aided Engineering (CAE) - 302050	PR	5	21/11/2022	21/11/2022	9.00 AM Onwards	Dr. G.L.Allampallewar	9765480244	Prof. P. P. Akarte	9881741360	52201478945
		II	2022-23	Design of Transmission Systems (DTS) -302051	OR	3	23/11/2022	23/11/2022	9.00 AM Onwards	D.P.Yesane	8380067235	Shrikant Jadhav	9579760606	52201587060
2019	BE	I	2022-23	Heating, Ventilation and Air Conditioning (HVAC) - 402041	OR	65	21/11/2022	21/11/2022	9.00 AM Onwards	S. G. Nerkar	9326367732	Dr. Ramshiromani Rampratap	9881752034	52196609103
		I	2022-23	Turbomachinery - 402043	OR	65	22/11/2022	23/11/2022	9.00 AM Onwards	Prof. R P POLAS	7841982059	Bharatkumar D Patil	9860496122	52201478639
		I	2022-23	Turbomachinery - 402043	TW	65	22/11/2022	23/11/2022	9.00 AM Onwards	Prof. R P POLAS	7841982059	Bharatkumar D Patil	9860496122	52201478639
		I	2022-23	Dynamics of Machinery - 402042	OR	65	22/11/2022	23/11/2022	9.00 AM Onwards	Prof. D M Bhoge	9623633902	Shivaji Jadhav	9960194028	52022200286
		I	2022-23	Project - I - 402047	OR	65	24/11/2022	25/11/2022	9.00 AM Onwards	Prof. S S MORE	9619404221	Mr. Jitendra Narkhede	9423507937	52201692214
		I	2022-23	Project - I - 402047	OR	65	24/11/2022	25/11/2022	9.00 AM Onwards	Prof. R P POLAS	7841982059	Dr. Amit Chaudhary	9130422709	52201691712
		I	2022-23	Project - I - 402047	TW	65	24/11/2022	25/11/2022	9.00 AM Onwards	Prof. S S MORE	9619404221	Mr. Jitendra Narkhede	9423507937	52201692214
		I	2022-23	Project - I - 402047	TW	65	24/11/2022	25/11/2022	9.00 AM Onwards	Prof. R P POLAS	7841982059	Dr. Amit Chaudhary	9130422709	52201691712
		I	2022-23	Data Analytics Laboratory - 402046	TW	65	24/11/2022	24/11/2022	9.00 AM Onwards	S.V. Mutalikdesai	9960179702	Pr. Nivedita	9164196154	
		II	2022-23	Project - II - 402053	OR	If Any	24/11/2022	24/11/2022	9.00 AM Onwards	Prof. R P POLAS	7841982059	NA	NA	NA
		II	2022-23	Project - II - 402053	TW	If Any	24/11/2022	24/11/2022	9.00 AM Onwards	Prof. R P POLAS	7841982059	NA	NA	NA
2015	BE	I	2022-23	Energy Engineering - 402047	OR	If Any	24/11/2022	24/11/2022	9.00 AM Onwards	E.D.Kurhe	9860803580	NA	NA	NA
2015	BE	I	2022-23	Mechanical System Design	OR	0	25/11/2022	25/11/2022	9.00 AM Onwards	D.P.Yesane	8380067235	NA	NA	NA

S. G. Nerkar
Exam Coordinar

Maeer's Alard Mandal's Institute of Technology PUNE 411047

Prof. S. S. More
HoD, Mechanical Engineering

SAVITRIBAI PHULE PUNE UNIVERSITY

ATTENDANCE REPORT

Oral/PR/TW Examination (A.Y. 2022-23 SEM-I)

Examination : T.E.[2019 Pat.] **Branch** : Mechanical Engineering **Centre**: MMIT, Lohgaon(0

Subject : HEAT & MASS TRANSFER [PR]

Min Marks = 20	Max. Mark = 50
Day: Tuesday & Wednesda	Date : 22 & 23 Nov. 2022

Name of the Examiners: Signature of examiners

1 Prof. K.S. Kolambe

2 Prof. E.D. Kushe

S.No.	ROLL NO.	FULL NAME OF THE STUDENT	Sign
1	TMA01	AARE MONIKA RAMESH	
2	TMA02	ALLAMWAR SAINATH BALRAJ	
3	TMA03	AWHALE TUSHAR NARAYAN	
4	TMA04	BAGADE SAKSHI SHASHANK	
5	TMA05	BAISANE RAHUL KASHINATH	
6	TMA06	BAMANE PAWAN TANAJI	AB
7	TMA07	BANGALE VINAYAK VIKAS	AB
8	TMA08	BHALEKAR VAIBHAV RAJENDRA	
9	TMA09	BHAVSAR DARSHANA SUDHAKAR	
10	TMA10	BHAVSAR SHREYAS SANJAY	
11	TMA11	BHUKELE ANIKET RAVINDRA	
12	TMA12	BIRAJDAR AJAY DINKAR	
13	TMA13	BUNDE JAY PRALHAD	AB
14	TMA14	CHANGBHALE YOGESH NIVRATTI	
15	TMA15	CHAVAN DARSHAN RAMESH	
16	TMA16	CHAVAN GANESH LAXMAN	AB
17	TMA17	CHAVAN SHUBHANGI RAJENDRA	
18	TMA18	DAMBRE RAHUL	AB
19	TMA19	GADDIME RAMLING MURLIDHAR	
20	TMA20	GAIKWAD SUMIT SHIVAJI	
21	TMA21	GAUD MANISH RAJENDRA	AB
22	TMA22	GURAV PRAMOD MARUTI	
23	TMA23	GHADAGE SITARAM ASHOK	
24	TMA24	JADHAV AJIT HANUMANTRAO	
25	TMA25	JADHAV RAJ PARSHURAM	
26	TMA26	JAGTAP MAYUR AJIT	AB
27	TMA27	KADWE VAIBHAV RAVINDRA	
28	TMA28	KAKADE SWAPNIL NAVNATH	
29	TMA29	KALASKAR KAUSHAL ASHOK	
30	TMA30	KAMBLE ASHWAJIT PRASHANT	
31	TMA31	KAMBLE RAJKUMAR SANGRAM	AB
32	TMA32	KAMBLE RONIT RAJESH	

SAVITRIBAI PHULE PUNE UNIVERSITY

ATTENDANCE REPORT

Oral/PR/TW Examination (A.Y. 2022-23 SEM-I)

Examination : T.E.[2019 Pat.] **Branch** : Mechanical Engineering **Centre:** MMIT, Lohgaon(0

Subject : HEAT & MASS TRANSFER [PR]

Min Marks = 20	Max. Mark = 50
Day: Tuesday & Wednesda	Date : 22 & 23 Nov. 2022

Name of the Examiners: Signature of examiners

1 Prof K.S. Kolambe

2 Dr D. Kudle

S.No.	ROLL NO.	FULL NAME OF THE STUDENT	Sign
33	TMA33	KESAPURE RUSHIKESH TULSHIRAM	
34	TMA34	KOLI SACHIN PURUSHOTTAM	
35	TMA35	KULKARNI MALHAR ATUL	
36	TMA36	KURESHI MOHAMMAD SAQLAIN S	
37	TMA37	MAHAJAN ROHAN RAJENDRA	
38	TMA38	MAINDARKAR GOVIND DATTATRAY	AB
39	TMA39	MESHRAM CHETAN KAILAS	
40	TMA40	MORE YUVRAJ UTTAMRAO	AB
41	TMA41	MULE ABHISHEK ROHIT	
42	TMA42	MULLA SANIYA JAKIR	
43	TMA43	NADARAGI RITESH CHANDRASHEKHAR	
44	TMA44	NIMBALKAR PRASAD DNYANESHWAR	
45	TMA45	PACHARNE HIMANSHU NARAYAN	
46	TMA46	PANICKER ARJUN SUJEEV	
47	TMA47	PATIL DHIRAJ NANABHAU	
48	TMA48	PAWAR SANKET SANJAY	AB
49	TMA49	PAWAR TUSHAR BALASAHEB	
50	TMA50	RATHOD LAHU GOVIND	AB
51	TMA51	RAUT DEEPAK GOVIND	
52	TMA52	REDDI VINAYAK ANKUSH	
53	TMA53	SALUNKHE PRATHAM HARISHCHANDRA	
54	TMA54	SALVE SUBODH AVINASH	
55	TMA55	SARUK PRAKASH VITTHAL	
56	TMA56	SHINDE ATHARVA AVINASH	
57	TMA57	SHINDE SAURABH SHAHAJI	
58	TMA58	RUPALI PRABHAKAR SHINGATE	
59	TMA59	SHIRKE LALITA KAILAS	
60	TMA60	SUKALE SAHIL SUNIL	AB
61	TMA61	SUTAR ABHISHEK DIGAMBAR	AB
62	TMA62	SUTAR SHREYASH RAVINDRA	
63	TMA63	TAGAD TEJAS RAMDAS	
64	TMA64	THOKAL TUSHAR GORAKSH	

SAVITRIBAI PHULE PUNE UNIVERSITY

ATTENDANCE REPORT

Oral/PR/TW Examination (A.Y. 2022-23 SEM-I)

Examination : T.E.[2019 Pat.] **Branch** : Mechanical Engineering **Centre:** MMIT, Lohgaon(0

Subject : HEAT & MASS TRANSFER [PR]

Min Marks = 20	Max. Mark = 50
Day: Tuesday & Wednesda	Date : 22 & 23 Nov. 2022

Name of the Examiners: Signature of examiners

1 Prof. K.S. Kolambe.

2 Prof E.D. Kurhe

S.No.	ROLL NO.	FULL NAME OF THE STUDENT	Sign
65	TMA65	THOMBARE YOGIRAJ SANJAY	
66	TMA66	THORAT SANJIVANI ASHOK	
67	TMA67	UMATE MADHAV BALAJI	
68	TMA68	WADKAR SAURABH SIDDHESHWAR	AB
69	TMA69	WAGHAMBARE PRADNYESH SURESH	
70	TMA70	WAGHMARE RUSHIKESH RAJU	
71	TMA71	WALEKAR MANGESH RAJESH	
72	TMA72	YADAV SHAILESH DHEERAJ	
73	TMA73	ZOMBADE ANAND GULAB	
74	TMA74	ZUNJARE ASHOK BASLING	
75	TMA75	FARAAZ ARSHAD MIRZA	AB
76	TMA76	DCOSTA BRYAN ANTHONY	
77	TMA77	BHOSALE SURAJ BHIMARAO	AB
78	TMA78	MUTEKAR ONKAR SANTOSH	
79	TMA79	PATIL PRASAD GUNAJI	AB
80	TMA80	SAGARE SHUBHAM VIDYANAND	
81	TMA81	SONAWANE VICKY MADHUKAR	AB
82	TMA82	PAWAR NEHAL SANJAY	AB
83	TMA83	JAGTAP SHAILESH RAJENDRA	AB
84	TMA84	POTDAR ANKITA RAMESH	
85	TMA85	RASAL SOURABH SHRIKANT	
86	TMA86	NEMADE VILAS RAVINDRA	AB

Summary :-

Total No. of Students :- 86

Present No. of Students :- 64

Absent No. of Students :- 22

Pass No. of Students :- —

Fail No. of Students :- —

Maharatnada Mitra Mandal's Institute of Technology PUNE 411047

Savitribai Phule Pune University

Examination Session 2022

Marks Inward System for Colleges

221213113 1037

2212131131037

12/13/2022

College Name CEGP013870 - MARATHWADA MITRA MANDAL'S INSTITUTE OF TECHNOLOGY

Pattern Name 7031932 - T.E.(2019 PAT.) (MECHANICAL)

Batch No 202210009084

Subject Name 302042 - Heat & Mass Transfer

Exam Type PRACTICAL OUT OF 50

Teacher Name Kurhe Eknath Dnyandeo (Mob. No.: 9860803580) - Internal Examiner

Total Students	Present Students	Absent Students	Not Applicable	Detained
87	68	17	2	0

Seat No	Marks/Grade	Seat No	Marks/Grade	Seat No	Marks/Grade	Seat No	Marks/Grade
T190590801	28	T190590834	27	T190590865	(N/A)	T190590895	31
T190590802	27	T190590835	26	T190590866	(AB)	T190590897	26
T190590803	45	T190590837	(AB)	T190590867	(AB)	T190590898	(AB)
T190590804	30	T190590838	(AB)	T190590868	26	T190590899	(AB)
T190590806	35	T190590841	25	T190590869	32	T190590900	28
T190590807	38	T190590842	26	T190590870	27	T190590901	35
T190590808	29	T190590843	25	T190590871	(AB)	T190590902	30
T190590809	7	T190590845	25	T190590872	23	T190590903	32
T190590810	8	T190590846	31	T190590873	29	T190590904	26
T190590811	37	T190590847	33	T190590874	27	T190590905	26
T190590812	38	T190590848	34	T190590875	27	T190590906	27
T190590813	8	T190590849	45	T190590877	45	T190590907	9
T190590814	29	T190590850	30	T190590878	25		
T190590815	40	T190590852	31	T190590879	27		
T190590816	(AB)	T190590853	(AB)	T190590881	(AB)		
T190590818	30	T190590854	41	T190590883	28		
T190590820	27	T190590855	(AB)	T190590885	27		
T190590821	42	T190590856	25	T190590886	32		
T190590823	(AB)	T190590857	43	T190590887	(AB)		
T190590824	27	T190590858	31	T190590888	26		
T190590828	26	T190590859	35	T190590889	37		
T190590829	28	T190590860	27	T190590891	25		
T190590830	(AB)	T190590861	6	T190590892	(N/A)		
T190590831	(AB)	T190590862	33	T190590893	(AB)		
T190590832	40	T190590863	(AB)	T190590894	30		

Stamp & Authorized Signatory

"Techno - Social Excellence"
Marathwada Mitramandal's
Institute of Technology (MMIT)
Accredited with "A" Grade by NAAC
Survey No. 35, Vadgaon Shinde Road, Lohgaon, Pune - 411 047
Approved by AICTE, New Delhi, Recognised by DTE, M.S.Mumbai, Affiliated to Savitribai Phule Pune University
Email : principal@mmit.edu.in Website : www.mmit.edu.in
Tel No. : +91 7447786623 / +91 7447786624 DTE Institute Code : 6203

Ref. No. MMIT/Admin/ 2020-21/ 01 Date: 22/05/2020

Office Order

Mr. Dayanand Yesane, Assistant Professor, Mechanical Engineering Department is appointed as College Examination officer (CEO) with immediate effect till further orders. You are advised to understand the duties and responsibilities of this and make sure that day to day activities need to strictly monitor.

The undersigned also gives you authority to seek explanation from any of the faculty if he/she fails to do the examination work. You are required to remain in touch with the undersigned for any problem in the execution.

You have to take the Charge of CEO from Ms. Chitra Deshmukh immediately through Google meet along with A.O.

Dr. Rupesh V. Bhortake
Principal

Copy to :

--Ms. Chitra Deshmukh to handover all the records / password to Dayanand Yesane)
--Administrative office for information and record purpose.
--All HODs for information and circulation

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Approved by AICTE, New Delhi, Recognised by DTE, M.S Mumbai, Affiliated to Savitribai Phule Pune University
Email : principal@mmit.edu.in Website : www.mmit.edu.in
Tel No. : +91 7447786823 / +91 7447786824 DTE Institute Code : 6203

Ref. No.: MMIT/Exam/2023-24/01

Date: 12/07/2023

OFFICE ORDER

Subject: SPPU FE End Sem Examination May 2023.

The following staff members have been assigned the duties in the capacity as mentioned against their name for conduction of ***FE End Sem Examination May 2023 (22nd July to 4th August 2023)***

Sr. No.	Responsibility	Name of staff /Supporting staff /Attendant
1	CEO & Custodian	Mr. D. P. Yesane
2	Asst. to CEO	Mrs. Laxmi Shinde
3	Senior Supervisor	Mr. Anil Darekar
4	Assistant to Senior Supervisor	Dr. Pratibha Desai
5	Stationary	Miss Gayatri Kulkarni
6	Dispatch	Mr. Rahul Tapkir
7	Numbering	Mr. B. B. Khavale
8	Sealing	Mr. K.B.Walunj
9	Printing	Mr. Laxman Mohite

Smooth conduction of the examination is prime duty of every staff/attendant involved in examination duty. Negligence in exam duty will lead to strict disciplinary action.

Mr. D.P.Yesane
CEO

PUNE 411047

Dr. R.V.Bhortake,
Principal

Copy to:

1. All HOD for information and necessary action
2. All concerned staff

"Techno - Social Excellence"
Marathwada Mitramandal's
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Survey No. 35, Vadgaon Shinde Road, Lohgaon, Pune - 411 047
Approved by AICTE, New Delhi, Recognised by DTE, M.S.Mumbai, Affiliated to Savitribai Phule Pune University
Email : principal@mmit.edu.in Website : www.mmit.edu.in
Tel No. : +91 7447786623 / +91 7447786624 DTE Institute Code : 6203

Ref. No.: MMIT/Exam/2022-23/75 Date: 04/01/2023

OFFICE ORDER

Subject: SPPU End Sem/ In Sem Examination January 2023.

The following staff members have been assigned the duties in the capacity as mentioned against their name for conduction of ***SE, TE, BE End Sem and Insem Examination January 2023*** from **05/01/2023 to 20/01/ 2023**

Sr. No.	Responsibility	Name of staff /Supporting staff /Attendant
1	CEO	Mr. D.P.Yesane
2	Asst. to CEO	Mrs. Laxmi Shinde
3	Senior Supervisor	Dr Atul Khatri
4	Assistant to Senior Supervisor	Ms. Reshma Fegade
5	Stationary	Mr. Baba Khavle
6	Numbering & Dispatch	Mr. Rahul Tapkir
7	Sealing	Mr. K B Walunj
8	Question Paper Printing	Mr. Laxman Mohite

College reporting time of staff involved in SPPU Exam work: 10.00 AM to 5.00 PM (For Exam Period only)

Smooth conduction of the examination is prime duty of every staff/attendant involved in examination duty. Negligence in exam duty will lead to strict disciplinary action.

Mr. D.P.Yesane
CEO

Marathwada Mitra Mandal's Institute of Technology PUNE 411047

Dr. R.V.Bhortake,
Principal

Copy to:

1. All HOD for information and necessary action
2. All concerned staff

"Techno-Social Excellence"

Marathwada Mitra Mandal's Institute of Technology

S.N. 35, Vadgaon Shinde Road, Lohgaon, Pune - 411047

Accredited with "A" grade by NAAC

Ref. No.: MMIT/Exam/2022-23/81 Date: 28/02/2023

OFFICE ORDER

Subject: SPPU FE End Sem Examination December 2022.

The following staff members have been assigned the duties in the capacity as mentioned against their name for conduction of ***FE Endsem Exam 2022 (15th March to 27th March 2023).***

Sr. No.	Responsibility	Name of staff /Supporting staff
1	CEO & Custodian	Mr. D.P.Yesane
2	Asst. to CEO	Mrs. Laxmi Shinde
3	Senior Supervisor	Mr. Anil Darekar
4	Assistant to Senior Supervisor	Mr. Mukesh Sharma
5	Stationary	Miss Gayatri Kulkarni
6	Dispatch	Mr. Rahul Tapkir
7	Numbering	Mr. Baba Khawale
8	Sealing	Mr. K. B. Walunj

Smooth conduction of the examination is prime duty of every staff/attendant involved in examination duty. Negligence in exam duty will lead to strict disciplinary action.

Mr. D.P.Yesane
CEO

Dr. R.V.Bhortake,
Principal

Copy to:

1. All HOD for information and necessary action
2. All concerned staff

Examination Grievances

17/08/2023.

To
CEO
Marathwada mitra mandal's Institute,
Lohegaon - pune - 411047.

Subject:- To change name in Marksheet.

Respected Sir,

I am Bhagesh sharanappa chincholi from BE ~~mech~~ mechanical passout student - 2022-23 Batch. Sir, Please change my name from Mr. CHINCH OLI BHAGESH SHARANAPPA to Mr. CHINCHOLI BHAGESH SHARANAPPA. Marksheet Correction only BE Marksheets. Please, Sir, to change my name in marksheet.

Your's Faithfully
Bhagesh. S. Chincholi.

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Email : principal@mmit.edu.in Website : www.mmit.edu.in
Tel No. : +91 7447786623 / +91 7447786624 DTE Institute Code : 6203

Refernace No:MMIT/Exam/2022-23/ Date:03/12/2022

To,

Director,

Board of Examinations and Evaluation,

SPPU, Pune

Subject: **Regarding Student's name correction on Mark-Sheet.**

The following correction is required to be made in the name of the following student of BE (2019 course) as there is a mistake in his surname on all marksheets. His Sem-1 Marksheet was printed correctly but later Sem 2 to Sem-6 Marksheets were printed with wrong surname.

College code: CEGP013870

Name of the Student	PRN	Eligibility No.	Exam seat No.	Name As Shown on Marksheet	Correction Required As
CHINCHOLI BHAGESH SHARANAPPA	72032045D	12019147244	FE:F190590030 SE:F190590810 TE:F190590809	CHINCH OLI BHAGESH SHARANAPPA	**CHINCHOLI BHAGESH SHARANAPPA**

So you are kindly requested to look in this and please send all marksheets of above mentioned student with correct surname. Also you are kindly requested to make changes in his surname in the system so that he will receive corrected surname on his upcoming BE Marksheets and passing certificate.

Thanking you,

Mr. D.P.Yesane
CEO
MMIT, Pune

Marathwada Mitra Mandal's Institute of Technology PUNE 411047

Dr. R.V.Bhortake,
Principal,
MMIT, Pune

Encls:

1. Photocopy of hall ticket.
2. Eligibilty no. list
3. Photocopy of 10th and 12th Marksheet
4. Photocopy of Sem-1 marksheets with correct surname

सावित्रीबाई फुले पुणे विद्यापीठ
संचालक कार्यालय
परीक्षा व मूल्यमापन मंडळ
पोहोच दिनांक 08/12/2022

(FOR THE CANDIDATE) **C**
(To be presented as a receipt)

BANK OF MAHARASHTRA 667650
University Branch only

Paid into the credit of UNIVERSITY OF PUNE
the sum of Rs. 1250/-
(Rupees (in words) one thousand two hundred fifty rupees)

Particulars		Rs.	P.
Exam. Fees			
Engg.	101006		
B.O.P.	113011		
Statement of Marks	113003		
Late Fee	113005		
C.A.P.	113031		
Name Correction	112004	1250	1-
Engg. O.R.D.	113003		
	Total Rs.	1250	—

Name of the Candidate (in full, in Block Letters)
CHINCHOLI BHAGESH SHARANAPPA
Permanent Address A/P. Dudhani
Tal: Akkalkot
Dist: Solapur

Date : 5 DEC 2022
Place :
Receiving Cashier
Seal of the Bank.
CASH RECEIVED

(To be attanched to the application) **D**

BANK OF MAHARASHTRA 667650
University Branch only

Paid into the credit of UNIVERSITY OF PUNE
the sum of Rs. 1250/-
(Rupees (in words) one thousand two hundred fifty rupees)

Particulars		Rs.	P.
Exam. Fees			
Engg.	101006		
B.O.P.	113011		
Statement of Marks	113003		
Late Fee	113005		
C.A.P.	113031		
Name Correction	112004	1250	—
Engg. O.R.D.	113003		
	Total Rs.	1250	—

Name of the Candidate (in full, in Block Letters)
CHINCHOLI BHAGESH SHARANAPPA.
Permanent Address A/P. Dudhani
Tal: Akkalkot
Dist: Solapur

Date : 5 DEC 2022
Place :
Receiving Cashier
Seal of the Bank.
CASH RECEIVED

No.: 22 - 0053558

SAVITRIBAI PHULE PUNE UNIVERSITY

(formerly University of Pune)

GANESHKHIND PUNE 411 007

STATEMENT OF MARKS / GRADES FOR T.E.(2019 COURSE) EXAM., APR/MAY 2022
BRANCH CODE:32-T.E.(2019 PAT.)(MECHANICAL)

SEAT NO. T190590809 CENTRE MITLOH[59] PERM. REG. NO.: 72032045D
NAME CHINCH OLI BHAGESH SHARANAPPA MOTHER : MALLAMMA
COLLEGE / SCHOOL
[CEGP013870] - MARATHWADA INSTI.OF
TECHNOLOGY, LOHGAON

COURSE CODE	COURSE NAME	CO. TYPE	TOT. CRD	EARN. CRD	GRD	CRD. PTS
SEM : 1						
302041	NUMERICAL&STATISTICAL METH	TH	03	03	A	24
302042	HEAT & MASS TRANSFER	TH	03	03	O	30
302043	DESIGN OF MACHINE ELEMENTS	TH	03	03	O	30
302044	MECHATRONICS	TH	03	03	O	30
302045B	MACHINING SCIENCE & TEC	TH	03	03	O	30
302041	NUMERICAL&STATISTICAL METH	TUT	01	01	O	10
302046	DIGITAL MANUFACTURING LAB	PR	01	01	O	10
302047	SKILL DEVELOPMENT	PR	01	01	O	10
302042	HEAT & MASS TRANSFER	PR	01	01	O	10
302043	DESIGN OF MACHINE ELEMENTS	PR	01	01	O	10
302044	MECHATRONICS	PR	01	01	O	10
302048A	ENTP. AND IP STRATEGY	AC	00	00	AC	00
SEM : 2						
302049	ARTI. INTE. & MACH. LRNG.	TH	03	03	A+	27
302050	COMP. AIDED ENGG.	TH	03	03	A+	27
302051	DESIGN OF TRAN. SYS.	TH	03	03	A+	27
302052A	COMPOSITE MATERIALS	TH	03	03	O	30
302053	MEASUREMENT LAB.	PR	01	01	O	10
302054	FLUID POWER & CONTROL LAB.	PR	01	01	O	10
302055	INTERNSHIP/MINI PROJECT	PR	04	04	O	40
302050	COMP. AIDED ENGG.	PR	01	01	O	10
302049	ARTI. INTE. & MACH. LRNG.	PR	01	01	O	10
302051	DESIGN OF TRAN. SYS.	PR	01	01	O	10
302056B	MANAGEMENT INFO. SYS.	AC	00	00	AC	00

THIRD YEAR SGPA : 9.64 TOTAL CREDITS EARNED : 42

NOTE : PLEASE SEE THE BACKSIDE OF THIS STATEMENT FOR MORE DETAILS.

MEDIUM OF INSTRUCTION : ENGLISH

Director
Board of Examinations & Evaluation

R22092625041

DATE : 12 SEP 2022

No.: 22 - 0730370

SAVITRIBAI PHULE PUNE UNIVERSITY

(formerly University of Pune)

GANESHKHIND PUNE 411 007

STATEMENT OF MARKS / GRADES FOR T.E. (2019 COURSE) EXAM, APR/MAY 2022

BRANCH CODE: 32-T.E. (2019 PAT.)(MECHANICAL)

SEAT NO. T190590809 CENTRE MITLOH[59] PERM. REG. NO. : 72032045D

NAME CHINCHOLI BHAGESH SHARANAPPA MOTHER : MALLAMMA

COLLEGE / SCHOOL [CEGP013870] - MARATHWADA INSTI. OF TECHNOLOGY, LOHGAON

COURSE CODE	COURSE NAME		CO. TYPE	TOT. CRD	EARN. CRD	GRD	CRD. PTS
SEM. : 1							
302041	NUMERICAL&STATISTICAL METH.		TH	03	03	A	24
302042	HEAT & MASS TRANSFER		TH	03	03	O	30
302043	DESIGN OF MACHINE ELEMENTS		TH	03	03	O	30
302044	MECHATRONICS		TH	03	03	O	30
302045B	MACHINING SCIENCE & TEC.		TH	03	03	O	30
302041	NUMERICAL&STATISTICAL METH.		TUT	01	01	O	10
302046	DIGITAL MANUFACTURING LAB.		PR	01	01	O	10
302047	SKILL DEVELOPMENT		PR	01	01	O	10
302042	HEAT & MASS TRANSFER		PR	01	01	O	10
302043	DESIGN OF MACHINE ELEMENTS		PR	01	01	O	10
302044	MECHATRONICS		PR	01	01	O	10
302048A	ENTP. AND IP STRATEGY.		AC	00	00	AC	00
SEM. : 2							
302049	ARTI. INTE. & MACH. LRNG.	*	TH	03	03	A+	27
302050	COMP. AIDED ENGG.	*	TH	03	03	A+	27
302051	DESIGN OF TRAN. SYS.	*	TH	03	03	A+	27
302052A	COMPOSITE MATERIALS	*	TH	03	03	O	30
302053	MEASUREMENT LAB.	*	PR	01	01	O	10
302054	FLUID POWER & CONTROL LAB.	*	PR	01	01	O	10
302055	INTERNSHIP/MINI PROJECT	*	PR	04	04	O	40
302050	COMP. AIDED ENGG.	*	PR	01	01	O	10
302049	ARTI. INTE. & MACH. LRNG.	*	PR	01	01	O	10
302051	DESIGN OF TRAN. SYS.	*	PR	01	01	O	10
302056B	MANAGEMENT INFO. SYS.	*	AC	00	00	AC	00

THIRD YEAR SGPA : 9.64, TOTAL CREDITS EARNED : 42

NOTE : PLEASE SEE THE BACKSIDE OF THIS STATEMENT FOR MORE DETAILS.

Director

Board of Examinations & Evaluation

MEDIUM OF INSTRUCTION : ENGLISH

22120500015 DATE : 13 DEC 2022

Marathwada Mitra Mandal's
Institute Of Technology,
Lohgaon, Pune.

Chief Exam Officer MMIT <ceo@mmit.edu.in>

Regarding my F.E and S.E result marksheet(2019 pattern)(comp dept)

6 messages

Muaz Mursal <muaz.mursal@mmit.edu.in> Tue, Aug 23, 2022 at 1:23 PM
To: MMIT Admin <adminofficer@mmit.edu.in>, Chief Exam Officer MMIT <ceo@mmit.edu.in>

Respected sir,

muaz mursal (university transfer student), may i please know sir, if my F.E and S.E result marksheet (comp sci) (2019 pattern) is received by MMIT office from the SPPU exam section , as i have cleared all the examinations mentioned in the subject equivalence .

Thanking you
(muaz mursal)

Muaz Mursal <muaz.mursal@mmit.edu.in> Wed, Aug 24, 2022 at 11:02 AM
To: Chief Exam Officer MMIT <ceo@mmit.edu.in>

Respected sir

As mentioned in the above mail , which i sent you prior to this mail,
I had contacted the SPPU exam section regarding my F.E and S.E result marksheet (comp sci)(2019 pattern) , and they told me to send my personal academic details (PRN number , Admission details etc) through a letter via MMIT office to SPPU exam section in regards to receiving my F.E and S.E marksheet.
Hence , i would request you sir if you could send the letter at earliest , so that I can receive my marksheets at earliest .

Thanking you

(muaz mursal)

[Quoted text hidden]

Muaz Mursal <muaz.mursal@mmit.edu.in> Wed, Aug 24, 2022 at 1:45 PM
To: Principal MMIT <principal@mmit.edu.in>, Chief Exam Officer MMIT <ceo@mmit.edu.in>

[Quoted text hidden]

Principal MMIT <principal@mmit.edu.in> Mon, Aug 29, 2022 at 10:31 AM
To: Chief Exam Officer MMIT <ceo@mmit.edu.in>

[Quoted text hidden]
--
Regards

Dr. Rupesh V. Bhortake
Principal
Marathwada Mitramandal's Institute of Technology (MMIT)
Lohgaon, Pune - 411047
[Mobile No. 9049008003]

Chief Exam Officer MMIT <ceo@mmit.edu.in> Tue, Aug 30, 2022 at 12:36 PM

NO.: 21 - 0749603

SAVITRIBAI PHULE PUNE UNIVERSITY

(formerly University of Pune)

GANESHKHIND PUNE 411 007

STATEMENT OF MARKS / GRADES FOR F.E.(2019 CREDIT PAT.) EXAM., OCT/NOV 2021

BRANCH CODE: 05

SEAT NO. F190590144 **CENTRE** MITLOH **PERM REG. NO.:** 72205012H

NAME MURSAL MUAZ HUMAYUN **MOTHER :** REHANA

COLLEGE / SCHOOL MARATHWADA INSTI.OF TECHNOLOGY,LOHGAON

COURSE CODE	COURSE NAME	CO. TYPE	TOT. CRD	EARN. CRD	GRD	CRD. PTS
SEM. : 1						
101007	ENVIRONMENTAL STUDIES-I	AC	00	00	AC	00
101011	ENGINEERING MECHANICS	TH	03	03	EX	00
101011	ENGINEERING MECHANICS	PR	01	01	EX	00
SEM. : 2						
101014	ENVIRONMENTAL STUDIES-II	AC	00	00	AC	00
102003	SYSTEMS IN MECH. ENGG.	TH	03	03	EX	00
102003	SYSTEMS IN MECH. ENGG.	PR	01	01	EX	00
102012	ENGINEERING GRAPHICS	TH	01	01	EX	00
102012	ENGINEERING GRAPHICS	TW	01	01	EX	00
103004	BASIC ELECTRICAL ENGG.	TH	03	03	EX	00
103004	BASIC ELECTRICAL ENGG.	PR	01	01	EX	00
104010	BASIC ELECTRONICS ENGG.	TH	03	03	EX	00
104010	BASIC ELECTRONICS ENGG.	PR	01	01	EX	00
107001	ENGINEERING MATHEMATICS I	TH	03	03	EX	00
107001	ENGINEERING MATHEMATICS I	TW	01	01	EX	00
107002	ENGINEERING PHYSICS	TH	04	04	EX	00
107002	ENGINEERING PHYSICS	PR	01	01	EX	00
107008	ENGINEERING MATHEMATICS II	TH	04	04	EX	00
107008	ENGINEERING MATHEMATICS II	TW	01	01	EX	00
107009	ENGINEERING CHEMISTRY	TH	04	04	EX	00
107009	ENGINEERING CHEMISTRY	PR	01	01	EX	00
110005	PROG. & PROBLEM SOLVING	TH	03	03	EX	00
110005	PROG. & PROBLEM SOLVING	PR	01	01	EX	00
110013	PROJECT BASED LEARNING	TW+PR	02	02	EX	00
111006	WORKSHOP	PR	01	01	EX	00
107015	PHY.EDU.-EXER.& FIELD ACTI.	* AC	00	00	AC	00

FIRST YEAR SGPA : 0, TOTAL CREDITS EARNED : 0

NOTE : PLEASE SEE THE BACKSIDE OF THIS STATEMENT FOR MORE DETAILS.

MEDIUM OF INSTRUCTION : ENGLISH

Director

Board of Examinations & Evaluation

22053000030 **DATE :** 30 MAY 2022

EXAM SECTION GRIEVANCE FORM

If any student has any queries related exam, exam forms, marksheets, results then fill this form.

* Indicates required question

Email *

Your email

Full Name of Student as per Mark-sheet/Hall ticket *

Your answer

PRN *

Your answer

Mobile number *

Your answer

Branch *

- Mechanical
- Computer
- Civil
- Mechatronics
- AIDS

Year *

- FE
- SE
- TE
- BE

Pattern (Course: 2015/2019) *

- 2019
- 2015
- 2014

Exam Seat number

Your answer

Name of Subject (if any)

Your answer

Subject code (if any)

Your answer

Select your issue *

- [ ] Result not displyed in college ledger
- [ ] Marksheet not receied from SPPU
- [ ] Exam form issue-Selected wrong subjects
- [ ] Exam form issue - Selected wrong audit course
- [ ] Name correction on Marksheets
- [ ] Exam form
- [ ] Convocation
- [ ] Hall tickete correction - to remove subjects
- [ ] Hall tickete correction - to add subjects
- [ ] Photocopy & Revaluation
- [ ] CGPA to percentage conversion
- [ ] CGPA/SGPA not reflected on marksheet
- [ ] Other:

Write in details about your issue. (Exactly what help you needs from Examination department?)

Your answer

Send me a copy of my responses.

Submit Clear form

Never submit passwords through Google Forms.