



JAIHIND COMPREHENSIVE EDUCATIONAL INSTITUTE'S

JAIHIND COLLEGE OF ENGINEERING, KURAN

Affiliated to Savitribai Phule Pune University

DTE :- EN6609 SPPU- CEGPO15730



Hon'ble Late Shri. Jitayasaheb Gunjal
Founder-Principal

Index

Sr. No	Description
1	Transparency in Results of Internal Assessment
2	Assignment
3	Unit Test Question Paper, Model Answers, Attendance and Result
4	Theory Preliminary Examination Time Table, Question Paper, Attendance and Result.
5	Practical Assessment Sheet
6	Project Based Learning Assessment Sheet
7	Internal Term work Sheet





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DTE :- EN6609 SPPU:- CEGP015730



Hon'ble Late Shri. Talayashobh Ganjal
Founder-President

Internal Assessment

Transparency in Results of Internal Assessment



Gat No. 441 Kuran Tal. Junnar Dist. Pune 410511 - Maharashtra
An ISO 9001:2015 QMS ISO 14001:2004 EMS Certified Institute
(Approved by AICTE, New Delhi, Recognised by DTE Mumbai)

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🌐 www.jaihind.edu.in
✉ jcoekuran@gmail.com





Examination Grievances Redressal Policy

For any internal examination, conducted by college, (Class Test, Unit Test, Term Work etc) grievances, following mechanism is followed

- In case of any grievance, student is asked to submit a written application to the concerned departmental head with details about the grievance
- Grievance is conveyed to the concerned subject teacher by HOD
- HOD in consultation with faculty resolves the grievances and informs the student.

For university examination related grievances university has provided Web-mail facility, through which college can communicate to Exam-Support system or Exam coordination and the grievances can be rectified.

- As per university guidelines, college has appointed College Examination Officer (CEO) for smooth conduct of oral, practical and written examination scheduled and conducted by university
- In case of any grievance, student is asked to submit a written application to the College Examination Officer
- Hand-written signed application from students addressed to exam section of the university mentioning the grievance is taken (Filling of exam form /photocopy/ revaluation forms, Hall tickets, mark entry results, mark sheet etc).
- Within 2-3 working days, the student's application is communicated to university either telephonically or mail on web mail or in person submitted to the university along with necessary documents forwarded through the Principal.
- University takes suitable action on the student's application as per university procedure
- Depending upon the type of the grievances, university informs college and/or students directly.




Principal
JCE's Jain Hind College of Engineering
Kuran, Tal. Junnar, Dist. Pune - 410 511



Jaihind College of Engineering , Kuran

Date of Class Test: 15/03/2024

Total No. of Questions: [4] **[Total pages 1]**

Test-I (AY 2023-24) Sem. -VI T. E. AI&DS (2019)

[Time 1 Hour] Set-I **Date- 15/3/2024** **[Max. Marks: 30]**

Subject: Data Science **Code: 317529**

Note: 1. Answer Q. No. 1 or Q. No. 2,

2. Answer Q. No. 3 or Q. No. 4

3. Figures to the right indicate full marks.

4. Neat diagrams must be drawn wherever necessary.

5. Assume suitable data, if necessary

Q.No.	Questions	Marks	CO	BTL
1a.	Differentiate between Data Science, Machine Learning and AI.	05	CO1	BL-2
1b.	Explain Type of Missing Data with example.	05	CO1	BL-3
1c.	What is Data wrangling? Why do you need it?	05	CO1	BL-2
OR				
2 a.	List and Explain Sources of Big Data? Can facebook will be the source of Big Data?	05	CO1	BL-2
2 b.	What is Data Discretization? Explain forms of data discretization.	05	CO1	BL-2
2 c.	Differentiate between analysis and analytics ? Discuss the importance of big data analytics?	05	CO1	BL-2
OR				
3 a.	Define Type I and Type II Error. Give example to differentiate between the two types of error.	05	CO2	BL-2
3 b.	With an example explain Bayes theorem. Also explain its key terms.	05	CO2	BL-3
3 c.	With reference skewness of data, Explain the empirical relation between mean, mode and median	05	CO2	BL-2
OR				
4 a.	Explain in brief Hypothesis Testing	05	CO2	BL-2
4 b.	Describe the Chi-square Test of Independence.	05	CO2	BL-2
4 c.	For the given numbers find out variance and standard deviation. Also discuss that how variation and standard deviation are related to each other? 4, 34, 11, 12, 2, and 26	05	CO2	BL-3

$$\text{BTL} = 5*2+5*3+5*2+5*2+5*2+5*2+5*2+5*3+5*2+5*2+5*2+5*3/60$$

$$= 135/60$$

$$= 2.25$$



Department of Artificial Intelligence and Data Science Engineering

Block Attendance Report

UNIT TEST : - 1st
 BLOCK NO : -
 TERM : - I
 COURSE : - TE AI & DS - (DS)

ACADEMIC YEAR :- (2021-24)
 DATE : - 15-03-2024
 DIVISION : -
 COURSE CODE :- 3175.29

Roll No.	Name of student	Sign.	Roll No.	Name of student	Sign.
1	Amer Ashlesh	<i>Ashlesh</i>	22	Kutekar Puresh	<i>Puresh</i>
2	Balsara Sanjay	<i>Balsara</i>	23	Kasar Rushikesh M	<i>RKas</i>
3	Bangar Akshay	<i>Bangar</i>	24	Kashid Asmita	<i>Asmita</i>
4	Bhagade Mayur	<i>Mayur</i>	25	Khebade Sharyu	<i>Sharyu</i>
5	Bhujbal Pratibha	<i>Pratibha</i>	26	Mande Bhavesh	<i>Bhavesh</i>
6	Bodke Saisoj	<i>Saisoj</i>	27	Mate Prachi	<i>Prachi</i>
7	Boshadeshivoni	<i>Boshade</i>	28	Mome Dipti	<i>Dipti</i>
8	Boshade Siddhi	<i>Siddhi</i>	29	Mule Dipti	<i>Dipti</i>
9	Dhage Sushil	<i>Sushil</i>	30	Nalawade Ashish	<i>Ashish</i>
10	Dhangar Sumedh	<i>Sumedh</i>	31	Nalawade Prafulla	<i>Prafulla</i>
11	Dolke Gayatri	<i>Gayatri</i>	32	Pansam Shreyas	<i>Shreyas</i>
12	Dolke Sakshi	<i>Sakshi</i>	33	Patel Sohel	<i>Sohel</i>
13	Gund Sakshi	<i>Sakshi</i>	34	Pathan Jousif	<i>Jousif</i>
14	AB		35	Patil Prathamesh	<i>Prathamesh</i>
15	Gurjal Aniket	<i>Aniket</i>	36	Rokade Siddhesh	<i>Siddhesh</i>
16	Hande Avantika	<i>Avantika</i>	37	<i>Hande</i>	<i>Hande</i>
17	Hinge Akshay	<i>Akshay</i>	38	Shelke Sunika	<i>Sunika</i>
18	AB		39	Sudar Samiksha	<i>Samiksha</i>
19	Jadhav Shweta	<i>Shweta</i>	40	Thorat Mayuri	<i>Mayuri</i>
20	AB		41	Waige Omkar	<i>Omkar</i>
21	Joshi Kalyani	<i>Kalyani</i>	42	Warhal Akash	<i>Akash</i>





Department of Artificial Intelligence and Data Science Engineering

Block Attendance Report

UNIT TEST :- I St
 BLOCK NO :-
 TERM :- I
 COURSE :- TE (AI & DS)

ACADEMIC YEAR :- (2023-24)
 DATE :- 15-03-2024
 DIVISION :-
 COURSE CODE :- 317529

Roll No.	Name of student	Sign.	Roll No.	Name of student	Sign.
43	Jadhav Shreya		61	Jadhav Karshikanta	
44	Hande Sanskruti		62	AB	
45	Shinde Aishwarya		63		
46	Balsaraf Akshada		64		
47	Bhosle Akshada		65		
48	Bhosle Sakshi		66		
49	Bomble surbhi		67		
50	Dattaraj Manika		68		
51	Mekare Saurabh		69		
52	Jadhav Sakshi		70		
53	Kute Manjusha		71		
54	Vaishnavi Aniket		72		
55	Shirwadkar Manoj		73		
56	Patil Pratik		74		
57	Satwate Vidya L.		75		
58	AB		76		
59	Tambare Siddhi		77		
60	Vharombale Shreedhar				

Total no. of students allotted: 62

Total no of students absent: 05

Seat no of absent student: 14, 18, 20, 58, 62

Total no of students present: 57

Prof. Jadhav S.P.

Name & Sign of Block Supervisor





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Honble Late Shri. Suryashankar Chitambar
Founder-President

Department of Artificial Intelligence and Data Science Engineering

MARKSHEET

UNIT TEST - I (2023-24)

CLASS - T.E. (AI & DS)

SEMESTER - VI

TERM - III

COURSE :- Data Science (317529)

COURSE CODE:- 317529

Roll No.	Marks Obtained	Roll No.	Mark Obtained
1	(12) AB	22	(12) 10 ✓ R
2	14	23	12
3	(13) 10 ✓ R	24	16
4	17	25	16
5	17	26	18
6	21	27	19
7	17	28	12
8	15	29	16
9	12	30	15
10	18	31	23
11	15	32	15
12	12	33	12
13	(12) 04 ✓ R	34	12
14	(12) 12 AB ✓ R	35	12 28
15	12	36	08
16	12	37	13
17	14	38	19
18	AB	39	15
19	26	40	18
20	AB	41	22
21	27	42	13





Department of Artificial Intelligence and Data Science Engineering
MARKSHEET

UNIT TEST :- I / II (2023-24)

CLASS:- T.E.

SEMESTER :- II

TERM:- II

COURSE :- Data Science

COURSE CODE:- 317529

Roll No.	Marks Obtained	Roll No.	Mark Obtained
43	23	61	13
44	22	62	/
45	25	63	
46	20	64	
47	23	65	
48	21	66	
49	23	67	
50	19	68	
51	20	69	
52	15	70	
53	20	71	
54	21	72	
55	12) 10 ✓ R	73	
56	13	74	
57	06	75	
58	13) 13 ABVR	76	
59	24	77	
60	18		

Total No. of Students Present:- 57

Total Passed Students: 51

Total Failed Students: 06

% of Passing:- 89.47 %

Sign of Course Teacher

Said



Jaihind Comprehensive Educational Institute's

Name of Institute :- Jaihind college of Engineering, Kuran.
 Kuran Tal-Junnar Dist-Pune 410 511

Name:- Bodke Sairaj Nivrutti. Roll No.- 06.

Class:- T.E. AI and Div:- — Date:- 15/03/2024.

Subject :- ^{DS.} Data Science [DS] Invigilator Sign:- Afede

Q.No.	1	2	3	4	5	6	7	8	9	10	Total
Marks	—	12	09	—	—	—	—	—	—	—	21/30
Moderator											

Main Paper	<u>1</u>	+Supplements	<u>1</u>	= Total	<u>2</u>	Examiner's Sign
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Q.2]

b] →

Data Discretization

i] Data Discretization is the process of large amount of data converted into small amount of data. means in the data science various large amount of data can be present so basically deals with large amount of data can be toughest task so discretization method used.

ii] Basically discretization means the discrete the data. so discretization is the process of categorical data converted into different forms of data.

iii] Data Discretization is the method of data wrangling. By using Data Discretization we can easily data process.

iv] There are mainly two types of Data Discretization present like, supervised Data Discretization and unsupervised Data Discretization.

• Supervised Data Discretization

i] supervised data Discretization means categorical value converted into numerical value.

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Subject: _____

Roll no. - _____ Supplement no. - _____

Invigilator Sign- _____

ii] In this type we can deal with categorical value.

iii] for example. [Green, Red, Blue] = [0, 1, 2]

So we can see that in this example Green, Red, Blue are categorical value and 0, 1, 2 are some numerical value. By using some categorical value we can easily identify the numerical value.

• Unsupervised data discretization

i] Unsupervised data discretization is the inverse of the supervised data discretization process. means that numerical value can be converted into categorical value.

ii] for example - [0, 1, 2] = [Green, Red, Blue].

- Different forms of data discretization

1] Equal frequency bins

i] So basically frequency is an important aspect in the data. So Equal frequency should be present is an most data discretization form.

ii] for example - Input - [2, 3, 8, 9, 10, 11, 17, 18]
output - [2, 3, 8, 9] } 2 Bins.
 [10, 11, 17, 18] }

In this example we can convert Input into two equal parts. So this is a actual Equal frequency.

2] width bins

i] next form is width bins, In this form first we can calculate width. So basic calculation formula of

width is $w = \frac{\text{max} - \text{min}}{\text{no. of Bins}}$

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Subject:- _____

Roll no.- _____ Supplement no.- _____

Invigilator Sign- _____

ii] next we can calculate bins by using this formula
 $[min + w]$, $[min + 2w]$, ----- $[min + nw]$

iii] for example - Input - $[2, 4, 6, 8, 10, 12]$
output - width $[w] = \frac{[2 + 12]}{2}$
 $= \frac{14}{2}$
 $= 7$

i] $2[2 + 7] = [2 - 9]$ --- 1st bins
 $[2, 4, 6, 8]$

ii] $10[2 + 2[7] = [10 - 16]$ --- 2nd bin
 $[10, 12]$

c] → Analysis

i] Analysis means the we can analyzing the data.

Analysis means the data should be analyze means in the data set we can analyzing with 'case' which data should be null, continuous or many form.

ii] Analysis is a simple way of Analyzing a data.

iii] Analysis is simple way of studying the data.

iv] In the Analysis we can only predict the data set not perform any action on them.

Analytics

i] Analytics means the we can actual action perform on the data set. and also analytics some data means exactly row, column data should be analytically study.

ii] Analytics is a toughest challenge for the data set means Analytics complex than Analysis.

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Subject:- _____

Roll no.- _____ Supplement no.- _____

Invigilator Sign- _____

iii) By using Analytically we can actually predict the Data.

Importance of Big Data Analytics

i) Big Data means huge amount of data. So basically deals with huge amount data is hard so by using Big data analytics we can easily deals with this data.

ii) So in the Big Data analytics we can overall data analysis/study then actual operation perform. then, work with Big Data can easily.

iii) So we can used various techniques to deal with Big Data analytics like statistics, machine Learning and other some technique used. so in the deals with Big data analytics proper knowledge most require.

a) → Sources of Big Data

i) Basically Big Data means huge / large amount of Data. so various large amount Data should be present

ii) By using this Big Data we can live our life. means ~~our life~~ Big Data is common technique present in the future.

iii) Yes, Absolutely Facebook is a Source of Big Data whole data should be present on the Facebook. many people can used Facebook in daily life. so Facebook is a Big data source.

iv) Anyone should not deals with the Facebook data means some Intelligent Facebook team can easily Deals with this Big Data.

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Q.3)

a) →

Type I error

i) Type I error denoted by α .

ii) Type I error means that Null hypothesis [H_0] is correct But we can Reject the H_0 this is called Type I error.

iii) Simple example - Null hypothesis statement is Ram is not Innocent boy But we can choose Ram is Innocent boy. means we can write data consider wrong.

iv) So Type I error predict that the H_0 is true But we can rejected. [H_0] - True [H_1] - false.

Type II error

i) Type II error denoted by β .

ii) Type II error means that Null hypothesis [H_0] is wrong But we can Accept the ~~no~~ this, It is called Type II error.

iii) Simple example - ^{write} The statement is ~~Ram is Innocent~~ Ram is Innocent Boy But we can accept Ram is not Innocent Boy.

iv) means [H_1] - True But we can predict that the H_1 is false and H_0 is True.

Difference

i) Type I error and Type II error is also called as the producer and consumer key

ii) By using This two error we can not predict the data at same time. means first time we can predict the

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Type I error OR Type II error. at a time we can not predict the two error at a time.

iii) Type I error and Type II error Totally depend on the Null hypothesis and Alternate hypothesis.

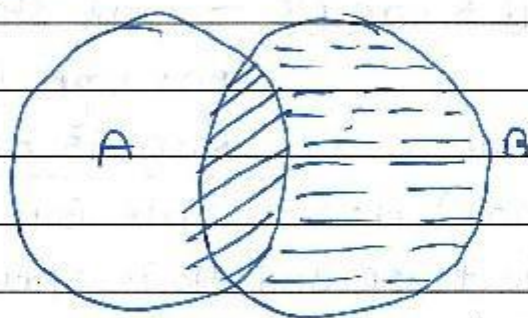
b) → Bayes Theorem

i) Bayes Theorem is Related to the conditional probability. In the conditional probability we can $P(B|A \cap B)$ and $P(A|B \cap A)$ can be determined. So we can also in the Bayes theorem we can also determined sample and population.

Statement of Bayes theorem

Let, $S_1, S_2, S_3, \dots, S_n$ are the some sample and $A \cap B, B \cap A, \dots, \dots$ are the population. So we can proof that the conditional probability for the Bayes theorem.

Proof Example



Let, Assume two events like A and B. So B is a shaded region. So we can see that in above figure $P(A \cap B)$ and $P(B \cap A)$. So we can predict that the $A \cap B \subset B \cap A$. So, Bayes theorem is related conditional probability. By using Bayes theorem we can easily deals with

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Subject- _____

Roll no.- _____ Supplement no.- _____

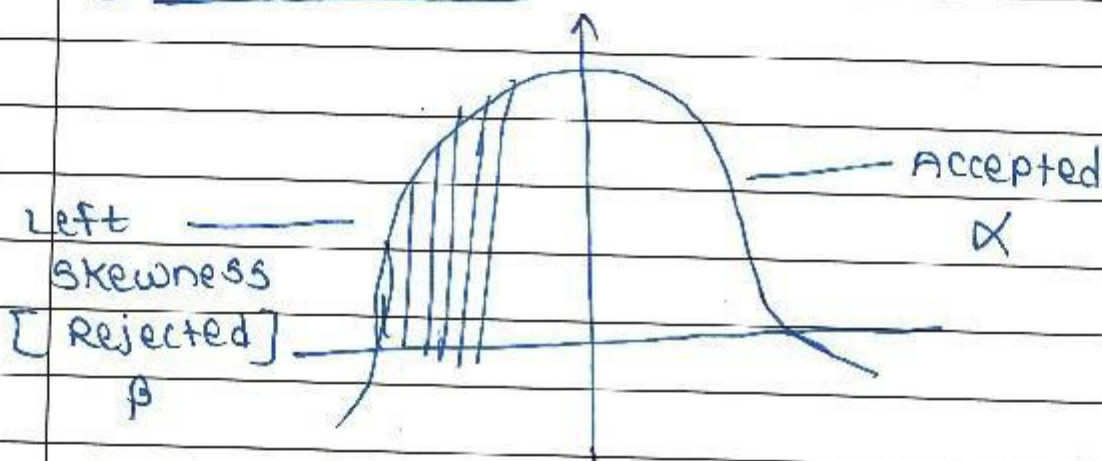
Invigilator Sign- _____

probability Based Data.

So by using Bayes theorem probability accurate determined in the data set. So Bayes theorem most important.

1] → Skewness of Data

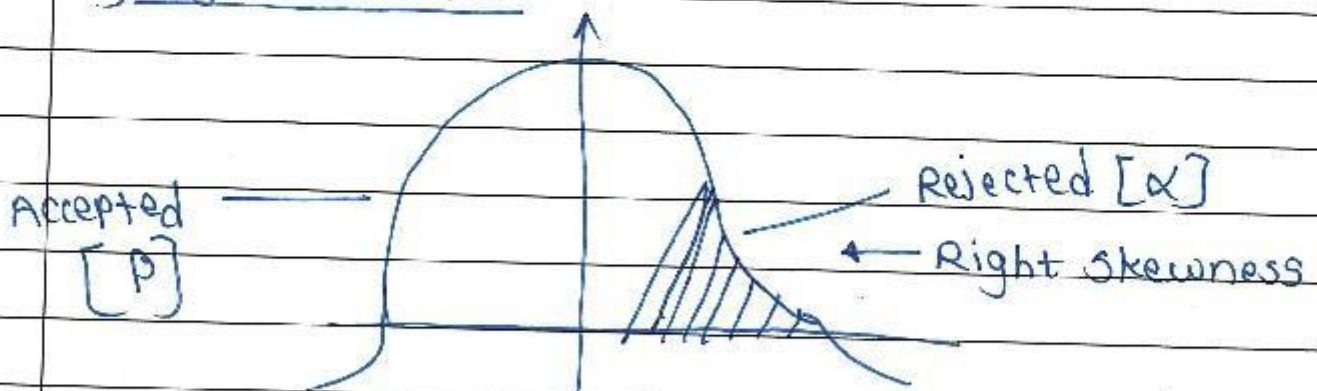
1] Left Skewness



In the left skewness Kurtosis left side we can Rejected and Right side we can Accepted. means that, $\frac{\mu_3^3}{\mu_2^2}$

3

2] Right Skewness



In the Right skewness we Right side part [α] Rejected and Left side part we can accepted.

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Subject:- _____

Roll no.- _____ Supplement no.- _____

Invigilator Sign- Apple

means that,

$$\frac{\mu_2^3}{\mu_3^2}$$

This skewness is also called as kurtosis.

1] mean

mean is denoted by \bar{x}



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Founder-President

Internal Assessment

Assignment



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✉ jcoekuran@gmail.com





Department of Computer Engineering

T.E. 2019 (Computer) Artificial Intelligence (310253)				
(Semester-VI)				
Assignment-I		Academic year 2023-24		Max. Marks : 20
Date of Assignment: 12/03/2024				
Instructions to the candidates:				
1) Neat diagrams must be drawn wherever necessary. 2) Figures to the right side indicate full marks. 3) Assume Suitable data if necessary 4) Use of calculator is allowed				
Unit No I				
Q.No.	Question/ Item	CO	BL	Marks
1.	Write a short note on Rational agent	1	1	3
2.	Distinguish between an agent and intelligent agent.	1	3	3
3.	Mention environment types for following agent a) English tutor b) Automated taxi driver c) Part picking robot d) chess	1	2	4
Unit No II				
4.	Discuss about time and space complexity of uninformed search techniques	2	2	3
5.	Write short notes on Evaluation of search strategy	2	1	3
6.	Write a brief about problem analysis and representation	2	4	4

Anat
 Head Of Department
 Computer Engineering
 Jaihind College of Engineering, Kuran
 Tal. Junnar, Dist. Pune-410511



Department of Computer Engineering

T.E 2019 (Computer) Artificial Intelligence (310253)				
(Semester-VI)				
Assignment-II		Academic year 2023-24		Max. Marks : 20
Date of Assignment:				
	Instructions to the candidates: 1) Neat diagrams must be drawn wherever necessary. 2) Figures to the right side indicate full marks. 3) Assume Suitable data if necessary 4) Use of calculator is allowed			
Unit No III				
Q.No.	Question/ Item	CO	BL	Marks
1.	Write Minimax Search Algorithm for two players. How use of alpha and beta cut-offs will improve performance?	3	2	3
2.	List All problem solving strategies. What is backtracking, explain with n queen problem.	3	2	3
3.	Define is Constraint satisfaction problem, State the types of consistencies Solve the following Crypt Arithmetic Problem. $\begin{array}{r} B A S E \\ - B A L L \\ \hline G A M E S \end{array}$	3	3	4
Unit No IV				
4.	Consider the following axioms: If a triangle is isosceles, then its two sides AB and AC are equal If AB and AC are equal, then angle B and C are equal ABC is an equilateral triangle, Represent these facts in predicate logic.	2	4	3
5.	Write the following sentences in FOL (any 3) (using types of quantifiers). i) Every number is either negative or has a square root . ii) Every connected and circuit-free graph is a tree . iii) Some people are either religious or pious iv) There is a barber who shaves all men in the town who do not shave themselves	2	4	3
6.	Differentiate between propositional logic and First order logic.	3	4	4

Abate

**Head Of Department
Computer Engineering**

**Jaihind College of Engineering, Kuran
Tal. Junnar, Dist. Pune-410311**



Department of Computer Engineering

T.E 2019 (Computer) Artificial Intelligence (310253)				
(Semester-VI)				
Assignment-III		Academic year 2023-24		Max. Marks : 20
Date of Assignment:				
Instructions to the candidates:				
<ol style="list-style-type: none"> 1) Neat diagrams must be drawn wherever necessary. 2) Figures to the right side indicate full marks. 3) Assume Suitable data if necessary 4) Use of calculator is allowed 				
Unit No V				
Q.No.	Question/ Item	CO	BL	Marks
1.	Write and explain the steps of the knowledge engineering process.	5	2	3
2.	List All problem solving strategies. What is backtracking, explain with n queen problem.	5	2	3
3.	What is Ontological Engineering, in details with its categories object and Model.	5	3	4
Unit No VI				
4.	Explain with an example Goal Stack Planning (STRIPS algorithm).	6	4	3
5.	Explain with example, how planning is different from problem solving.	6	4	3
6.	Explain AI components and AI architecture.	6	4	4

Ananta

Head Of Department
 Computer Engineering
 Jaihind College of Engineering, Kuran
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Founder-President

Internal Assessment

Unit Test Question paper, Model Answers,
Attendance and Result



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● www.jaihind.edu.in
● jcoekuran@gmail.com



Jaihind College Of Engineering ,Kuran

Date of Class Test: 01/04/24

Total No. of Questions: [4]

[Total pages 1]

Test-I (AY 2023-24) Sem-I B. E. Civil (2019)

[Time 1 Hour] Set-I

[Max. Marks: 30]

Subject: Hydropower Engineering

Code: (401013-E)

Note: 1. Answer Q. No. 1 or Q. No. 2,

2. Answer Q. No. 3 or Q. No. 4

3. Figures to the right indicate full marks.

4. Neat diagrams must be drawn wherever necessary.

5. Assume suitable data, if necessary

Q No	Description of Question	Marks	CO	BTL
1a.	Define Hydropower Engineering & explain various sources of energy	5	CO ₁	2
1b.	Explain the classification of hydroelectric power plants	5	CO ₁	3
1c.	Draw a schematic layout of hydroelectric power plants & explain functions of its components.	5	CO ₁	1
OR				
2 a.	What are the effects of climate change & green house effects on hydropower generation?	5	CO ₁	2
2 b.	Explain preventive maintenance of hydroelectric power plants	5	CO ₁	3
2c.	Difference between mini & micro hydel power plants	5	CO ₁	1
3 a.	Write a significance of load factor and diversity factor.	5	CO ₂	3
3 b.	Define following terms: 1) Load curve 2) Connected load 3) Maximum demand 4) Plant use factor 5) Demand factor	5	CO ₂	2
3c.	A load on hydel plants varies from minimum of 50000kw . two turbo generation of capacities 30000kw each have been installed. Calculate total	5	CO ₂	2

	1) Installed capacity of plant 2) Plants factor 3) load factor 4) maximum demand 5) load factor			
--	---	--	--	--

OR

4 a.	Enlist different methods to meet the demand of variable loads on power plants.	5	CO2	3
4 b.	Write short note on tariff for electrical energy and types of tariffs.	5	CO2	2
4c.	When a runoff river plants operates as a peak load station with a weekly load factor 25% all its capacity is firm capacity. What must be the minimum flow in their so that the station may serve as the base load station ? it is given that installed capacity of the generator is 10000kw operating head is 20m plant efficiency is 80% estimate the daily load factor of the plant if the stream flow is 20 cumec.	5	CO2	1

Q:1)

→

It is a branch of civil Engineering focused on the development, design, construction, & maintenance of facilities that generate electricity from the energy of flowing or falling waters.

→ Classification of energy sources

- 1) Primary & secondary energy sources
- 2) Commercial & Non-Commercial
- 3) Renewable & non-Renewable.

A) Primary & Secondary Energy sources :-

- primary energy sources are those which are found or stored in nature.

- Examples, - coal, oil, natural gas

primary - nuclear energy, geothermal energy, potential energy

secondary :- electricity, steam, oil, natural gas.

Q:1)

B)

classification of Hydro-Electric power plants

1) plants Based on availability of head

a) Low head plants

b) medium

c) high

2) plant Based on type of loads

i) Base load plants

ii) peak load plants

3. plants Based on quantity of water available
- i) Run-off river plants without pondage
 - ii) Runoff river plants with pondage
 - iii) Storage type or valley dam plants
 - iv) pumped storage peak load plants

Q.2

a)

→

1) It is caused by release of certain gases like carbon-dioxide (CO_2), methane (CH_4) & other harmful gases like carbon-dioxide (CO_2). Released by plants, automobiles, Industries etc.

- These gases are referred as Green house gases (GHGs).

Green house effect:

a) In green house effect, the solar heat of short wave length enters through the glass house but doesnot get radiated back through the glass house & converts into heat having long wave radiations.

b) These long wave radiations is reflected by the glass & the heat is trapped inside the glass house to keep the plants green.

— This tends to Increase the temperature on earth's surface. It is likely to Increase $2^\circ C$ by 2030.

Q.2]

b) Preventive maintenance for hydro-electric power plants :-

1. Monthly maintenance
2. Quarterly maintenance
3. Half Yearly maintenance
4. Yearly maintenance

Monthly → check for leakage, servometre, connections, turbine shaft, lubrication oil pump & carryout necessary repairs.

Quarterly → check the governer hydraulic oil system servometer, generators & various connections

Half yearly maintenance → check & carryout the maintenance of governer mechanism working of various Instrumentations, greasing the pumps & connecting pipeline bearing etc.

Yearly maintenance :- check the runner blades for cracks & cavitational effects, check the cracks in draft tube & repair.

Q.2]

c) Thermal power plants Hydro-electric power plants

i) Located near load centre having cheap & large land, water supply, transportation facilities etc

ii) Located where large land; huge quantity of water at sufficient head is available. Land should have high bearing capacity.

iii) Low compared to hydro power plants.

iv) High due to building of dam & transportation cost of plant & machinery.

v) High compared to hydro power plants if located away from coal mines.

vi) Nil or no fuel is required.

vii) very high compared to hydro power plants but low compared to diesel & gas power plants.

viii) Low compared to steam power plants.

Q.3]

a)



significance of load factor & diversity factor.

The load factor has been defined as the ratio of average to maximum load on the plant.

In case the average load increases with the increase in maximum load, the load factor will increase, thus, the total number of units of energy generated (kwh) at higher load factor would increase. Hence the annual fixed charges per unit of energy generated would reduce with the increase in load factor.

The effect on cost of unit energy generated with change in load factor.

Q.3]

b)

Define
Load curve
Connected load
Maximum demand
plant use factor
Demand factor.

1) a curve showing the load demand of a consumer with respect to time is called load curve.

2) It represents the sum of the ratings of all

all the equipments in kW installed in the premises of a consumer & connected to power supply.

Maximum load demand represent the max. load a consumer uses at any time. The maximum demand will be equal to be connected load of a consumer if all the equipment & appliances are run to their fullest extent simultaneously.

It is defined as the ratio of energy produced in a given time to maximum possible energy that could have been produced during the actual number of hours the ~~was~~ in operation.

It is defined as the ratio of maximum demand on the system to the total connected load.

Q.3)

c) Total capacity of 2 generators

$$i) E = 2 \times 30000 = 60000 \text{ kW}$$

ii) plant factor

$$E = \text{area } (ABC) + \text{area } (OABD)$$

$$= \frac{1}{2} \times AC \times AB + OA \times OD$$

$$= \frac{1}{2} A \times AB + OA \times OD$$

$$= \frac{1}{2} \times (50000 - 10000) \times 8760 + 10000 \times 8760$$

$$= 262.8 \times 10^6 \text{ kWh}$$

$$\text{Average Load} = \frac{E}{8760} = \frac{262.8 \times 10^6}{8760}$$

$$= 30000 \text{ kW}$$

plant factor = $\frac{\text{Energy generated (E)}}{\text{maximum energy that can be generated / year (C \times 8760)}}$

$$= \frac{262.8 \times 10^6}{60000 \times 8760} = 0.5$$

Maximum Demand (P) = 50000 kW

Load Factor = 0.6

Utilization factor = 0.833

Q.54]

a)

$$\text{weekly load factor} = 25\% = 0.25$$

$$H = 20\text{m} \quad \eta_o = 0.8$$

$$\text{maximum demand} = 10,000\text{kW}$$

$$\text{Load factor} = \frac{\text{Avg Load}}{\text{max demand}}$$

$$0.25 = \frac{\text{Avg Load}}{10000\text{kW}}$$

$$P = 2500\text{kW}$$

$$E = \text{Avg Load} \times (24\text{ hrs/day} \times 7\text{ days})$$

$$= 2500 \times 24 \times 7 = 4032000\text{kWh}$$

b) min flow rate of water, a. Per plant to work as base load plant

$$P = \rho \cdot g \cdot Q \cdot H \cdot \eta_o \times 10^{-3} \text{ (kW)}$$

$$2500 = 1000 \times 9.81 \times Q \times 20 \times 0.8 \times 10^{-3}$$

$$Q = 15.92\text{ m}^3/\text{s}$$

c). Daily load factor of plant if $a = 20\text{ cumec} = 20\text{ m}^3/\text{s}$

$$P_1 = \rho \cdot g \cdot Q \cdot H \cdot \eta_o \times 10^{-3}$$

$$= 1000 \times 9.81 \times 20 \times 20 \times 0.8 \times 10^{-3}$$

$$= 3139.2\text{ kW}$$



Ref:- JCEI/JCOE/2023-24/

Date- 11/21/24

Department Of Civil Engineering
 Academic Year 2023-24 Sem-~~II~~ I
 Class Test- I /-I
 Attendance

Class- ~~SE, TE, BE~~

Subject:- Hydropower Engineering

Roll No.	Name of Student	Sign	Roll No.	Name of Student	Sign
1		AB	31	Sondawane Vrushali	AB
2	Abhishek Aglave	AB	32	Thakre Anikya D	AB
3		AB	33	Yadave Manohar B.	AB
4	Bhadwat Omkar Suresh	AB	34	Wable Yash Karitas	Yash
5	Bhargare Divya	AB	35		AB
6	Bhosale Sushant	S.D.P.	36	Ghadge Mohesh T	AB
7	Dandekar Nilkanth	AB	37	Dongare Vivek G.	AB
8	Mobale Akam	AB	38		AB
9	Shrawanika Devi Kal	AB	39	Kadam Gaurav M.	Gaurav
10		AB	40		AB
11	Jadhav Akash V.	AB	41		AB
12	Lohar Aditya S.	Aditya	42		
13		P	43		
14		AB	44		
15		AB	45		
16	Navale Nikunj V.	Navale	46		
17	Pansare Gaurav	Gaurav	47		
18	Pandeyan Yan	Yan	48		
19	Patel Shubhani B.	AB	49		
20	Pawar Tanmay S.	AB	50		
21	Pokharkar Pratik S.	Pratik	51		
22	Jajim Atharva J.	AB	52		
23	Sayyed Alasha	AB	53		
24	Sayyed M. Yasir M	AB	54		
25		AB	55		
26	Shelke Sharang J.	AB	56		
27	Shinde Karshal	AB	57		
28	Shinde Kunal S.	AB	58		
29	Sonawane Aditya	AB	59		
30	Sonawane Jayadev S.	AB	60		

Total No of Students Appearing :- 41
 Total No of Students Present :- 31

Total No of Students Allotted :- 41
 Total No of Students Absent :- 9

Sign of Exam Co-ordinator

Sign of Block Supervisor





Ref:- JCEI/JCOE/2023-24/

Date-06/04/24

Department Of Civil Engineering
 Academic Year 2023-24 Sem-~~A~~/II
 Class Test- I / ~~H~~
 MARKSHEET

Class- ~~SE~~, ~~TE~~, BE

Subject:- Hydropower Engineering.

Roll No.	Marks Obtained	Roll No.	Marks Obtained	Roll No.	Marks Obtained
1	AB	18	9	35	15
2	15	19	25	36	17
3	16	20	12	37	15
4	18	21	13	38	AB
5	22	22	17	39	12
6	19	23	18	40	AB
7	19	24	16	41	AB
8	15	25	AB	42	
9	20	26	12	43	
10	AB	27	9	44	
11	17	28	19	45	
12	23	29	9	46	
13	22	30	AB	47	
14	23	31	29	48	
15	12	32	15	49	
16	AB	33	19	50	
17	12	34	29	51	

Total No of Students Appearing :- 32
 Total No of Student's Fail :- 3

Total No of Students Pass :- 29
 Percentage of Result :-

Sign of Exam Co-ordinator

Sign of Subject Teacher



JAIHIND COMPREHENSIVE EDUCATIONAL INSTITUTE'S

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Affiliated to Savitribai Phule Pune University

DTE :- EN6609 SPPU:- CEGP015730



Hon'ble Late Shri Tatyasaheb Gunjal
Founder President

Internal Assessment

Theory Preliminary Examination Time Table,
Question Paper, Attendance and Result



Gat No. 441 Kuran Tal-Junnar Dist-Pune 410511 - Maharashtra
An ISO 9001:2015 QMS ISO 14001:2004 EMS Certified Institute
(Approved by AICTE, New Delhi, Recognized by DTE Mumbai)

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✉ jcoekuran@gmail.com





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Hon'ble Late Shri. Tejasaheb Gunjal
 Founder-President

A.Y. 2023-24 (SEM-II)
DEPARTMENT OF FIRST YEAR ENGINEERING
STUDENT NOTICE

Date: 25/04/2024

All First Year Engineering students are hereby informed that **Prelim Exam of 70 marks** will be conducted from **04/05/2024 to 09/05/2024**. Detailed time table is as given below and also displayed on notice board.

Note That: The marks of Prelim exam will be considered for term work (Continuous assessment)

TIME TABLE
PRELIM EXAM

Sr No	Subject	Date	Time
1	Engineering Mathematics II	04/05/2024	09.30 AM-12.00PM
2	Programming & Problem solving / Engineering Mechanics	06/05/2024	09.30 AM-12.00PM
3	Basic Electrical Engineering /Basic Electronics Engg.	07/05/2024	09.30 AM-12.00PM
4	Engineering Physics/ Engineering Chemistry	08/05/2024	09.30 AM-12.00PM
5	Engineering Graphics	09/05/2024	09.30 AM-12.00PM (DIV A & B)
			01.30PM-04.00PM (DIV C & D)

[Signature]
 Dept. Exam Coordinator
 (Prof.P.R.Satpute)

[Signature]
 FIE Co-ordinator
 JCEI's Jaihind College
 Kuran, Tal. Junnar, Dist. Pune - 410511

[Signature]
 Academic Dean
 JCEI's Jaihind College
 Kuran, Tal. Junnar, Dist. Pune - 410511

[Signature]
 Principal
 JCEI's Jaihind College Of Engineering
 Kuran, Tal. Junnar, Dist. Pune - 410511

Div-A - Prof. P.R. Satpute *[Signature]*

Div-C - Prof. Nageshwar *[Signature]*

Div-B - Prof. Dake P.P. *[Signature]*

Div-D - Bhagwan A.V. *[Signature]*
 25/4/24



A.Y. 2023-24 (SEM-II)

DEPARTMENT OF FIRST YEAR ENGINEERING

STAFF NOTICE

date: 25/06/2024

All the First Year Engineering staffs are hereby informed to Submit Question Paper of Prelim Exam which is to be held during 04/05/2024 to 09/05/2024. All should submit Question Paper of 70 Marks (According to the pattern of CO-PO Mapping) to F.E. Exam Coordinator on or before 02 /05/2024.

TIME TABLE

Prelim Exam

Sr No	Subject	Date	Time
1	Engineering Mathematics II	04/05/2024	09.30AM-12.00AM
2	Programming & Problem solving / Engineering Mechanics	06/05/2024	09.30AM-12.00AM
3	Basic Electrical Engineering /Basic Electronics Engg.	07/05/2024	09.30AM-12.00AM
4	Engineering Physics/ Engineering Chemistry	08/05/2024	09.30AM-12.00AM
5	Engineering Graphics	09/05/2024	09.30AM-12.00AM

A. Satpute
 25/06/24
 Dept. Exam Coordinator
 (Prof. P.R. Satpute)

W. S. ...
 F.E. Coordinator
 JCEI's Jaihind College C
 Kuran, Tal. Junnar, Dist. Pune-410511

Dr. D. ...
 25/06/2024
 Academic Dean

Principal
 25/06/24
 Principal

JCEI's Jaihind College Of Engineering
 Kuran, Tal. Junnar, Dist. Pune - 410511

Sr No.	Staff Name	Sign	Sr No.	Staff Name	Sign
1	Prof. V.J. Ghole	<i>W. S. ...</i>	9	Prof. P.P. Doke	<i>P. Doke</i>
2	Prof. S.M. Nagargoje	<i>S. M. ...</i>	10	Prof. P.J. Game	<i>P. J. Game</i>
3	Prof. S.D. Dhobale	<i>S. D. ...</i>	11	Prof. A.V. Bhagwat	<i>A. V. Bhagwat</i>
4	Prof. Y.L. Mandlik	<i>Y. L. ...</i>	12	Prof. K.V. Hande	<i>K. V. Hande</i>
5	Prof. A.G. Hejib	<i>A. G. Hejib</i>	13	Prof. S.J. Dighe	<i>S. J. Dighe</i>
6	Prof. P.R. Satpute	<i>P. R. Satpute</i>	14	Prof. M.M. Konde	<i>M. M. Konde</i>
7	Prof. A.D. Kute	<i>A. D. Kute</i>	15	Prof. R.B. Kamble	<i>R. B. Kamble</i>
8	Prof. A. A. Bhingardive	<i>A. A. Bhingardive</i>	16		



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Hon'ble Late Shri Jijyasaheb Gunde
Founder-Principal

A.Y. 2023-24 (SEM-II)

STAFF NOTICE

Date: 25/04/2024

All the staff members of First Year engineering Department are hereby informed that they are allotted exam work for **Prelim Exam** as mentioned below. All are requested to perform respective duties smoothly. If anyone is having problem on the allotted days needs to make proper alternate adjustment.

Supervision Duties

SN	NAME OF STAFF	04/5/2024	06/5/2024	07/5/2024	08/8/2024	09/5/2024	SIGN
	Time	09.30AM-12.00PM	09.30AM-12.00PM	09.30AM-12.00PM	09.30AM-12.00PM	09.30AM-12.00PM	
1	Prof. V.J. Gholap	√				Reliever	
2	Prof. S.M. Nagargoje	√	Reliever	√	√	√	
3	Prof. S.D. Dhobale	√	√	Reliever	√	√	
4	Prof. Y.L. Mandlik	√	√	√	Reliever	√	
5	Prof. A.G. Hejib	√				Reliever	
6	Prof. A.D. Kute	Reliever	√	√	√	√	
7	Prof. K.V. Hande	Reliever	√	√	√	√	
8	Prof. P.P. Dake	√	Reliever	√	√	√	
9	Prof. P.J. Game	Reliever	√	√	√	√	
10	Prof. AV. Bhagwat	√	√	√	Reliever	√	
11	Prof. A. Bhingardive	√	√	Reliever	√		
12	Prof. S.J. Dighe				√		
13	Prof. M.M. Konde		√				
14	Prof. R.B. Kambale			√			
		EM-II	PPS/ EM	BEE/BXE	PHY/ CHEM	EG	

Dept. Exam Coordinator
(Prof. P.R. Satpute)

F.E. Co. Ordinator
JCEI's Jaihind College C
Kuran, Tal. Junnar, Dist. Pune - 410511

25/04/2024
Academic Dean
JCEI's Jaihind College of Engineering
Kuran, Tal. Junnar, Dist. Pune - 410511

25/04
Principal
JCEI's Jaihind College of Engineering
Kuran, Tal. Junnar, Dist. Pune - 410511



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Hon'ble Late Shri. Talayashah Gunturkar
Founder-President

A.Y. 2023-24 (SEM-II)

Date: 25/09/2024

DEPARTMENT OF FIRST YEAR ENGINEERING

STAFF NOTICE

All the First Year Engineering teaching faculties are hereby informed to assess the **Prelim Exam** answer sheets properly according to the marking scheme and submit the mark sheet to FE Exam Coordinator on or before **15th May 2024**. All should also enter the marks in the excel sheet on the department PC and Monthly attendance sheet on or before **15th May 2024**.


Dept. Exam Coordinator

(Prof. P.R. Satpute)


F.E. Coordinator

JCEI's Jaihind College (

Kuran, Tal. Junnar, Dist. Pune - 410511


Academic Dean

JCEI's Jaihind College of Engineering

Kuran, Tal. Junnar, Dist. Pune - 410511


Principal

JCEI's Jaihind College Of Engineering

Kuran, Tal. Junnar, Dist. Pune - 410511

Jaihind Comprehensive Educational Institute's

Name of Institute :- TCOE

Kuran Tal-Junnar Dist-Pune 410 511

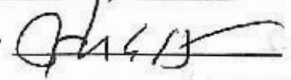
Name:- Ghadge Ashwini Arun

Roll No.- B22

Class:- FE Div:- B

Date:- 4/5/24

Subject :- EM2

Invigilator Sign:- 

Q.No.	1	2	3	4	5	6	7	8	9	10	Total
Marks	9	15			15		15	15			69
Moderator											70

Main Paper	1	+Supplements	5	= Total	6
------------	---	--------------	---	---------	---

Examiner's Sign

Q. 1

a ii) $\frac{5\pi}{32}$

b iii) symmetric about x-axis and passing through origin.

c iii) $\frac{\pi^2}{4}$

d i) $C \equiv (0, 1, 2) ; r = 4$

e iv) 8

f i) volume

Q.2

a

$$I_n = \int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \cot^n \theta \, d\theta$$

$$= \int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \cot^{n-2} \theta \cdot \cot^2 \theta \, d\theta$$

$$= \int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \cot^{n-2} \theta (\operatorname{cosec}^2 \theta - 1) \, d\theta \quad \begin{matrix} 1 + \cot^2 \theta = \operatorname{cosec}^2 \theta \\ \cot^2 \theta = \operatorname{cosec}^2 \theta - 1 \end{matrix}$$

$$= \int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \cot^{n-2} \theta \cdot \operatorname{cosec}^2 \theta \, d\theta - \int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \cot^{n-2} \theta \, d\theta$$

$$= \int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \cot^{n-2} \theta \cdot \operatorname{cosec}^2 \theta \, d\theta - \int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \cot^{n-2} \theta \, d\theta$$

$$= \int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \cot^{n-2} \theta \cdot \operatorname{cosec}^2 \theta \, d\theta - I_{n-2}$$

Put $\cot \theta = t$
 $-\operatorname{cosec}^2 \theta \, d\theta = dt$

$\operatorname{cosec}^2 \theta \, d\theta = -dt$

when $\theta = \frac{\pi}{4}$, $t = 1$

when $\theta = \frac{\pi}{2}$, $t = 0$

$$= \int_1^0 t^{n-2} \cdot (-dt) - I_{n-2}$$

$$= - \int_1^0 t^{n-2} \, dt - I_{n-2}$$

5

$$I_n = \int_0^1 t^{n-2} \, dt - I_{n-2}$$

$$= \left[\frac{t^{n-2+1}}{n-2+1} \right]_0^1 - I_{n-2}$$

$$= \left[\frac{t^{n-1}}{n-1} \right]_0^1 - I_{n-2}$$

$$I_n = \frac{1}{n-1} - I_{n-2}$$

Hence proved.

b

$$\int_0^1 x^{m-1} (1-x^2)^{n-1} \, dx$$

$$I_m = \int_0^1 x^{m-1} (1-x^2)^{n-1} \, dx$$

Put $x^2 = t$

$x = \sqrt{t}$

$dx = \frac{1}{2} t^{-1/2} \, dt$

when $x = 0$, $t = 0$

$x = 1$, $t = 1$

$$\int_0^1 (t^{1/2})^{m-1} (1-t)^{n-1} \cdot \frac{1}{2} t^{-1/2} \, dt$$

Subject: _____

Roll no. - _____ Supplement no. - _____

Invigilator Sign- _____

$$I = \frac{1}{2} \int_0^1 t^{\frac{m-1}{2}} \cdot t^{-1/2} (1-t)^{n-1} dt$$

$$I = \frac{1}{2} \int_0^1 t^{\frac{m-1-1}{2}} (1-t)^{n-1} dt$$

$$I = \frac{1}{2} \int_0^1 t^{\frac{m-2}{2}} (1-t)^{n-1} dt$$

$$I = \frac{1}{2} \int_0^1 t^{\frac{m}{2}-1} (1-t)^{n-1} dt$$

$$I = \frac{1}{2} \beta(m+1, n+1)$$

$$I = \frac{1}{2} \beta\left(\frac{m}{2}+1, n+1\right)$$

$$I = \frac{1}{2} \beta\left(\frac{m}{2}, n\right)$$

Hence proved.

C

$$I = \int_0^1 \frac{x^a - 1}{\log x} dx$$

upper & lower limit are const.

a is parameter

By DVIS Rwe ①

$$I(a) = \int_0^1 \frac{x^a - 1}{\log x} dx \quad \text{--- ①}$$

diff w.r.t. a keeping x const

JCEI's _____

Subject: _____

Roll no. - _____ Supplement no. - _____

Invigilator Sign- _____

$$\frac{d}{dx} I(a) = \frac{d}{dx} \int_0^1 \frac{x^a - 1}{\log x} dx$$

$$= \int_0^1 \frac{\partial}{\partial x} \frac{x^a - 1}{\log x} dx$$

$$= \int_0^1 \frac{x^a \log x}{\log x} dx$$

$$= \int_0^1 x^a dx$$

$$= \left[\frac{x^{a+1}}{a+1} \right]_0^1$$

$$\frac{d}{dx} I(a) = \frac{1}{a+1}$$

integrate w.r.t. a

$$\int \frac{d}{dx} I(a) = \int \frac{1}{a+1}$$

$$I(a) = \log(a+1) + c \quad \text{--- ②}$$

To find c

Put a = 0 in ②

$$I(0) = \log(0+1) + c$$

$$I(0) = c$$

Put a = 0 in eqn ①

$$I(0) = \int_0^1 \frac{x^0 - 1}{\log x} dx = 0$$

$$\boxed{c = 0}$$

Put in ②

$$I(a) = \log(1+a)$$

$$\therefore \int_0^1 \frac{x^a - 1}{\log x} dx = \log(1+a), a > 0$$

Hence proved.

Q. 5
a

$$y^2(2a-x) = x^3$$

① symmetry - power of y is even
 symmetric about x axis.

② pt of intersectⁿ -

i) with x axis - Put $y=0$
 $0 = x^3$
 $\boxed{x=0}$

$$(x, y) \equiv (0, 0)$$

ii) with y axis - Put $x=0$
 $2ay^2 = 0$
 $\boxed{y=0}$

$$(x, y) \equiv (0, 0)$$

i) at origin - Put $x=0, y=0$
 $0 = 0$
 curve passes thrⁿ origin

③ Eqⁿ of tangent -

i) at origin

$$2ay^2 - xy^2 - x^3 = 0$$

Lowest degree term

$$2ay^2 = 0$$

$$y = 0$$

tangent at x axis

④ Eqⁿ of Asymptote -

i) || to x -axis - By equating
 coeff. of highest power of x equal to zero
 $-1 = 0$

No asymptote

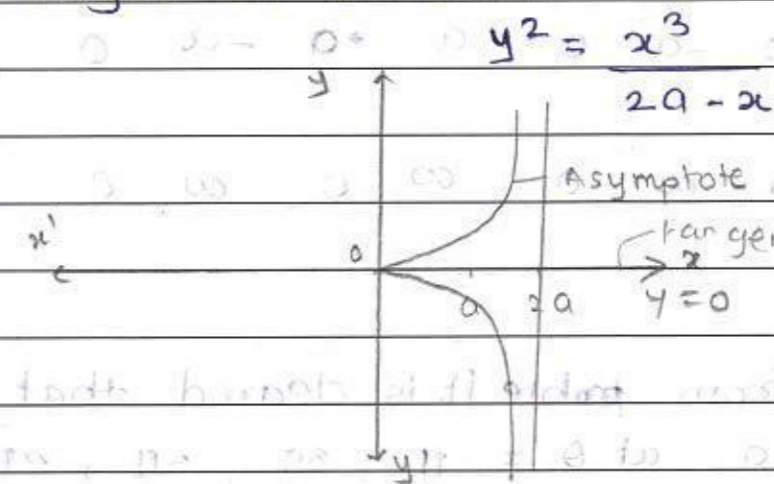
ii) || to y axis - By equating coeff.
 of highest power of y equal to zero.

$$2a - x = 0$$

$$2a = x$$

asymptote || to y axis.

⑤ Region of absence



$$\text{at } x=0, y=0$$

$$\text{at } x=a, y=a$$

$$x=-a, y=i$$

$$x=2a, y=\infty$$

b $r = a \cos 2\theta$

i) Symmetry - Put $\theta = -\theta$
 $r = a \cos 2(-\theta)$
 $r = a \cos 2\theta$
 \therefore symmetric about initial line

ii) $\tan \phi = \frac{r}{dr/d\theta}$

$r = a \cos 2\theta$
 $\frac{dr}{d\theta} = -2a \sin 2\theta$

$\tan \phi = \frac{a \cos 2\theta}{-2a \sin 2\theta} = -\frac{1}{2} \cot 2\theta$

iii) Table

θ	0	$\pi/4$	$2\pi/4$	$3\pi/4$	$4\pi/4$	$5\pi/4$	$6\pi/4$	$7\pi/4$	$8\pi/4$
$r = a \cos 2\theta$	a	0	-a	0	a	-a	0	a	
$\tan \phi = -\frac{1}{2} \cot 2\theta$	∞	0	∞	0	∞	0	∞	0	∞

iv) Pole - from table it is cleared that
 $r = 0$ at $\theta = \pi/4, 3\pi/4, 5\pi/4, 7\pi/4$

\therefore curve passes thr pole.

v) Eqⁿ of tangent

$\tan \phi = 0$ for $\theta = \pi/4, 3\pi/4, 5\pi/4, 7\pi/4$

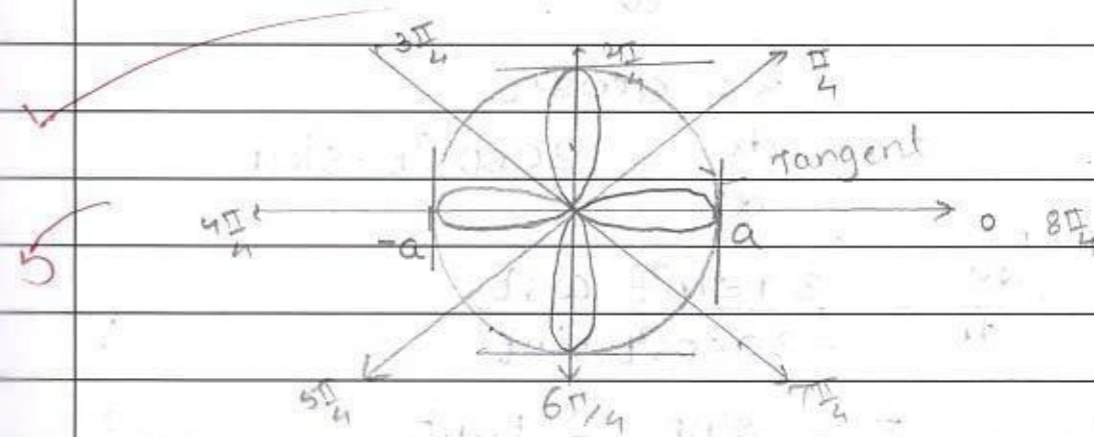
tangent coincide with radiant vector.

$\tan \phi = \infty$ for $\theta = 0, 2\pi/4, 4\pi/4, 6\pi/4, 8\pi/4$

curve tangent \perp to radiant vector.

v) Asymptote - No asymptote is finite.

v) Region of Absence - Max^m value of r is a & min is -a



c $x^{2/3} + y^{2/3} = a^{2/3}$

→ Symmetry - $x = a \cos^3 t$, $y = a \sin^3 t$
 Put $t = -t$
 $x = a \cos^3(-t)$, $y = a \sin^3(-t)$
 $x = a \cos^3 t$, $y = -a \sin^3 t$
 No change change
 symmetric about x axis / initial line

→ $\frac{dy}{dx} = \frac{dy/dt}{dx/dt}$
 $y = a \sin^3 t$
 $\frac{dy}{dt} = 3a \sin^2 t \cdot \cos t$
 $x = a \cos^3 t$
 $\frac{dx}{dt} = -3a \cos^2 t \cdot \sin t$
 $\frac{dy}{dx} = \frac{3a \sin^2 t \cdot \cos t}{-3a \cos^2 t \cdot \sin t}$
 $= -\frac{\sin t}{\cos t} = -\tan t$

Table

t	0	$\pi/4$	$2\pi/4$	$3\pi/4$	$4\pi/4$
$x = a \cos^3 t$	a	0.35a	0	-0.35a	-a
$y = a \sin^3 t$	0	0.35a	a	0.35a	0
dy/dx	0	-1	∞	1	0

Origin - at $x \neq 0, y \neq 0$ at same time curve doesn't pass th^r origin

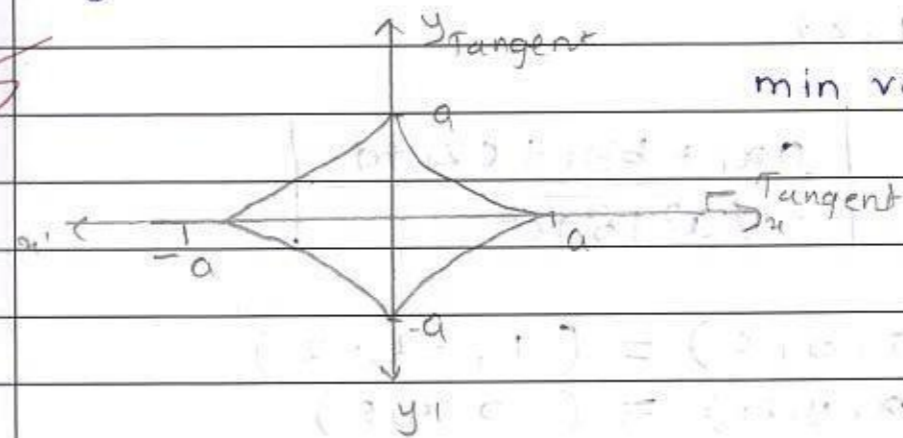
pt of intersectⁿ at
 i) with x axis $(a, 0), (-a, 0)$
 at $t = 0, 4\pi/4$
 ii) with y axis $(0, a)$
 at $t = 2\pi/4$

Eqⁿ of tangent

i) $\frac{dy}{dx} = 0$ - tangent ||el to x axis
 at $t = 0, 4\pi/4$
 ii) at $\frac{dy}{dx} = \infty$ tangent ||el to y axis
 at $t = 2\pi/4$

Asymptote - No asymptote is finite

Region of absence - max^m value of x is a if y is a
 min value of x is -0.35a if y is 0.



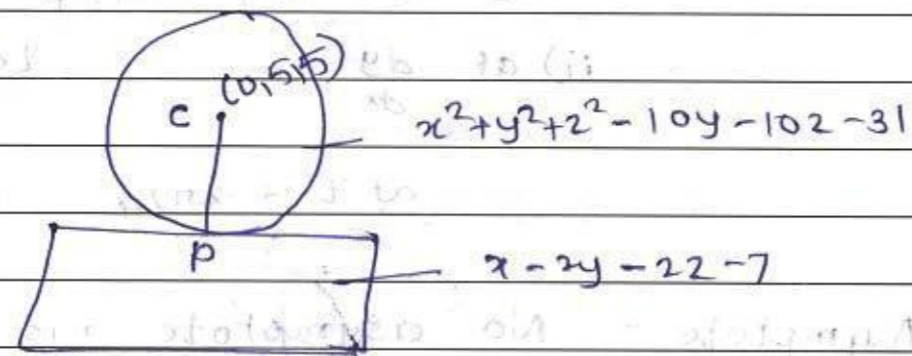
Q.7
 a Plane - $x - 2y - 2z - 7 = 0$
 Sphere $S = x^2 + y^2 + z^2 - 10y - 10z - 31 = 0$

Compare S with $x^2 + y^2 + z^2 + 2ux + 2vy + 2wz + d = 0$
 we get

$u = 0, v = -5, w = -5, d = -31$
 $C(-u, -v, -w) \equiv (0, 5, 5)$

radius $= r = \sqrt{u^2 + v^2 + w^2 - d} = \sqrt{0 + 25 + 25 + 31}$

$r = \sqrt{50 + 31} = \sqrt{81}$
 $r = 9$ (1)



CP is \perp lar from centre of sphere
 $P(x, y, z)$

$$d(CP) = \frac{|ax_1 + by_1 + cz_1 + d|}{\sqrt{a^2 + b^2 + c^2}}$$

Here $(a, b, c) = (1, -2, -2)$
 $(x_1, y_1, z_1) \equiv (0, 5, 5)$

7 a $d(CP) = \frac{|x_1 - 2y_1 - 2z_1 - 7|}{\sqrt{(1)^2 + (-2)^2 + (-2)^2}}$

$= \frac{|(0) - 2(5) - 2(5) - 7|}{\sqrt{9}} = \frac{|-10 - 10 - 7|}{3}$

$d(CP) = \frac{|-27|}{3} = 9$

$d(CP) = r = 9$

Hence sphere touches the plane as length of \perp lar equal to radius of sphere.
 To find pt of contact

$$\frac{x - x_1}{a} = \frac{y - y_1}{b} = \frac{z - z_1}{c} = k$$

Here $(x_1, y_1, z_1) = (0, 5, 5)$
 $(a, b, c) = (1, -2, -2)$

$$\frac{x - 0}{1} = \frac{y - 5}{-2} = \frac{z - 5}{-2} = k$$

$x = k, y = -2k + 5, z = -2k + 5$

$P(k, -2k + 5, -2k + 5)$ this pt satisfy eq of plane

$x - 2y - 2z - 7 = 0$

$k - 2(-2k + 5) - 2(-2k + 5) - 7 = 0$

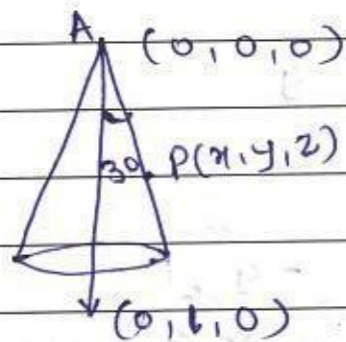
$k + 4k - 10 + 4k - 10 - 7 = 0$

$$\therefore 9k = 27$$

$$k = 3$$

$P(3, -1, -1)$ one pt of contact

b



vertex at origin $(0,0,0)$
 axis the y axis $(0,1,0)$

vertex is $(0,0,0)$
 consider P point on cone. $P(x,y,z)$
 DRS of AP is $(x-0, y-0, z-0)$
 i.e. (x,y,z)
 DRS of axis is $(0,1,0)$
 semi vertical angle is 30°

$$\cos \theta = \frac{a_1 a_2 + b_1 b_2 + c_1 c_2}{\sqrt{a_1^2 + b_1^2 + c_1^2} \sqrt{a_2^2 + b_2^2 + c_2^2}}$$

$$(a_1, b_1, c_1) = (x, y, z), (a_2, b_2, c_2) = (0, 1, 0)$$

$$\cos 30 = \frac{x(0) + y(1) + z(0)}{\sqrt{x^2 + y^2 + z^2} \sqrt{1^2}}$$

$$\frac{\sqrt{3}}{2} = \frac{y}{\sqrt{x^2 + y^2 + z^2}}$$

sq. on b.s.

$$\frac{3}{4} = \frac{y^2}{x^2 + y^2 + z^2}$$

$$3x^2 + 3y^2 + 3z^2 = 4y^2$$

$$3x^2 + 3y^2 + 3z^2 - 4y^2 = 0$$

$$3x^2 - y^2 + 3z^2 = 0$$

this is eqⁿ of cone.

c $r = \sqrt{6}, \frac{x}{1} = \frac{y}{-1} = \frac{z}{1}$

comparing with $\frac{x-\alpha}{l} = \frac{y-\beta}{m} = \frac{z-\gamma}{n}$

$$\alpha = 0, \beta = 0, \gamma = 0$$

$$l = 1, m = -1, n = 1$$

$$(x-\alpha)^2 + (y-\beta)^2 + (z-\gamma)^2 - \left[\frac{l(x-\alpha) + m(y-\beta) + n(z-\gamma)}{\sqrt{l^2 + m^2 + n^2}} \right]^2 = r^2$$

$$(x-0)^2 + (y-0)^2 + (z-0)^2 - \left[\frac{1(x-0) - 1(y-0) + 1(z-0)}{\sqrt{1^2 + 1^2 + 1^2}} \right]^2 = (\sqrt{6})^2$$

$$x^2 + y^2 + z^2 - \left[\frac{x - y + z}{\sqrt{3}} \right]^2 = 6$$

$$3x^2 + 3y^2 + 3z^2 - (x - y + z)^2 = 18$$

$$3x^2 + 3y^2 + 3z^2 - (x^2 + y^2 + z^2 - 2xy + 2xz - 2yz) - 18 =$$

$$3x^2 + 3y^2 + 3z^2 - x^2 - y^2 - z^2 + 2xy - 2xz + 2yz - 18 = 0$$

$$2x^2 + 2y^2 + 2z^2 + 2xy - 2xz + 2yz - 18 = 0$$

$$2(x^2 + y^2 + z^2 + xy - xz + yz - 9) = 0$$

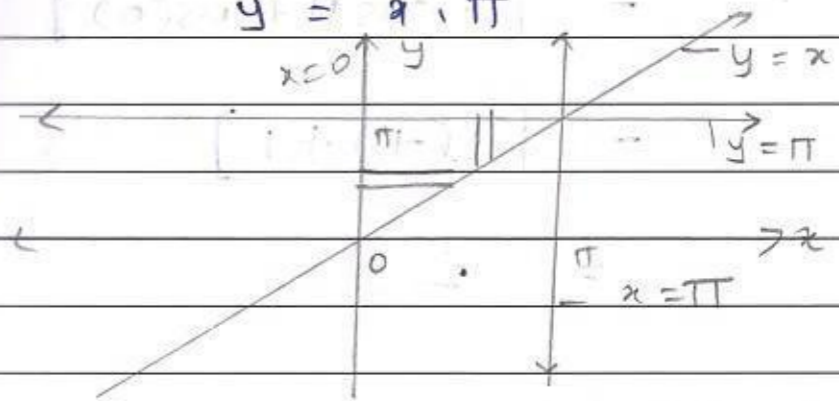
$$x^2 + y^2 + z^2 + xy - xz + yz - 9 = 0$$

8

a $\int_0^\pi \int_x^\pi \frac{\sin y}{y} dx dy$

Limit of $x = 0, \pi$

$y = 0, \pi$



New limit of x are $x = 0, x = y$

y are $y = 0, y = \pi$

$$\int_{y=0}^{y=\pi} \int_{x=0}^{x=y} \frac{\sin y}{y} dx dy$$

$$\int_0^\pi \int_0^y \frac{\sin y}{y} dx dy$$

$$= \int_0^\pi \frac{\sin y}{y} \left[x \right]_0^y dy$$

$$= \int_0^\pi \frac{\sin y}{y} [x]_0^y dy$$

$$= \int_0^\pi \frac{\sin y}{y} \cdot y dy$$

$$= \int_0^{\pi} \sin y \, dy$$

$$= [-\cos y]_0^{\pi}$$

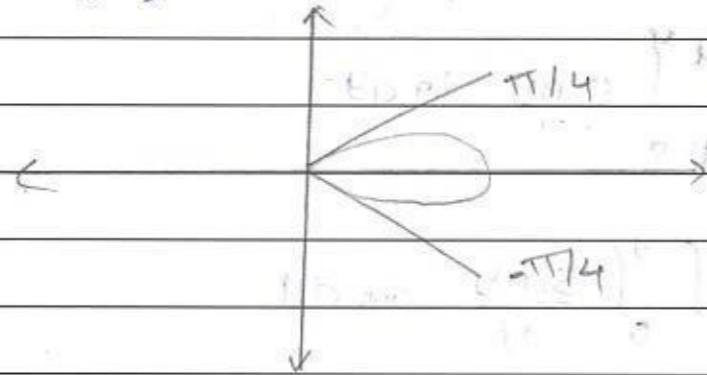
$$= [-\cos \pi + \cos(0)]$$

$$= [-(-1) + 1]$$

$$= 2$$

b $r = a \sin 2\theta$

$$A = \int \int r \, dr \, d\theta$$



$$A = \int_{-\pi/4}^{\pi/4} \int_0^{a \sin 2\theta} r \, dr \, d\theta$$

$$A = \int_{-\pi/4}^{\pi/4} \left[\frac{r^2}{2} \right]_0^{a \sin 2\theta} d\theta$$

$$A = \frac{1}{2} \int_{-\pi/4}^{\pi/4} a^2 \sin^2 2\theta \, d\theta$$

$$A = \frac{a^2}{2} \int_{-\pi/4}^{\pi/4} \sin^2 2\theta \, d\theta$$

$$A = \frac{2a^2}{2} \int_0^{\pi/4} \sin^2 2\theta \, d\theta$$

Put $2\theta = t$

$d\theta = dt/2$

when $\theta = 0$, $t = 0$

$\theta = \pi/4$, $t = \pi/2$

$$A = a^2 \int_0^{\pi/2} \sin^2 t \cdot \frac{dt}{2}$$

$$A = \frac{a^2}{2} \int_0^{\pi/2} \sin^2 t \, dt$$

$$A = \frac{a^2}{2} \left[\frac{t}{2} - \frac{\pi}{4} \right]$$

$$A = \frac{a^2 \pi}{8}$$

c $r^2 = a^2 \cos 2\theta$

$$MI = \iint \rho p^2 dx dy$$

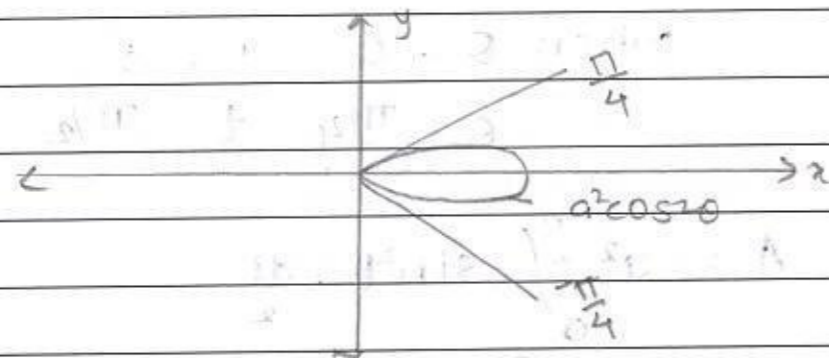
curve about initial line

$$p = y$$

$$= \rho \iint y^2 dx dy$$

$$y = r \sin \theta, dx dy = r dr d\theta$$

$$\rho = \iint r^2 \sin^2 \theta \cdot r dr d\theta$$



limit of r is 0 to $a\sqrt{\cos 2\theta}$

θ is, $-\pi/4$ to $\pi/4$

$$MI = \rho \int_{-\pi/4}^{\pi/4} \int_0^{a\sqrt{\cos 2\theta}} r^3 \sin^2 \theta dr d\theta$$

$$= \rho \int_{-\pi/4}^{\pi/4} \sin^2 \theta \left[\frac{r^4}{4} \right]_0^{a\sqrt{\cos 2\theta}}$$

$$MI = \frac{\rho}{4} \int_{-\pi/4}^{\pi/4} \sin^2 \theta \cdot a^4 \cos^2 \theta d\theta$$

$$= \frac{a^4 \rho}{4} \int_{-\pi/4}^{\pi/4} \frac{(1 - \cos 2\theta)}{2} \cdot \cos^2 \theta d\theta$$

$$= \frac{2a^4 \rho}{8} \int_0^{\pi/2} (\cos^2 \theta - \cos^3 \theta) d\theta$$

$$= \text{Put } 2\theta = t$$

$$d\theta = dt/2$$

when $\theta = 0$ $t = 0$

$\theta = \pi/4$ $t = \pi/2$

$$= \frac{2a^4 \rho}{8} \int_0^{\pi/2} (\cos^2 t - \cos^3 t) \frac{dt}{2}$$

$$= \frac{a^4 \rho}{8} \left[\frac{1}{2} \cdot \frac{\pi}{2} - \frac{2}{3} (1) \right]$$

$$= \frac{a^4 \rho}{8} \left[\frac{\pi}{4} - \frac{2}{3} \right]$$

$$= \frac{a^4 \rho}{8} \left[\frac{3\pi - 8}{12} \right]$$

$$\rho = \frac{2m}{a^2}$$

$$MI = a^4 \cdot \left(\frac{2m}{a^2} \right) \left[\frac{3\pi - 8}{12} \right]$$

$$MI = \frac{a^2 m}{4} \left[\frac{3\pi - 8}{12} \right]$$

$$= \frac{a^2 m}{48} [3\pi - 8]$$

Q. 3

a

$$I_n = \int_0^{\frac{\pi}{2}} x^n \sin x \, dx$$

$$= x^n \int_0^{\frac{\pi}{2}} \sin x \, dx - \int_0^{\frac{\pi}{2}} \left[\frac{d}{dx} x^n \right] \sin x \, dx$$

$$= \left[x^n (-\cos x) \right]_0^{\frac{\pi}{2}} - \int_0^{\frac{\pi}{2}} n x^{n-1} (-\cos x) \, dx$$

$$= 0 + n \int_0^{\frac{\pi}{2}} x^{n-1} \cos x \, dx$$

$$= n \left[x^{n-1} \int_0^{\frac{\pi}{2}} \cos x \, dx - \int_0^{\frac{\pi}{2}} \left[\frac{d}{dx} x^{n-1} \right] \cos x \, dx \right]$$

$$= n \left[\left(x^{n-1} \sin x \right)_0^{\frac{\pi}{2}} - \int_0^{\frac{\pi}{2}} (n-1) x^{n-2} \sin x \, dx \right]$$

$$= n \left[\left(\left(\frac{\pi}{2} \right)^{n-1} \sin \frac{\pi}{2} - 0 \right) - (n-1) \int_0^{\frac{\pi}{2}} x^{n-2} \sin x \, dx \right]$$

$$= n \left(\frac{\pi}{2} \right)^{n-1} - n(n-1) I_{n-2}$$

Hence proved.

b $\int_0^{\infty} e^{-h^2 x^2} \, dx$

Put $h^2 x^2 = t$

$$x = \frac{\sqrt{t}}{h}$$

$$dx = \frac{1}{2h} t^{-1/2} dt$$

$$I = \int_0^{\infty} e^{-t} \cdot \frac{1}{2h} t^{-1/2} dt$$

$$I = \frac{1}{2h} \int_0^{\infty} e^{-t} \cdot t^{-1/2} dt$$

$$= \frac{1}{2h} \Gamma(-1/2 + 1)$$

$$= \frac{1}{2h} \Gamma(1/2)$$

$$= \frac{1}{2h} \sqrt{\pi}$$

$$\frac{\sqrt{\pi}}{2h}$$

Hence proved.

BC $\int_a^b e^{-x^2} dx = \frac{\sqrt{\pi}}{2} [\text{erf}(b) - \text{erf}(a)]$

we know $\text{erf}(\infty) = 1$

$$1 = \frac{2}{\sqrt{\pi}} \int_0^b e^{-x^2} dx$$

we can split it as

$$1 = \frac{2}{\sqrt{\pi}} \left[\int_0^a e^{-x^2} dx + \int_a^b e^{-x^2} dx + \int_b^{\infty} e^{-x^2} dx \right]$$

$$1 = \frac{2}{\sqrt{\pi}} \left[\text{erf}(a) + \int_a^b e^{-x^2} dx + \text{erfc}(b) \right]$$

$$1 = \text{erfc}(b) = \text{erf}(a) + \frac{2}{\sqrt{\pi}} \int_a^b e^{-x^2} dx$$

$$\text{erf}(b) - \text{erf}(a) = \frac{2}{\sqrt{\pi}} \int_a^b e^{-x^2} dx$$

$$\frac{\sqrt{\pi}}{2} [\text{erf}(b) - \text{erf}(a)] = \int_a^b e^{-x^2} dx$$

4. a $x^2y^2 = a^2(y^2 - x^2)$

symmetry - symmetric about both axis.
 x & y

⇒ Pt of intersectⁿ -

i) with x axis - put $y=0$

$$x=0$$

$$(x, y) = (0, 0)$$

ii) with y axis - put $x=0$

$$y=0$$

$$(x, y) = (0, 0)$$

iii) at origin put $x=0, y=0$

$$0=0$$

curve passes th^r origin

⊙ Eqⁿ of tangent - at origin -

$$x^2y^2 - a^2y^2 + a^2x^2 = 0$$

lowest degree term

$$-a^2y^2 = 0$$

$y = 0$

tangent at x axis.

④ Eqⁿ of asymptote

i) || to x axis - By equating coeffi. of highest power of x.

$y^2 = -a^2$

$y = \pm ai$

No asymptote

ii) || to y axis - By equating coeffi. of highest power of y equal to zero.

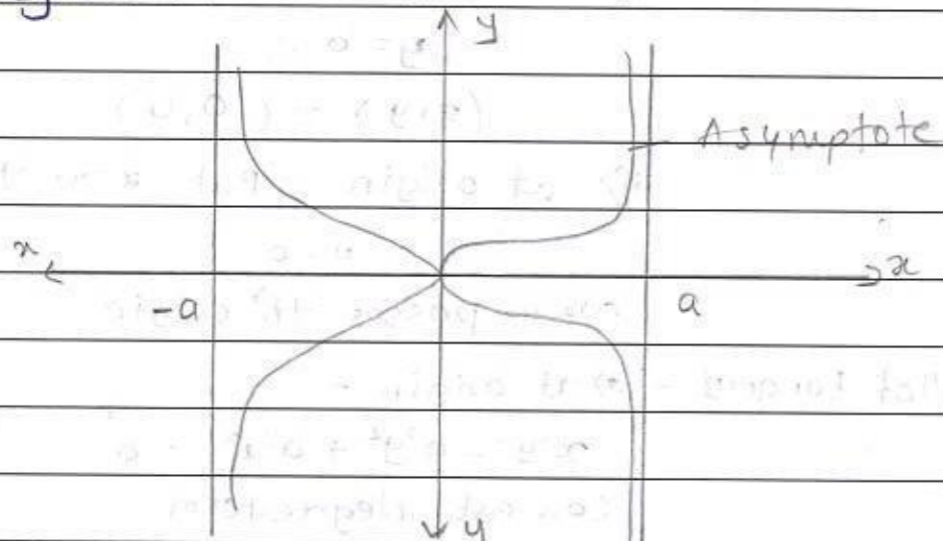
$2^2 y^2 - a^2 y^2 + a^2 x^2 = 0$

$x^2 - a^2 = 0$

$x = \pm a$

Asymptote || to y axis.

⑤ Region of absence



46. $3y^2 = x(3x-1)^2$

diff w.r.t. x

$6y \frac{dy}{dx} = x^2(3x-1) + (3x-1)^2$

$\frac{dy}{dx} = \frac{(3x-1)(2x+3x-1)}{6y}$

$\frac{dy}{dx} = \frac{(3x-1)(3x-1)}{6y}$

squaring on b.s.

$\left(\frac{dy}{dx}\right)^2 = \frac{(3x-1)^2(3x-1)^2}{36y^2}$

$\left(\frac{dy}{dx}\right)^2 = \frac{(3x-1)^2(3x-1)^2}{12(3y^2)}$

$\left(\frac{dy}{dx}\right)^2 = \frac{(3x-1)^2(3x-1)^2}{12(x(3x-1)^2)}$

$\left(\frac{dy}{dx}\right)^2 = \frac{(3x-1)^2}{12x}$

$S = 2 \int_0^1 \sqrt{1 + \left(\frac{dy}{dx}\right)^2} dx$

$= 2 \int_0^1 \sqrt{1 + \frac{(3x-1)^2}{12x}} dx$

$= 2 \int_0^1 \sqrt{\frac{12x + 3x^2 - 6x + 1}{12x}} dx$

$= 2 \int_0^1 \sqrt{\frac{3x^2 + 6x + 1}{12x}} dx$

$= 2 \int_0^1 \sqrt{\frac{(3x+1)^2}{12x}} dx$

$S = 2 \int_0^1 \frac{3x+1}{\sqrt{12x}} dx$

$S = \frac{2}{2\sqrt{3}} \left[\int_0^1 \frac{3x}{\sqrt{x}} dx + \int_0^1 \frac{1}{\sqrt{x}} dx \right]$

$S = \frac{1}{\sqrt{3}} \left[3 \int_0^1 \sqrt{x} dx + \int_0^1 x^{-1/2} dx \right]$

$S = \frac{1}{\sqrt{3}} \left[3 \frac{x^{3/2}}{3/2} + 2x^{1/2} \right]_0^1$

$= \frac{1}{\sqrt{3}} \left[2 \cdot \frac{3}{3} + 2 \right]$

$= \frac{4}{\sqrt{3}}$

$S = \frac{4}{\sqrt{3}} \text{ unit}$

$$\alpha = \beta = \gamma = 0$$

$$l = m = n = 1$$

6c $\alpha = \beta = \gamma = 0$

$$l = m = n = 1$$

$$r = a$$

$$(x-\alpha)^2 + (y-\beta)^2 + (z-\gamma)^2 - \left[\frac{l(x-\alpha) + m(y-\beta) + n(z-\gamma)}{\sqrt{l^2+m^2+n^2}} \right]^2 = a^2$$

$$(x-0)^2 + (y-0)^2 + (z-0)^2 - \left[\frac{1(x-0) + 1(y-0) + 1(z-0)}{\sqrt{3}} \right]^2 = a^2$$

$$x^2 + y^2 + z^2 - \frac{(x+y+z)^2}{3} = a^2$$

$$3x^2 + 3y^2 + 3z^2 - (x^2 + y^2 + z^2 + 2xy + 2xz + 2yz) = 3a^2$$

$$2x^2 - 2y^2 - 2z^2 - 2xy - 2xz - 2yz - 3a^2 = 0$$

4b $r = a(1 - \sin\theta)$

① Symmetry - replace θ by $\pi - \theta$

$$\therefore r = a(1 - \sin\theta)$$

symmetric about $\theta = \pi - \theta$ line

② Polar $\phi = \frac{r}{dr/d\theta}$

$$r = a(1 - \sin\theta)$$

$$\frac{dr}{d\theta} = -a \cos\theta$$

$$\tan\phi = \frac{a(1 - \sin\theta)}{-a \cos\theta} = \frac{1 - \sin\theta}{-\cos\theta}$$

③ Table

θ	0	$\pi/6$	$2\pi/6$	$3\pi/6$	$4\pi/6$	$5\pi/6$	$8\pi/6$	$7\pi/6$	$8\pi/6$	$9\pi/6$	$10\pi/6$	$11\pi/6$
$r = a(1 - \sin\theta)$	a	0.5a	0.13a	0	0.13a	0.5a	a	1.5a	1.86a	2a	1.86a	1.5a
$\tan\phi = \frac{1 - \sin\theta}{-\cos\theta}$	-1			∞						∞		

④ Pole - from table it is cleared that

$$r = 0 \text{ at } 3\pi/6$$

curve passes thr pole

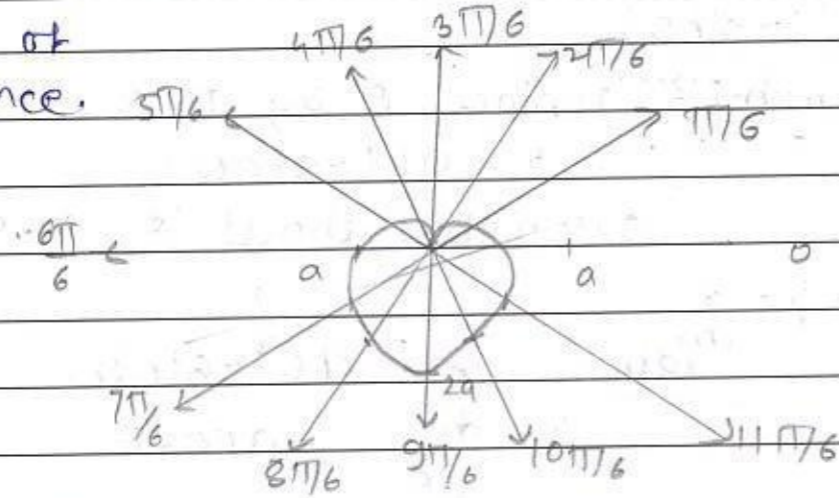
⑤ Eqⁿ of tangent

$$\tan\phi = \infty \text{ at } \theta = 3\pi/6, 9\pi/6$$

tangent \perp or to radiant vector

⑥ Eqⁿ of Asymptote - No asymptote

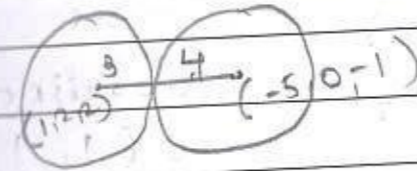
Region of absence.



6a $S_1 = x^2 + y^2 + z^2 - 2x - 4y - 4z = 0$
 $S_2 = x^2 + y^2 + z^2 + 10x + 2z + 10 = 0$
 std eqⁿ = $x^2 + y^2 + z^2 + 2ux + 2vy + 2wz + d = 0$

for S_1 by comparing with std eqⁿ
 $u_1 = -1, v_1 = -2, w_1 = -2, d_1 = 0$
 $Q(-u_1, -v_1, -w_1) = (1, 2, 2)$
 $r_1 = \sqrt{(1)^2 + (2)^2 + (2)^2} = \sqrt{9} = 3$

for S_2 by comparing with std eqⁿ
 $u_2 = 5, v_2 = 0, w_2 = 1, d = 10$
 $Q(-u_1, -v_1, -w_1) = (-5, 0, -1)$
 $r_2 = \sqrt{(5)^2 + (0)^2 + (1)^2 - 10} = \sqrt{25 + 1 - 10} = \sqrt{16} = 4$
 $r_2 = 4$
 $r_1 + r_2 = 7$



$$d^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2 + (z_2 - z_1)^2$$

$$d^2 = (1 + 5)^2 + (2 - 0)^2 + (2 + 1)^2$$

$$= (6)^2 + (2)^2 + (3)^2$$

$$= 36 + 4 + 9$$

$$d^2 = 49$$

$$d = \sqrt{49} = 7$$

∴ Two sphere touches each other.

pt of contact

$$x = \frac{m(x_2) + n(x_1)}{m+n} = \frac{3(-5) + 4(1)}{3+4} = \frac{-15+4}{7}$$

$$x = \frac{-11}{7}$$

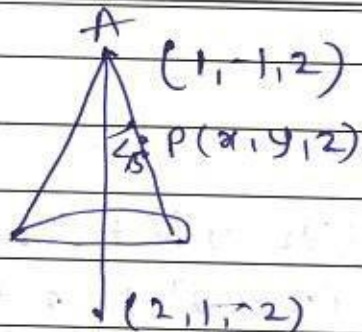
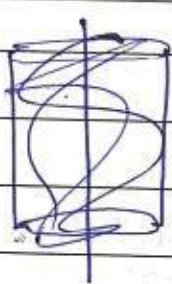
$$y = \frac{m(y_2) + n(y_1)}{m+n} = \frac{3(0) + 4(2)}{3+4} = \frac{8}{7}$$

$$z = \frac{m(z_2) + n(z_1)}{m+n} = \frac{3(-1) + 4(2)}{3+4} = \frac{-3+8}{7}$$

$$\frac{4}{7}$$

pt of contact $(-\frac{11}{7}, \frac{8}{7}, \frac{4}{7})$

6b



coordinate of vertex
C (1, -1, 2)

axis DRS (2, 1, -2)

consider Point P(x, y, z) on cone
DRS of AP (x-1, y+1, z-2)

$$(a_1, b_1, c_1) = (2, 1, -2)$$

$$(a_2, b_2, c_2) = (x-1, y+1, z-2)$$

$$\cos \theta = \frac{a_1 a_2 + b_1 b_2 + c_1 c_2}{\sqrt{a_1^2 + b_1^2 + c_1^2} \sqrt{a_2^2 + b_2^2 + c_2^2}}$$

$$\sqrt{2^2 + 1^2 + (-2)^2} \sqrt{(x-1)^2 + (y+1)^2 + (z-2)^2}$$

$$\cos 45 = \frac{2(x-1) + 1(y+1) - 2(z-2)}{\sqrt{(2)^2 + (1)^2 + (-2)^2} \sqrt{(x-1)^2 + (y+1)^2 + (z-2)^2}}$$

$$\frac{1}{\sqrt{2}} = \frac{2x - 2 + y + 1 - 2z + 4}{3 \sqrt{(x-1)^2 + (y+1)^2 + (z-2)^2}}$$

$$\frac{1}{\sqrt{2}} = \frac{2x - 2 + y + 1 - 2z + 4}{3 \sqrt{(x-1)^2 + (y+1)^2 + (z-2)^2}}$$

$$\frac{1}{\sqrt{2}} = \frac{2x + y - 2z + 3}{3 \sqrt{(x-1)^2 + (y+1)^2 + (z-2)^2}}$$

Sq. on b.s.

$$\frac{9}{2} = \frac{(2x + y - 2z + 3)^2}{(x-1)^2 + (y+1)^2 + (z-2)^2}$$

$$\frac{9}{2} = \frac{(2x + y - 2z + 3)^2}{(x-1)^2 + (y+1)^2 + (z-2)^2}$$

$$9(x^2 - 2x + 1 + y^2 + 2y + 1 + z^2 - 2z + 4) = 2(2x + y - 2z + 3)^2$$

$$9x^2 + 9y^2 + 9z^2 - 18x + 18y - 18z + 54 =$$



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Man 'bis' Loh' Shi' Tol'p'soch'is' Gunjal
Punjab Prasthiti

Internal Assessment
Practical Continuous Assessment Sheet



Gat No. 441 Kuran Tal-Junnar Dist-Pune 410511 - Maharashtra
An ISO 9001:2015 QMS ISO 14001:2004 EMS Certified Institute
(Approved by AICTE, New Delhi, Recognised by DTE Mumbai)

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Practical Continuous Assessment Sheet Of Basic Electrical Engineering (1030)

Department:-		First Year Engineering		Class:-	FE	Div:-	B	Subject:-	BEE (1030)				Teacher Name:-	DHOBALE S.D	Sem:-	2	2023-24				
Sr. No.	Exam Seat No	Roll No	Name of Student	Attendance					Internal Examinations					Continuous Assessment	Total Marks	Industrial Visit/Training	Paper Present/Sports/Cultural	Final Assessment Marks			
				Theory			Practical		Class Test 1	Class Test 2	Insem Marks										
				%	Marks	Final Marks	%	Marks				Final Marks									
Out Of					3.75	3.75		3.75	3.75	30	2.5	30	2.5	30	2.5	10	25	0	0	25	50
1	F190840115	B1	DOKE ATHARVA DADAB-AU	89	3	3	100	3.75	3.75	17	1.42	8	0.67	20	1.57	9	20			20	40
2	F190840118	B2	DOKE SIDDHARTH MAHESH	75	3	3	75	3	3	19	1.58	18	1.50	14	1.17	10	20			20	40
3	F190840120	B3	DUKARE SARTHAK VIKRAM	81	3	3	85	3	3	8	0.67	8	0.67	13	1.08	9	18			18	35
4	F190840121	B4	DUMBRE ADITYA DILIP	85	3	3	85	3	3	16	1.33	26	2.17	23	1.92	10	22			22	44
5	F190840123	B5	DURAPHE SARVESH SHARAD	75	3	3	75	3	3	22	1.83	7	0.58	22	1.83	9	19			19	38
6	F190840124	B5	DURGJIDE SAHIL SHIVAJI	94	3.75	3.75	100	3.75	3.75	24	2.00	20	1.67	24	2.00	10	23			23	46
7	F190840127	B7	ERANDE RAMDAS B.	79	3	3	100	3.75	3.75	19	1.58	13	1.08	15	1.25	10	21			21	41
8	F190840128	B8	ERANDE VAISHNAVI SANJAY	89	3	3	100	3.75	3.75	26	2.17	24	2.00	25	2.08	10	23			23	47
9	F190840002	B9	FULSUNDAR MANALI M.	89	3	3	100	3.75	3.75	25	2.08	27	2.25	21	1.75	10	23			23	46
10	F190840131	B10	GADE KULDEEP SUNIL	75	3	3	100	3.75	3.75	17	1.42	20	1.67	17	1.42	10	21			21	42
11	F190840132	B11	GADE SHEKHAR SATISH	75	3	3	100	3.75	3.75	25	2.08	19	1.58	20	1.67	10	22			22	44
12	F190840134	B12	GADGE AKSHAY NITIN	75	3	3	86	3	3	12	1.00	13	1.08	19	1.58	10	20			20	39
13	F190840135	B13	GADGE OMKAR SUNIL	87	3	3	100	3.75	3.75	8	0.67	0	0	18	1.50	10	19			19	38
14	F190840138	B14	GADHAVE DISHA DINKAR	77	3	3	86	3	3	4	0.33	3	0.25	13	1.08	10	18			18	36
15	F190840139	B15	GADHAVE YEDANT VINOD	75	3	3	86	3	3	4	0.75	11	0.92	12	1.00	9	18			18	35
16	F190840142	B16	GALPHADE PREM V.	75	3	3	75	3	3	14	1.17	12	1.00	14	1.17	9	18			18	36
17	F190840143	B17	GANDHUL NIRMITI NITIN	85	3	3	100	3.75	3.75	8	0.67	8	0.67	14	1.17	9	18			18	36
18	F190840144	B18	GANGAD ABHISHEK RAJU	75	3	3	100	3.75	3.75	0	0.75	2	0.17	12	1.00	9	17			17	35
19	F190840147	B19	GANJAVE SAHIL RAHUL	75	3	3	100	3.75	3.75	12	1.00	8	0.67	12	1.00	9	18			18	36
20	F190840149	B20	GARJE RUSHIKESH SHRIRANG	75	3	3	86	3	3	12	1.00	6	0.50	14	1.17	9	18			18	35
21	F190840151	B21	GAVANDE HARSHAL KIRAN	75	3	3	100	3.75	3.75	19	1.58	18	1.50	14	1.17	9	20			20	40
22	F190840158	B22	GHADGE ASHWINI ARUN	100	3.75	3.75	100	3.75	3.75	22	1.83	25	2.08	23	1.92	10	23			23	47
23	F190840163	B23	GHODEKAR SHREYASHI V.	84	3.75	3.75	86	3	3	17	1.42	14	1.17	16	1.33	10	21			21	42
24	F190840164	B24	GHOGARE OM SACHIN	83	3	3	86	3	3	16	1.33	11	0.92	22	1.83	9	19			19	39
25	F190840165	B25	GHOLAP KS-ITU DEVIDAS	75	3	3	75	3	3	20	1.67	14	1.17	14	1.17	9	19			19	37
26	F190840168	B26	GHOLAP SAKSHI ANNASAHEB	75	3	3	0	0	0	ab	0.00	ab	0.00	16	1.33	10	14			14	28
27	F190840167	B27	GHUGE ACHAL LAXMANRAO	83	3	3	75	3	3	17	1.42	16	1.33	20	1.67	10	20			20	41
28		B28	GILCHE NANDINI GALTAM	0	0	0	0	0	0	ab	0.00	ab	0.00	ab	0.00	0	0			0	0
29	F190840169	B29	GOLE BIDDHI SUNIL	89	3	3	86	3	3	18	1.50	14	1.17	24	2.00	10	21			21	42
30	F190840170	B30	GOLE SIDDHI SUNIL	89	3	3	86	3	3	23	1.92	13	1.08	21	1.75	10	21			21	43

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Subject Teacher

Class Teacher

F. E. O. Ordinator
 Academic Dean
 JCEI's Jaithind College of Engineering
 Kuran, Tal. Junnar, Dist. Pune - 410511

PRINCIPAL
 JCEI's Jaithind College of Engineering
 Kuran, Tal. Junnar, Dist. Pune - 410511

Department:-	First Year Engineering	Class:-	FE	Div:-	B	Sub.	BEE	Teacher:-	DI/OBALE S.	Sem:-	2	AY:-	2022-23
Sr. No.	Exam Seat No	Roll No	Name of Student	Final Assessment Marks		Sign							
				25									
1	F190840115	B1	DOKE ATHARVA DADABHAU	20									
2	F190840118	B2	DOKE SIDDHARTH MAHESH	20									
3	F190840120	B3	DUKARE SARTHAK VIKRAM	18									
4	F190840121	B4	DUMBRE ADITYA DILIP	22									
5	F190840123	B5	DURAPHE SARVESH SHARAD	19									
6	F190840124	B6	DURGUDE SAHIL SHIVAJI	23									
7	F190840127	B7	ERANDE RAMDAS B.	21									
8	F190840128	B8	ERANDE VAISHNAVI SANJAY	23									
9	F190840002	B9	FULSUNDAR MANALI M.	23									
10	F190840131	B10	GADE KULDEEP SUNIL	21									
11	F190840132	B11	GADE SHEKHAR SATISH	22									
12	F190840134	B12	GADGE AKSHAY NITIN	20									
13	F190840135	B13	GADGE OMKAR SUNIL	19									
14	F190840138	B14	GADHAVE DISHA DINKAR	18									
15	F190840139	B15	GADHAVE VEDANT VINOD	18									
16	F190840142	B16	GALPHADE PREM V.	18									
17	F190840143	B17	GANDHUL NIRMITI NITIN	18									
18	F190840144	B18	GANGAD ABHISHEK RAJU	17									
19	F190840147	B19	GANJAVE SAHIL RAHUL	18									
20	F190840149	B20	GARJE RUSHIKESH SHRIRANG	18									
21	F190840151	B21	GAVANDE HARSHAL KIRAN	20									
22	F190840158	B22	GHADGE ASHWINI ARUN	23									
23	F190840163	B23	GHODEKAR SHREYASH V.	21									
24	F190840164	B24	GHOGARE OM SACHIN	19									
25	F190840165	B25	GHOLAP KSHITIJ DEVIDAS	19									
26	F190840166	B26	GHOLAP SAKSHI ANNASAHEB	14									
27	F190840167	B27	GHUGE ACHAL LAXMANRAO	20									
28	0	B28	GILCHIL NANDINI GAUTAM	0									
29	F190840169	B29	GOLF RIDDHI SUNIL	21									
30	F190840170	B30	GOLE SIDDHI SUNIL	21									

Subject Teacher

Co-Ordinator
Head of Department

Academic Dean

PRINCIPAL
JCE's Jaihind College of Engineering
Kiran Tal. Junnar Dist Pune-411

Department:-	1st Year Engineering	Class:-	FE	Div:-	B	Sub.	BEE	Teacher:-	DHOBALE S.	Sem:-	2	AY:-	2022-23
Sr. No.	Exam Seat No.	Roll No.	Name of Student	Final Assessment Marks									
				25									
31	F190840172	B31	GORADE AVISHKAR D.	18		Tanvi							
32	F190840174	B32	GORADE TANVI SANTOSH	19									
33	F190840177	B33	HADAWALE HARSHAD P.	18		H							
34	F190840178	B34	HANDE ANKITA GANESH	23		Hande							
35	F190840179	B35	HANDE SAHIL SACHIN	24		Sahil							
36	F190840181	B36	HIWARKAR KHUSHI VITTHAL	18		Hiwarkar							
37	F190840013	B37	INAMDAR AMAAN RIYAJ	21		Inamdar							
38	F190840184	B38	INAMDAR ZOHAD MATIN	22		Zohad							
39	F190840185	B39	INGOLE PRADNYA NAGORAO	23		Pradnya							
40	F190840186	B40	JADHAV ARYAN SAMPAT	19		A.S. Jadhav							
41	F190840187	B41	JADHAV JAY GANESH	20		Jadhav							
42	F190840190	B42	JADHAV SUDESH RAJENDRA	20		Sudesh							
43	F190840193	B43	JAGDHANE ANWESH A.	17		Anwesh							
44	F190840194	B44	JAGTAP NIKHIL HEMANT	16		Nikhil							
45	F190840196	B45	JAGTAP SUHANI BHAGWAN	21		Suhani							
46	F190840198	B46	JANGAM OM UDAYAN	19		Om							
47	F190840434	B47	JAYBHAYE VISHNU B.	18		Vishnu							
48	F190840200	B48	JORI POOJA ASHOK	19		Pooja							
49	F190840204	B49	KABADI ANIKET ATMARAM	19		Aniket							
50	F190840205	B50	KABADI SRUSHTI VIJAY	20		Srushti							
51	F190840209	B51	KADUSKAR KHUSHI DIPAK	24		Khushi							
52	F190840211	B52	KAHANE OMKAR UTTAM	17		Omkar							
53	F190840215	B53	KALBIOR SONIYA DILPAK	20		Soniya							
54	F190840218	B54	KALE KETAN NILAM	18		Ketan							
55	F190840221	B55	KALE SAMRUDDHI RAHUL	22		Rahul							
56	F190840222	B56	KALEKAR ANURAJ SANTOSH	20		Anuraj							
57	F190840223	B57	KAMAI AKAR ARYA P.	19		Akar							
58	F190840225	B58	KANADE PRAJWAL ANIL	20		Prajwal							
59	F190840226	B59	KANASE DNYANESHWARI S.	20		Dnyaneshwari							
60	F190840227	B60	KARANJKHELE NIKITA VILAS	19		Nikita							

Subject Teacher

Head of Department

JCEI's Jalhind College of Engineering
Academic Dean's Office - 210511
PRINCIPAL
Principal

Department:-		1st Year Engineering		Class:-	FE	Div:-	B	Sub.	BEE	Teacher:-	DHOBALE S.	Sem:-	2	AY:-	2022-23
Sr. No.	Exam Seat No	Roll No	Name of Student	Final Assessment Marks											
				25											
61	0	B61	KARPE SHRUTI SATISH	0		—									
62	F190840230	B62	KASABE TANVI VIKRAM	20		<u>Kasabe</u>									
63	F190840231	B63	KASAR SIDDHARTH NITIN	19		<u>Kasar</u>									
64	F190840233	B64	KAWADE PRERANA G.	22		<u>Kawade</u>									
65	F190840235	B65	KHADE SAKSHI BABASAHEB	21		<u>Khade</u>									


Subject Teacher

F.E. Co-Ordinator
JCEI's Jathind College Of Engg.
Kuran, Tal. Junnar, Dist. Pune-410511
Head of Department


Academic Dean
JCEI's Jathind College of Engineering
Kuran, Tal. Junnar, Dist. Pune-410511

PRINCIPAL
JCEI's Jathind College of Engineering
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Affiliated to Savitribai Phule Pune University

DTE :- EN6609 SPPU:- CEGP01.5730



Hon'ble Late Shri. Tatyasaheb Ganpat
Phule - Founder-President

Internal Assessment

Project Based Learning Assessment Sheet



Jaihind college of Engineering

Department of First Year Engineering

PBL [Project Based Learning] Evaluation sheet 2023-24 Sem II

Roll no	Div	Name Of Students	Design and Model (10)	Demonstration (10)	Chart/ Flex (10)	Topic Knowledge (10)	Viva-Voce (10)	Total (50)	Project Report (05)	Power Point Presentation (05)	Topic Knowledge (05)	Viva-Voce (05)	Regularity and contribution (05)	Total (25)
C01	C	MODHIVE ADITI RAJU	8	8	8	8	8	40	4	4	4	4	5	21
C02	C	KHADSE ANKITA RAHUL	8	8	8	8	8	40	5	5	4	4	5	23
C03	C	KHANDEKAR PRASHIK SUNIL	9	8	9	8	8	42	5	5	4	4	4	22
C04	C	KHARADE SHRUTI GAJANAN	9	9	9	9	8	44	5	4	4	4	4	21
C05	C	KHARMALE ATHARVA RAMESH	9	9	8	9	8	43	5	5	5	4	4	23
C06	C	KHARMALE VAISHNAVI RAMESH	9	9	9	9	9	45	4	5	5	4	5	23
C07	C	KHILARI SHAIIVARI SHRIRAM	9	8	9	8	8	42	5	5	4	5	4	23
C08	C	KHOTE PAVAN SAKHARAM	9	8	9	9	8	43	5	5	4	4	4	22
C09	C	KOHAKADE CHAITANYA SATYAWAN	8	8	9	8	7	40	4	4	4	4	4	20
C10	C	KOLI VITTHAL HARIBHAU	9	8	8	8	8	41	4	4	4	4	5	21
C11	C	KORADE PRAJAKTA RAHUL	8	9	9	9	8	43	4	4	4	4	5	21
C12	C	KUMBHAR AARTI DATTATRAY	8	8	9	8	8	41	4	4	4	4	4	20
C13	C	LABADE ADITYA HARAKU	8	8	8	8	8	40	4	4	4	4	5	21
C14	C	LANDE PRITAM LAHU	9	8	8	8	8	41	4	4	4	4	4	20
C15	C	LOKHANDE DIKSHA ASHOK	9	9	9	9	8	44	5	4	4	4	5	22
C16	C	LOKHANDE NIKHIL SANTOSH	8	7	7	7	7	36	5	4	4	4	4	21
C17	C	MALI MANISH MURLIDHAR	7	8	8	7	7	37	2	2	3	2	3	12
C18	C	MANDALE RUTUJA VIJAY	7	9	9	9	9	43	4	4	4	4	4	20
C19	C	MANDLIK SHIVANI VILAS	9	9	9	8	8	43	5	4	4	4	4	21
C20	C	MANE MEGHA ANNASAHAB	9	9	9	8	8	43	5	4	4	4	5	22
C21	C	MANE VAISHNAVI DNYANESHWAR	9	8	9	8	8	42	5	4	4	5	5	23
C22	C	MASKARE JAGRUTI ARVIND	8	9	8	8	9	42	4	5	4	4	4	21
C23	C	MENDHARE SHREYA SHYAM	8	8	8	8	7	39	4	4	4	3	4	19
C24	C	MOHITE SALONI JALINDAR	8	8	8	7	8	39	4	4	4	3	3	18
C25	C	MORE AJINKYA ANIL	9	8	9	8	8	42	5	5	4	4	5	23
C26	C	MORE RUSHIKESH SAMPAT	8	9	8	9	8	42	4	4	5	5	5	23
C27	C	MULE AARYA AVISHKAR	8	8	9	8	9	42	4	4	4	4	5	21
C28	C	MULE PRASAD PRAMOD	9	8	9	8	9	42	4	4	4	4	4	20
C29	C	MUNE SWAMINI SANTOSH	8	7	8	8	8	39	4	4	4	4	4	20
C30	C	MUTHIYAN SAKSHI VIJAYKUMAR	8	7	7	8	7	37	4	4	4	4	3	19
C31	C	NALAWADE SRUSHTI SHANTARAM	9	8	9	8	8	42	4	4	4	4	4	20
C32	C	NAVALE GAURAV JITENDRA	9	8	8	8	8	41	5	5	5	4	4	23
C33	C	NAVALE SAIRAJ NANABHAU	9	8	8	8	8	41	4	4	4	4	4	20
C34	C	NAVALE SURAJ VINAYAK	8	8	8	8	7	39	4	4	4	4	4	20
C35	C	NAYKODI SAHIL RAJENDRA	10	9	9	9	9	45	5	5	5	5	4	24
C36	C	NEHARKAR ANIKET ANIL	6	8	7	7	7	35	4	5	4	5	5	23
C37	C	NEHARKAR SUJAL SATISH	9	8	8	8	7	40	4	4	4	3	4	19
C38	C	NICHIT SHRISHAIL BABURAV	8	8	8	8	8	45	5	5	5	4	4	23
C39	C	NILAKH RUTUJA SANTOSH	8	8	8	8	8	45	5	5	5	4	4	23
C40	C	PACHPUTE RUTIKA BALU	8	8	8	8	7	39	4	4	4	4	4	20
C41	C	PADIR RUTIKA ASHOK	8	9	8	8	8	41	5	4	4	4	4	21
C42	C	PADWAL SANIKA RAJENDRA	8	8	9	8	8	41	4	4	4	4	5	21

H. P. Raut
Subject Teacher

F.E. Co-Ordinator
JCEI's Jaihind College Of Engineering
Kuran, Tal. Jambhale, Dist. Pune-411001

Principal
Principal

C43	C	PADWAL VEDANT VIJAY	8	8	8	8	8	46	5	5	5	4	5	24
C44	C	PALVE PRANAV PRADIP	9	7	8	7	7	38	4	4	4	3	4	19
C45	C	PANCHAL ANIKET GANESH	7	7	7	7	7	35	4	4	4	4	4	19
C46	C	PANSARE GAURAV MAHENDRA	8	8	8	7	6	37	4	4	3	4	4	19
C47	C	PANSARE KARTIK SUNDAR	8	7	7	7	6	35	4	3	4	4	4	19
C48	C	PANSARE SAKSHI RAJENDRA	9	9	9	9	8	44	4	4	4	4	4	23
C49	C	PAPADE MADHURA MACHINDRA	8	8	8	7	6	37	4	4	4	4	4	19
C50	C	PATIL ADITYA RAHUL	8	8	7	7	6	36	4	5	4	4	4	21
C51	C	PATIL PREM KALIDAS	8	8	8	7	7	38	4	4	4	4	4	20
C52	C	PAWADE SAHIL RAMESH	8	8	8	7	6	37	5	4	4	4	4	21
C53	C	PAWAR KUNAL MALHARI	9	9	9	8	8	43	5	5	4	4	5	23
C54	C	PAWAR SAKSHI MAHENDRA	9	8	8	8	8	41	5	4	4	4	5	22
C55	C	PAWAR TUSHAR RAVINDRA	9	9	9	9	8	44	5	5	5	4	5	24
C56	C	PAWAR VIKRAM BHAGIRATH	8	8	8	8	8	40	4	4	4	4	4	20
C57	C	PAYAL SANIKA GANGARAM	9	9	9	8	8	43	4	5	5	4	5	23
C58	C	PHADALE TANUJA NARENDRA	8	8	8	8	8	40	4	5	4	4	5	22
C59	C	PINGALE ABHISHEK EKNATH	8	8	8	8	8	40	4	4	4	4	5	21
C60	C	POTE VAIBHAV RAJARAM	8	8	8	8	8	40	4	4	4	4	5	21
C61	C	PRATIM TUKARAM MORE	8	8	8	8	8	40	5	5	4	4	5	23
C62	C	RAIKAR PREM SANJAY	9	9	9	8	8	43	4	4	4	4	4	20
C63	C	RANPISE ATISH KAILAS	9	8	8	8	8	41	5	5	4	4	4	22

Jaihind College of Engineering, Kuran
Department of First Year Engineering

PBL (Project Based Learning Groups) Evaluation sheet 2023-24 Sem II

Sr. no.	Group no.	Roll no.	Div	Name Of Students	Design and Model (10)	Demonstration (10)	Char t/ Flex (10)	Topic Knowledge (10)	Viva-Voce (10)	Total 50	Project Report (05)	Power Point Presentation (05)	Topic Knowledge (05)	Viva Vuce (05)	Regularity and contribution (05)	Total (25)	Sign	Title of Project	Name of Guide
1	D1	D12	D	SHELKE ADINATH	8	8	8	8	8	40	4	5	4	4	4	21	<i>[Signature]</i>	Free energy generator	Prof. Kute A.D.
2		D14	D	SHELKE OMKAR	8	8	8	8	8	40	4	5	5	4	4	22			
3		D13	D	SHELKE KUNAL	8	8	8	8	8	40	4	5	3	4	4	20			
4		D15	D	SHELKE SHIVANI	8	8	8	8	8	40	4	5	4	4	4	21			
5	D2	D18	D	SHINDE NIRAJ	9	8	8	8	7	40	4	5	4	4	4	21	<i>[Signature]</i>	Working model of steam (Thermal) power	Prof. Hande K.V.
6		D09	D	SATPUTE SANKALP	9	8	8	8	7	40	4	5	4	4	4	21			
7		D04	D	SALI SURAJ	9	8	8	8	7	40	4	5	4	4	4	21			
8		D11	D	SHEJWAL KAUSTABHA	9	8	8	8	7	40	4	5	3	4	4	20			
9	D3	D06	D	SAMNHERAO PRATIK MAHADEV	8	8	8	7	7	38	5	5	5	4	4	23	<i>[Signature]</i>	Stopwatch using arduino	Prof. Hejib A.G.
10		D08	D	SASTE OMKAR BHALCHADRA	8	8	8	7	7	38	5	4	4	3	4	20			
11		D05	D	SALVE SANMITRA SATISH	8	8	8	7	7	38	5	5	5	4	4	23			
12	D4	D02	D	SABALE RUTUJA SHANTARAM	8	8	8	7	8	39	5	5	4	5	4	23	<i>[Signature]</i>	System to measure solar power	Prof. Mandlik Y.L.
13		D07	D	SHINDE SANIKA ASHOK	8	8	8	7	8	39	5	5	4	5	4	23			
14		D20	D	SHINDE RUTUJA SHIVAJI	8	8	8	7	8	39	5	5	4	5	4	23			
15	D5	D16	D	SHELOT AARATI GIRISH	8	8	8	7	8	39	5	2	2	2	1	12	<i>[Signature]</i>	Forest Fire Prediction	Prof. Ghosh P V.J.
16		D10	D	SWANT PAYAL SUKIDEV	8	8	8	8	8	40	5	4	4	4	4	21			
17		D19	D	SHINDE PURVA SANDESH	8	8	8	8	8	40	5	4	5	4	4	22			
18		D07	D	SARODE SNIKA ARUN	8	8	8	8	8	40	5	4	5	4	4	22			
19	D6	D03	D	SAHANE RENUKA PRAKSH	8	8	8	8	8	40	5	4	4	5	4	22	<i>[Signature]</i>	Water level Indicator	Prof. Hande K.V.
20		D17	D	SHINDE ANUSHREE ANIL	8	9	8	8	8	41	4	4	4	4	4	20			
21	D7	D01	D	ROKADE SANCHITA MAHENDRA	8	9	8	8	8	41	4	4	4	4	5	21	<i>[Signature]</i>	Solar power irrigation	Prof. Nagargoje S.M.
22		D22	D	SHINDE SHIVANI BHAUSAHEB	8	9	8	8	8	41	4	4	4	5	4	21			
23		D35	D	THAPEKAR MANSI BBABAN	9	8	8	9	8	42	5	5	5	5	4	24			
24		D39	D	THORAT RUTUJA VISHWANATH	9	8	8	9	8	42	5	5	5	4	4	23			
25	D7	D38	D	THORAT DNYANESHWARI MACH	9	8	8	9	8	42	5	5	5	4	4	23	<i>[Signature]</i>	Solar power irrigation	Prof. Nagargoje S.M.
26		D43	D	VARADHI DIKSHA DILIP	9	8	8	9	8	42	5	5	5	4	5	24			

Sr. no.	Group no.	Roll no	Div	Name Of Students	Design and Model (10)	Demonstration (10)	Char / Flex (10)	Topic Knowledge (10)	Viva-Voce (10)	Total 50	Project Report (05)	Power Point Presentation (05)	Topic Knowledge (05)	Viva Voc (05)	Regularity and contribution (05)	Total (25)	Sign	Title of Project	Name of Guide
27	D8	D23	D	SHIVANI NANDU SHINDE	7	8	8	7	7	37	4	3	4	4	4	19		Simple Electric Train	Prof.Hejib A.G.
28		D29	D	SHREYA GAUTAM SONAWANE	7	8	8	7	7	37	4	4	4	4	4	20			
29		D30	D	TAGAD MEGHA DNYANDEV	7	8	8	7	7	37	4	4	3	4	4	19			
30	D9	D26	D	SHINGAVE NEERALI DHANESH	9	9	8	7	7	40	4	5	5	4	5	23		Train accident prevention projection	Prof. Hande K.V.
31		D25	D	SHINGADE SAHIL SANJAY	9	9	8	7	7	40	4	5	4	5	23				
32		D28	D	SONAWANE RUTUJA SANTOSH	9	9	8	7	7	40	4	5	3	3	5	20			
33	D10	D27	D	SHIRSATH RUSHIKESH SANJAY	9	9	8	7	7	40	4	5	4	3	5	21		ARDUNIO MQ9 GAS SENSOR	Prof.V.J.G holap
34		D34	D	THANKUR BHARATI SANTOSH	8	8	8	7	7	38	4	5	3	3	5	20			
35		D33	D	TATTU AKSHADA JAYSING	8	8	8	7	7	38	4	5	3	3	5	20			
36	D11	D32	D	TAMBADE VISHVAJ BALASAHEB	8	8	8	7	7	38	4	5	5	5	4	23		Laser alarm security for	Prof. Hande K.V.
37		D42	D	UNDE PRANALI MAHENDRA	8	8	8	7	7	38	4	5	3	5	4	21			
38		D37	D	THORAT ANIKET SANJAY	8	8	8	8	7	39	4	4	3	4	4	19			
39	D12	D36	D	THITAME PRATIK DATTU	8	8	8	8	7	39	4	5	5	5	4	23		Sensor for agriculture farm Security	Prof. Hejib A. G.
40		D44	D	VIDHATE NIKHIL LAXMAN	8	8	8	8	7	39	4	5	4	3	3	19			
41		D31	D	TAMBADE KARAN RAKHAMAJI	8	8	8	8	8	40	4	4	4	4	4	20			
42	D13	D24	D	SHINDE YASH SANJAY	8	8	8	8	8	40	4	4	3	3	4	18		Voice control car by using Arduino	Prof.Bhing ardive A.A
43		D40	D	THORAT SANIKA DILIP	8	8	8	8	8	40	4	4	4	4	4	20			
44		D41	D	THORAT SHREYA NANDKUMAR	8	8	8	8	8	40	4	5	4	4	4	21			
45	D14	D55	D	WALE PRATHAMESH DASHRATH	7	7	8	8	6	36	4	5	5	5	5	24		Perpedual Motion free energy generation	Prof.Bhing ardive A.A
46		D54	D	WAKCHAURE SUJAL DHANAJAY	7	7	8	8	6	36	4	5	4	4	5	22			
47		D63	D	YEWALE JAY ANNASAHEB	7	7	8	8	6	36	4	5	4	4	5	22			
48	D14	D56	D	WALUNI YASH SHANTARAM	7	7	8	8	6	36	4	5	4	3	4	20		Perpedual Motion free energy generation	Prof.Bhing ardive A.A
49		D64	D	YEWALE SRUSHTI EKNATH	7	7	7	7	6	34	4	5	4	4	4	21			
50		D60	D	WAVHAL SANIKA SANTOSH	7	7	7	7	6	34	4	5	4	4	4	21			
51	D14	D50	D	WAGHIRE RUTUJA NANASAHEB	7	7	7	7	6	34	4	5	4	4	4	21		Perpedual Motion free energy generation	Prof.Bhing ardive A.A
52		D51	D	WAGHMARE KARAYANI DEVIDAS	7	7	7	7	6	34	4	5	4	4	4	21			
53		D58	D	WAVHAL ARYAN ABAJI	6	7	5	7	7	33	4	5	4	5	4	22			

Sr. no.	Group no.	Roll no	Div	Name Of Students	Design and Model (10)	Demonstration (10)	Char t/ Flex (10)	Topic Knowledge (10)	Viva-Voce (10)	Total 50	Project Report (05)	Power Point Presentation (05)	Topic Knowledge (05)	Viva-Voce (05)	Regularity and contribution (05)	Total (25)	Sign	Title of Project	Name of Guide
54	D15	D59	D	WAVHAL NIKHIL CHANDRAKANT	6	7	6	7	7	33	4	5	4	4	4	21		LPG gas detector	Prof.Bhingardive A.A
55		D52	D	WAGHULE ANIKET NAVANATH	6	7	6	7	7	33	4	5	4	4	4	21	<i>Waghule</i>		
56		D61	D	WAYAL PRATIK TANHAJI	6	7	6	7	7	33	4	5	5	5	4	23	<i>Wayal</i>		
57	D16	D53	D	WAJAGE SHIVAM SANTOSH	8	8	8	7	7	38	5	5	4	5	4	23	<i>Wajage</i>	Face detection software	Prof.Doke P.P.
58		D65	D	ZINJAD PRAJWAL SHANTARAM	8	8	8	7	7	38	5	5	4	5	4	23	<i>Zinjad</i>		
59		D48	D	WABALE ARYAN MANDAR	8	8	8	7	7	38	5	5	4	5	4	23	<i>Wabale</i>		
60		D57	D	WATANE RITESH PRALJADRAO	8	8	8	7	7	38	5	5	4	5	4	23	<i>Watane</i>		
61	D17	D47	D	VITE PARTH RAHUL	7	7	7	6	7	34	4	4	4	4	3	19	<i>Vite</i>	Hand gesture Control robot	Prof.Bhingardive Akshada
62		D46	D	VISHAWAKARAMA TANMAY SAKTHIVEL	7	7	7	6	7	34	4	4	4	4	3	19	<i>Vishwakarma</i>		
63		D49	D	WAGH KUNAL SANDIP	7	7	7	6	7	34	4	4	4	4	3	19	<i>Wagh</i>		
64		D45	D	VIDHATE RUDHIKESH APPASAHEB	7	7	7	6	7	34	4	4	4	4	3	19	<i>Vidhate</i>		

Wagh
Subject teacher

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Class teacher

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F.E. Coordinator
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Wagh
Academician
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Jaibhind College of Engineering, Kur
DEPARTMENT OF FIRST YEAR ENGINEERING

AY: 2023-24

Subject- Project Based Learning (110013)

Div. -D PR.- 50 Marks

Roll no.	Exam Seat No.	Name of the Student	Total (25)	Marksheet (25)	Attendance	Attendance Marks (10)	Attendance Marks (25)	Project Exhibition (50)	Total (100)	Marksheet (100)	Final (50)	Total (50)	Marksheet (50)	Sign
D1	F190840366	ROKADE SANCHITA MAHENDRA	21	21	100	10.00	25.00	41	87.00	87.00	43.50	44	44	<i>[Signature]</i>
D2	F190840367	SABALE RUTUJA SHANTARAM	23	23	100	10.00	25.00	39	87.00	87.00	43.50	44	44	<i>Rsabale</i>
D3	F190840368	SAHANE RENUKA PRAKASH	22	22	81.25	8.13	20.31	40	82.31	82.31	41.16	42	42	<i>Sahane</i>
D4	F190840369	SALI SURAJ NILESH	21	21	100	10.00	25.00	40	86.00	86.00	43.00	43	43	<i>S.N.Sali</i>
D5	F190840370	SALVE SANMITRA SATISH	23	23	93.75	9.38	23.44	38	84.44	84.44	42.22	43	43	<i>[Signature]</i>
D6	F190840371	SAMBHERAO PRATIK MAHADEV	23	23	81.25	8.13	20.31	38	81.31	81.31	40.66	41	41	<i>[Signature]</i>
D7	F190840373	SARODE SANIKA ARUN	23	23	81.25	8.13	20.31	39	82.31	82.31	41.16	42	42	<i>S.A.Sarode</i>
D8	F190840375	SASTE OMKAR BHALCHANDRA	22	22	93.75	9.38	23.44	40	85.44	85.44	42.72	43	43	<i>[Signature]</i>
D9	F190840374	SATPUTE SANKALP BAJRAO	20	20	87.5	8.75	21.88	38	79.88	79.88	39.94	40	40	<i>[Signature]</i>
D10	F190840376	SAWANT PAYAL SUKHADEV	21	21	81.25	8.13	20.31	40	81.31	81.31	40.66	41	41	<i>[Signature]</i>
D11	F190840377	SHEJWAL KAUSTUBH SUBHASH	21	21	93.75	9.38	23.44	40	84.44	84.44	42.22	43	43	<i>[Signature]</i>
D12	F190840378	SHELKE ADINATH NIVRUTTI	20	20	87.5	8.75	21.88	40	81.88	81.88	40.94	41	41	<i>[Signature]</i>
D13	F190840379	SHELKE KUNAL RAMNATH	21	21	68.75	6.88	17.19	40	78.19	78.19	39.09	40	40	<i>[Signature]</i>
D14	F190840380	SHELKE OMKAR POPAT	20	20	81.25	8.13	20.31	40	80.31	80.31	40.16	41	41	<i>[Signature]</i>
D15	F190840381	SHELKE SHIVANI SANTOSH	22	22	100	10.00	25.00	40	87.00	87.00	43.50	44	44	<i>[Signature]</i>
D16	F190840382	SHELOT AARTI GIRISH	21	21	37.5	3.75	9.38	40	70.38	70.38	35.19	36	36	<i>[Signature]</i>
D17	F190840384	SHINDE ANUSHREE ANIL	12	12	87.5	8.75	21.88	39	72.88	72.88	36.44	37	37	<i>[Signature]</i>
D18	F190840389	SHINDE NIRAJ PRABHAKAR	20	20	93.75	9.38	23.44	41	84.44	84.44	42.22	43	43	<i>[Signature]</i>
D19	F190840391	SHINDE PURVA SANDESH	21	21	100.00	10.00	25.00	40	86.00	86.00	43.00	43	43	<i>[Signature]</i>
D20	F190840383	SHINDE RUTUJA SHIVAJI	22	22	93.75	9.38	23.44	40	85.44	85.44	42.72	43	43	<i>[Signature]</i>
D21	F190840372	SHINDE SANIKA ASHOK	23	23	87.50	8.75	21.88	39	83.88	83.88	41.94	42	42	<i>[Signature]</i>
D22	F190840393	SHINDE SHIVANI BHAUSAHEB	21	21	87.50	8.75	21.88	41	83.88	83.88	41.94	42	42	<i>[Signature]</i>
D23	F190840394	SHINDE SHIVANI NANDU	19	19	82.35	8.24	20.59	37	76.59	76.59	38.29	39	39	<i>[Signature]</i>

Roll no.	Exam Sent No.	Name of the Student	Total (25)	Marksheet (25)	Attendance	Attendance Marks (10)	Attendance Marks (25)	Project Exhibition (50)	Total (100)	Marksheet 100)	Final (50)	Total (50)	Marksheet (50)	Sign
D50	F190840439	WAGHIRE RUTUJA NANASAHEB	21	21	61.11	6.11	15.28	34	70.28	70.28	35.14	36	36	
D51	F190840440	WAGHMARE NARAYANI DEVIDAS	0	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0	No Exam
D52	F190840441	WAGHIJLE ANIKET NAVNATH	21	21	72.22	7.22	18.06	33	72.06	72.06	36.03	37	37	
D53	F190840442	WAJAGE SHIVAM SANTOSH	23	23	88.89	8.89	22.22	38	83.22	83.22	41.61	43	43	
D54	F190840443	WAKCHAURE SUJAL DHANANJAY	22	22	94.44	9.44	23.61	36	81.61	81.61	40.81	41	41	
D55	F190840444	WALE PRATHAMESH DASHRATH	24	24	100.00	10.00	25.00	36	85.00	85.00	42.50	44	44	
D56	F190840446	WALUNJ YASH SHANTARAM	20	20	94.44	9.44	23.61	36	79.61	79.61	39.81	40	40	
D57	F190840449	WATANE RITESH PRALHADRAO	23	23	94.44	9.44	23.61	38	84.61	84.61	42.31	43	43	
D58	F190840450	WAVHAL ARYAN ABAJI	22	22	94.44	9.44	23.61	33	78.61	78.61	39.31	39	39	
D59	F190840452	WAVHAL NIKHIL CHANDRAKANT	21	21	94.44	9.44	23.61	33	77.61	77.61	38.81	39	39	
D60	F190840453	WAVHAL SANIKA SANTOSH	21	21	77.78	7.78	19.44	34	74.44	74.44	37.22	38	38	
D61	F190840454	WAYAL PRATIK TANIAJI	23	23	88.89	8.89	22.22	33	78.22	78.22	39.11	40	40	
D62	F190840456	YADAV LAXMAN JAYPRAKASH	0	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0	No Exam
D63	F190840459	YEVALE JAY ANNASAHEB	22	22	94.44	9.44	23.61	36	81.61	81.61	40.81	41	41	
D64	F190840460	YEWALE SRUSHTI EKNATH	21	21	83.33	8.33	20.83	34	75.83	75.83	37.92	38	38	
D65	F190840461	ZINJAD PRAJWAL SHANTARAM	23	23	88.89	8.89	22.22	38	83.22	83.22	41.61	42	42	

Subject teacher

Class teacher

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Academic In-charge

Principal

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PBL MARKS EVALUATION SHEET [PR]

Sr. No.	Exam Seat No	Roll No	Name of Student	Design & Model	Demonstration	Chart/Flex	Topic Knowledge	Viva-Voc	Total
			Out Of	10	10	10	10	10	50
1	F190840007	A1	ADSULE PRAJWAL PRAKASH	6	4	5	4	4	23
2	F190840011	A2	AHINAVE ATHARV SANTOSH	5	4	5	4	6	24
3	F190840016	A3	ANSAR JAULHAK SAMSUDDIN	8	9	9	6	8	40
4	F190840017	A4	ANSARI AMIR DILSHAD	9	8	8	7	8	40
5	F190840018	A5	ARADE PRATIKSHA SAWALERAM	9	9	9	7	8	42
6	F190840019	A6	ARGADE GANESH DATTATRAY	8	6	9	6	7	36
7	F190840021	A7	AUTI NEHA SURYAKANT	9	6	9	7	6	37
8	F190840022	A8	AUTI TANVI KAILAS	9	5	9	6	5	34
9	F190840023	A9	BADE GAURAV ARJUN	9	6	9	6	5	35
10	F190840024	A10	BADGIAR KHUSHAL MILIND	9	6	9	7	6	37
11	F190840025	A11	BALSARAF SAHIL ROHIT	9	5	8	7	5	34
12	F190840026	A12	BAMBALE SUSHMITA SITARAM	9	6	9	7	7	38
13	F190840028	A13	BANGAR SAI RAMNATH	8	5	9	7	5	34
14	F190840032	A14	BANGAR VEDANTI RAMDAS	8	6	9	7	5	35
15	F190840033	A15	BANKAR VAIBHAV VINOD	5	5	5	4	4	23
16	F190840035	A16	BARAVKAR KUNAL SANTOSH	8	5	9	7	5	35
17	F190840036	A17	BARAVKAR RUSHIKESH PANKAJ	9	6	9	6	5	35
18	F190840040	A18	BENKE ARTI HANUMANT	8	9	9	6	8	40
19	F190840042	A19	BIHAGAT SAYALI PRADIP	9	6	9	8	7	30
20	F190840043	A20	BHALCHIM ROSHANI RAMCHANDR	9	8	8	7	8	40
21	F190840044	A21	BHALERAO ONKAR ROHIDAS	6	5	5	4	4	24
22	F190840045	A22	BHARSAKLE ADITYA RATAN	9	5	8	5	5	32
23	F190840046	A23	BHINGARE GAYATRI DNYANESH	9	5	9	6	5	34
24	F190840047	A24	BHOJANE SAYALI DATTATRAY	7	4	5	4	5	25
25	F190840048	A25	BHOR ADITYA SANDIP	6	5	5	4	4	24
26	F190840050	A26	BHOR JAYASHREE SUMTILAL	8	9	9	6	8	40
27	F190840001	A27	BHOR PRATIKSHA NAVNATH	9	8	9	8	8	42
28	F190840053	A28	BHOR SAKSHI SAVKAR	8	7	9	8	7	39
29	F190840054	A29	BHOR SAWANI GULAB	8	5	9	7	6	35
30	F190840056	A30	BHOR YASH RAGHUNATH	9	7	9	6	7	38
31	F190840057	A31	BHORE TANVI SANTOSH	9	6	9	8	7	30
32	F190840059	A32	BHOSALE VINAYAK ZAMBAR	9	7	9	6	6	37
33	F190840064	A33	BOCHARE GAURAV VIJAY	8	6	9	6	7	36
34	F190840066	A34	BONAVATE SANSKAR SANTOSH	8	4	7	4	5	28
35	F190840068	A35	BORHADE MANDAR DATTATRAY	8	6	9	7	6	36
36	F190840069	A36	BOTHE YASH MANOHAR	8	6	9	6	7	36
37	F190840072	A37	CHASKAR PRAJWAL NITIN	9	6	9	7	6	37
38	F190840073	A38	CHATTAR YOGIRAJ JAYANT	8	7	9	8	7	30
39	F190840074	A39	CHATUR SHREYA SANTOSH	8	7	9	7	7	38
40	F190840078	A40	CHAVAN PRANJAL MILAN	8	9	9	6	8	40
41	F190840080	A41	CHAVAN VAISHNAVI SUNIL	9	8	9	7	8	41
42	F190840082	A42	CHIKANE YASH TULSHIRAM	8	9	9	6	8	40
43	F190840083	A43	CHIKHALE BHAVESH RAVINDRA	8	5	9	7	6	35
44	F190840084	A44	CHIKHALE PAWAN PRAKASH	8	8	9	7	8	40
45	F190840085	A45	CHIKHALE VAISHNAVI ARJUN	8	5	8	7	6	34
46	F190840087	A46	CHOTHE SHIVAM SATISH	8	7	9	7	7	38
47	F190840089	A47	DABHADE PRATAP BABAN	8	5	9	7	6	35
48	F190840090	A48	DAGADE SAYALI KRUSHNADEV	8	6	9	7	7	37
49	F190840093	A49	DAMSE VAIBHAV NITIN	9	6	9	8	7	39
50	F190840094	A50	DANGAT SANIKA GANESHI	8	6	9	8	7	38

51	F190840095	A51	DAREKAR GARGI BALASAHEB	9	8	9	8	8	42
52	F190840096	A52	DATE AKASH SAMBHAJI	8	6	8	6	7	35
53	F190840098	A53	DAWKHAR SHRUTI SACHIN	8	5	7	7	6	33
54	F190840099	A54	DAWKHARE AJAY VINOD	8	5	7	6	6	32
55	F190840100	A55	DEVKAR SAYALI DEEPAK	9	7	9	7	8	40
56	F190840101	A56	DEVKAR SHRIYASH MAHENDRA	8	5	8	5	5	31
57	F190840102	A57	DHAGE TEJASWINI GANESH	9	8	9	8	7	41
58	F190840104	A58	DHAMALE SNEHA SUNIL	9	8	9	7	8	41
59	F190840105	A59	DHAMDHARE VAISHNAVI SHASHI	8	6	9	6	7	36
60	F190840107	A60	DHOBALE SHEKHAR NILESH	8	5	9	5	5	32
61	F190840108	A61	DHOBALE TANVI SUNIL	5	4	5	4	6	24
62	F190840111	A62	DIGHE SUYOG SUNIL	5	4	5	4	5	23
63	F190840112	A63	DIVATE TANVI HARIDAS	6	4	6	4	6	26
64	F190840114	A64	DOKE AJINKYA UTTAM						0
65	F190840361	A65	RAJALE NAMRATA SANJAY	7	5	8	4	5	29

श्री

Principal
 JCE's Jalhind College Of Engineering
 Kuran, Tal. Junnar, Dist. Pune - 410511



JAIHIND COMPREHENSIVE EDUCATIONAL INSTITUTE'S

JAIHIND COLLEGE OF ENGINEERING, KURAN

Affiliated to Savitribai Phule Pune University

DTE :- EN6609 SPPU:- CEGPO15730



Hon'ble Late Shri. Tatyasaheb Gunjal
Founder-Principal

Internal Assessment
Internal Term work Sheet



A.Y. 2023-2024

Subject Name:- Engineering Mathematics-II (Termwork)

Department:-		First Year Engineering			Clas	FE	Div:-	D	Subject:-	E			Teacher Name:-	Kute A. D.	Sem:-	2	2023-24					
Sr. No.	Exam Seat No	Roll No	Name of Student	Attendance						Internal Examinations						Continuous Assessment	Total Marks	Industrial Visit/Training	Paper	Cultural	Final Assessment	Marks
				Theory			Tutorial			Class Test 1		Class Test 2		Class Test 3								
				%	Marks	Final Marks	%	Marks	Final Marks													
			Out Of		3.75	3.75		3.75	3.75	30	2.5	30	2.5	30	2.5	10	25	0	0	25	50	
1	F190840366	D1	ROKADI SANCHITA MAITENDRA	81.25	3.05	3.05	80	3	3	12	1.00	8	0.67	20	1.67	10	19	0	0	19	38	
2	F190840367	D2	SABALE RUTUJA SHANTARAM	100	3.75	3.75	100	3.75	3.75	22	1.83	21	1.75	23	1.92	10	23	0	0	23	46	
3	F190840368	D3	SAHANE RENUKA PRAKASH	85.938	3.22	3.22	100	3.75	3.75	24	2.00	23	1.92	25	2.08	10	23	0	0	23	46	
4	F190840369	D4	SALI SURAJ NILESH	96.875	3.63	3.63	90	3.375	3.38	30	2.50	21	1.75	27	2.25	10	24	0	0	24	48	
5	F190840370	D5	SALVE SANMITHA SATISH	89.063	3.34	3.34	90	3.375	3.38	12	1.00	17	1.42	20	1.67	10	21	0	0	21	42	
6	F190840371	D6	SAMBHURAO PRATIK MAHADEV	79.688	2.99	2.99	80	3	3	AB	0.00	20	1.67	22	1.83	10	19	0	0	19	38	
7	F190840373	D7	SARODE SANIKA ARUN	87.5	3.28	3.28	90	3.375	3.38	17	1.42	12	1.00	20	1.67	10	21	0	0	21	42	
8	F190840375	D8	SASTE OMKAR BHALCHANDRA	75	2.81	2.81	80	3	3	AB	0.00	0	0.00	15	1.25	8	15	0	0	15	30	
9	F190840374	D9	SATPUTE SANKALP BAJIRAO	90.625	3.40	3.40	80	3	3	16	1.33	20	1.67	12	1.00	9	19	0	0	19	38	
10	F190840376	D10	SAWANT PAYAL SUKHADEV	87.5	3.28	3.28	80	3	3	14	1.17	8	0.67	12	1.00	10	19	0	0	19	38	
11	F190840377	D11	SHEDWAL KAUSTUBH SUBHASHI	96.875	3.63	3.63	90	3.375	3.38	17	1.42	18	1.50	21	1.75	10	22	0	0	22	44	
12	F190840378	D12	SHELKE ADINATH NIVRUTTI	79.688	2.99	2.99	80	3	3	16	1.33	10	0.83	16	1.33	10	19	0	0	19	38	
13	F190840379	D13	SHELKE KUNAL RAMNATHI	76	2.85	2.85	80	3	3	13	1.08	4	0.33	12	1.00	10	18	0	0	18	36	
14	F190840380	D14	SHELKE OMKAR POPAT	76	2.85	2.85	80	3	3	23	1.92	12	1.00	16	1.33	10	20	0	0	20	40	
15	F190840381	D15	SHELKE SHIVANI SANTOSH	82.813	3.11	3.11	80	3	3	24	2.00	15	1.25	18	1.50	10	21	0	0	21	42	
16	F190840382	D16	SHELOT AARTI GIRISH	75	2.81	2.81	80	3	3	AB	0.00	AB	0.00	6	0.50	8	14	0	0	14	28	
17	F190840384	D17	SHINDE ANUSHREE ANIL	79.688	2.99	2.99	80	3	3	13	1.08	12	1.00	17	1.42	9	18	0	0	18	38	
18	F190840389	D18	SHINDE NIRAJ PRABHAKAR	96.875	3.63	3.63	80	3	3	14	1.17	10	0.83	18	1.50	9	19	0	0	19	38	
19	F190840391	D19	SHINDE PURVA SANDESH	87.5	3.28	3.28	100	3.75	3.75	30	2.50	20	1.67	30	2.50	10	24	0	0	24	48	
20	F190840383	D20	SHINDE RUTUJA SHIVAJI	95.313	3.57	3.57	100	3.75	3.75	26	2.17	18	1.50	24	2.00	10	23	0	0	23	46	
21	F190840372	D21	SHINDE SANIKA ASEOK	76.563	2.87	2.87	80	3	3	24	2.00	12	1.00	15	1.25	9	19	0	0	19	38	
22	F190840393	D22	SHINDE SHIVANI BHANUSAHER	76.563	2.87	2.87	80	3	3	4	0.33	14	1.17	13	1.08	10	18	0	0	18	36	
23	F190840394	D23	SHINDE SHIVANT NANDU	75	2.81	2.81	80	3	3	2	0.17	4	0.33	17	1.42	9	17	0	0	17	34	
24	F190840006	D24	SHINDE YASH SANJAY	90.625	3.40	3.40	90	3.375	3.38	21	1.75	13	1.08	20	1.67	10	21	0	0	21	42	
25	F190840397	D25	SHINGADE SARIL SANJAY	76	2.85	2.85	80	3	3	16	1.33	7	0.58	16	1.33	8	17	0	0	17	34	
26	F190840398	D26	SHINGAVI NEERALI DHANESH	81.25	3.05	3.05	80	3	3	AB	0.00	25	2.08	30	2.50	10	21	0	0	21	42	
27	F190840399	D27	SHIRSATH RUSHIKESH SANJAY	96.875	3.63	3.63	90	3.375	3.38	20	1.67	14	1.17	26	2.17	10	22	0	0	22	44	
28	F190840401	D28	SONAWANE RUTUJA SANTOSH	92.188	3.46	3.46	90	3.375	3.38	16	1.33	18	1.50	26	2.17	10	22	0	0	22	44	
29	F190840402	D29	SONAWANE SHIRGYA GAUTAM	75	2.81	2.81	80	3	3	9	0.75	11	0.92	21	1.75	10	19	0	0	19	38	
30	F190840407	D30	TAGAD MEGHA DNYANADEV	75	2.81	2.81	100	3.75	3.75	15	1.25	AB	0.00	29	2.42	10	20	0	0	20	40	

[Signature]
Subject Teacher

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Class Teacher

[Signature]
F.E.Co.Ordinator
JCEI's Jainhind College C
Kuran, Tal. Junnar, Dist. Pune - 410511

[Signature]
Academic Dean
JCEI's Jainhind College of Engineering
Kuran, Tal. Junnar, Dist. Pune - 410511

[Signature]
Principal
JCEI's Jainhind College of Engineering
Kuran, Tal. Junnar, Dist. Pune - 410511

[Handwritten notes and signatures in the right margin]

Department:-		First Year Engineering		Cl:-	FE	Div:-	D	Subject:-	-2	Teacher Name:-	Kute A. D.	Sem:-	2	2023-24							
Sr. No.	Exam Seat No	Roll No	Name of Student	Attendance					Internal Examinations						Continuous Assessment	Total Marks	Industrial Visit/Training Paper	Present/Sports/Cultural	Final Assessment Marks		
				Theory			Tutorial		Class Test 1		Class Test 2		Class Test 3								
				%	Marks	Final Marks	%	Marks	Final Marks												
Out Of					3.75	3.75		3.75	3.75	30	2.5	30	2.5	30	2.5	10	25	0	0	25	50
31	F190840408	D31	TAMBADE KARAN RAKHAMAJI	89.063	3.34	3.34	90	3.375	3.38	AB	0.00	21	1.75	30	2.50	10	21	0	0	21	42
32	F190840410	D32	TAMBODE VISHWARAJ BALASAHIB	75	2.81	2.81	80	3	3	AB	0.00	14	1.17	12	1.00	10	18	0	0	18	36
33	F190840413	D33	TATTU AKSHADA JAYSING	87.5	3.28	3.28	80	3	3	25	2.08	17	1.42	23	1.92	10	22	0	0	22	44
34	F190840415	D34	THAKUR BHARTI SANTOSH	75	2.81	2.81	70	2.625	2.63	AB	0.00	24	2.00	16	1.33	10	19	0	0	19	38
35	F190840416	D35	TEAPEKAR MANSI BABAN	100	3.75	3.75	100	3.75	3.75	20	1.67	22	1.83	12	1.00	10	22	0	0	22	44
36	F190840417	D36	THITAME PRATIK DATTU	92.188	3.46	3.46	80	3	3	19	1.58	22	1.83	12	1.00	10	21	0	0	21	42
37	F190840419	D37	THORAT ANIKET SANJAY	75	2.81	2.81	80	3	3	10	0.83	8	0.67	14	1.17	8	16	0	0	16	32
38	F190840420	D38	THORAT DNYANESHWARI M	96.875	3.63	3.63	90	3.375	3.38	23	1.92	19	1.58	22	1.83	10	22	0	0	22	44
39	F190840423	D39	THORAT RUTUJA VISHWANATHI	100	3.75	3.75	90	3.375	3.38	28	2.33	15	1.25	24	2.00	10	23	0	0	23	46
40	F190840425	D40	THORAT SANIKA DILIP	82.813	3.11	3.11	90	3.375	3.38	AB	0.00	12	1.00	25	2.08	10	20	0	0	20	40
41	F190840400	D41	THORAT SHREYA NANDKUMAR	75	2.81	2.81	80	3	3	AB	0.00	11	0.92	15	1.25	9	17	0	0	17	34
42	F190840429	D42	UNDE PRANALI MAHENDRA	93.75	3.52	3.52	80	2.25	2.25	3	0.25	3	0.25	12	1.00	9	16	0	0	16	32
43	F190840430	D43	VARHADI DIKSHA DILIP	98.438	3.69	3.69	100	3.75	3.75	25	2.08	17	1.42	21	1.75	10	23	0	0	23	46
44	F190840432	D44	VIDHATE NIKHIL LAXMAN	75	2.81	2.81	80	3	3	12	1.00	AB	0.00	12	1.00	10	18	0	0	18	36
45	F190840433	D45	VIDHATE RUDHIKESHA	75	2.81	2.81	80	3	3	14	1.17	11	0.92	12	1.00	10	19	0	0	19	38
46	F190840435	D45	VISHWAKARMA TANMAY S	78.125	2.93	2.93	80	3	3	AB	0.00	13	1.08	12	1.00	10	18	0	0	18	36
47	F190840436	D47	VITE PARTH RAHUL	76.563	2.87	2.87	80	3	3	AB	0.00	16	1.33	12	1.00	9	17	0	0	17	34
48	F190840437	D48	WABLE ARYAN MANDAR	90.625	3.40	3.40	90	3.375	3.38	27	2.25	16	1.33	20	1.67	10	22	0	0	22	44
49	F190840438	D49	WAGH KUNAL SANDIP	79.688	2.99	2.99	80	3	3	AB	0.00	5	0.42	8	0.67	8	15	0	0	15	30
50	F190840439	D50	WAGHIRE RUTUJA NANASAHEB	82.813	3.11	3.11	80	3	3	17	1.42	14	1.17	21	1.75	10	20	0	0	20	40
51	F190840440	D51	WAGHMARE NARAYANI DEVIDAS	75	2.81	2.81	80	3	3	AB	0.00	AB	0.00	AB	0.00	8	14	0	0	14	28
52	F190840441	D52	WAGHULE ANIKET NAVNATHI	84.375	3.16	3.16	80	3	3	AB	0.00	8	0.67	12	1.00	9	17	0	0	17	34
53	F190840442	D53	WAIJAGE SHIVAM SANJOSH	79.688	2.93	2.93	80	3	3	17	1.42	16	1.33	23	1.92	10	21	0	0	21	42
54	F190840443	D54	WAKCHAURE SUJAL DHANANJAY	87.5	3.28	3.28	90	3.375	3.38	30	2.50	30	2.50	30	2.50	10	24	0	0	24	48
55	F190840444	D55	WALE PRATHAMESH DASHRATHI	90.625	3.40	3.40	80	3	3	30	2.50	28	2.33	30	2.50	10	24	0	0	24	48
56	F190840446	D56	WALUNJ YASH SJANTARAM	84.375	3.16	3.16	90	3.375	3.38	25	2.08	25	2.08	21	1.75	10	22	0	0	22	44
57	F190840449	D57	WATANE RITESH PRALHADRAO	78.125	2.93	2.93	80	3	3	AB	0.00	20	1.67	30	2.50	10	20	0	0	20	40
58	F190840450	D58	WAVHAL ARYAN ABASHI	90.625	3.40	3.40	90	3.375	3.38	18	1.50	17	1.42	18	1.50	9	20	0	0	20	40
59	F190840452	D59	WAVHAL NIKHIL CHANDRAKANT	87.5	3.28	3.28	90	3.375	3.38	20	1.67	17	1.42	12	1.00	9	20	0	0	20	40
60	F190840453	D60	WAVHAL SANIKA SANTOSH	95.313	3.57	3.57	100	3.75	3.75	27	2.25	23	1.92	18	1.50	10	23	0	0	23	46

AKU
Subject Teacher

AKU
Class Teacher

Wag
F.E. Co. Ordinator
HOD
JCEI's Jaihind College
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Dr. Dhale
Academic Dean
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AKU
Principal
JCEI's Jaihind College of Engineering
Kuran, Tal. Junnar, Dist. Pune - 410511

Department:-		First Year Engineering		Cl:-	FE	Div:-	D	Subject:-	-2		Teacher Name:-	Kute A. D.	Sem:-	2	2023-24						
Sr. No.	Exam Seat No	Roll No	Name of Student	Attendance						Internal Examinations						Continuous Assessment	Total Marks	Industrial Visit/Training Paper	Present/Sports/Cultural	Final Assessment Marks	
				Theory			Tutorial			Class Test 1		Class Test 2		Class Test 3							
				%	Marks	Final Marks	%	Marks	Final Marks												
				Out Of	3.75	3.75		3.75	3.75	30	2.5	30	2.5	30	2.5	10	25	0	0	25	50
					3.75	3.75	50	3.75	3.75	30	2.50	6	0.50	20	1.67	10	22	0	0	22	44
					3.40	3.40	90	3.175	3.58	AB	0.00	AB	0.00	AB	0.00	0	0	0	0	0	0
64	F190840460	D64	YEWALE SRUSHI TEKNATH	96.875	3.63	3.63	100	3.75	3.75	30	2.50	19	1.58	30	2.50	10	23	0	0	23	46
65	F190840461	D65	ZINJAD PRAJWAL SHANTARAM	76.563	2.87	2.87	80	3	3	AB	0.00	9	0.75	12	1.00	10	18	0	0	18	36

AKU

Subject Teacher

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Class Teacher

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F.E.Co.Ordinator

JCEI's Jaihind College
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09105110000
Academic Dean

JCEI's Jaihind College of Engineering
Kuran, Tal. Junnar, Dist. Pune - 410511

AKU
Principal

JCEI's Jaihind College Of Engineering
Kuran, Tal. Junnar, Dist. Pune - 410511

Department:-	First Year Engineering	Class:-	FE	Div:-	D	Sub.	EM-2	Sem-2	Teacher:-	Kute A. D.	AY:-	2022-23
Sr. No.	Exam Seat No	Roll No	Name of Student						Final Assessment Marks	Sign		
								25				
1	F190840366	D1	ROKADE SANCHITA MAHENDRA						19	<i>Rokade</i>		
2	F190840367	D2	SABALE RUTUJA SHANTARAM						23	<i>Rsabale</i>		
3	F190840368	D3	SAHANE RENUKA PRAKASH						23	<i>Rahane</i>		
4	F190840369	D4	SALI SURAJ NILESH						24	<i>S.N.Sali</i>		
5	F190840370	D5	SALVE SANMITRA SATISH						21	<i>Salve</i>		
6	F190840371	D6	SAMBHERAO PRATIK MAHADEV						19	<i>Sambherao</i>		
7	F190840373	D7	SARODE SANIKA ARUN						21	<i>Sarode</i>		
8	F190840375	D8	SASTE OMKAR BHALCHANDRA						15			
9	F190840374	D9	SATPUTE SANKALP BAJIRAO						19	<i>Satpute</i>		
10	F190840376	D10	SAWANT PAYAL SUKHADEV						19	<i>P.S.Sawant</i>		
11	F190840377	D11	SHEJWAL KAUSTUBH SUBHASH						22	<i>Shejwal</i>		
12	F190840378	D12	SHELKE ADINATH NIVRUTTI						19	<i>Aditya</i>		
13	F190840379	D13	SHELKE KUNAL RAMNATH						18	<i>B.S.</i>		
14	F190840380	D14	SHELKE OMKAR POPAT						20	<i>Shelke</i>		
15	F190840381	D15	SHELKE SHIVANI SANTOSH						21	<i>Shelke</i>		
16	F190840382	D16	SHELOT AARTI GIRISH						14			
17	F190840384	D17	SHINDE ANUSHREE ANIL						18	<i>Anushree</i>		
18	F190840389	D18	SHINDE NIRAJ PRABHAKAR						19	<i>Niraj</i>		
19	F190840391	D19	SHINDE PURVA SANDESH						24	<i>Shinde</i>		
20	F190840383	D20	SHINDE RUTUJA SHIVAJI						23	<i>R.Shinde</i>		
21	F190840372	D21	SHINDE SANIKA ASHOK						19	<i>Shinde</i>		
22	F190840393	D22	SHINDE SHIVANI BHAUSAHEB						18	<i>Shinde</i>		
23	F190840394	D23	SHINDE SHIVANI NANDU						17	<i>Shinde</i>		
24	F190840006	D24	SHINDE YASH SANJAY						21	<i>Shinde</i>		
25	F190840397	D25	SHINGADE SAHIL SANJAY						17	<i>S.S.S.</i>		
26	F190840398	D26	SHINGAVI NEERALI DHANESH						21	<i>Nirali</i>		
27	F190840399	D27	SHIRSATH RUSHIKESH SANJAY						22	<i>Rushikesh</i>		
28	F190840401	D28	SONAWANE RUTUJA SANTOSH						22	<i>Sonawane</i>		
29	F190840402	D29	SONAWANE SHREYA GAUTAM						19	<i>Sonawane</i>		
30	F190840407	D30	TAGAD MEGHA DNYANADEV						20	<i>Tagad</i>		

AK
Subject Teacher

IA
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Principal
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Principal

Department:-	1st Year Engineer	Class:-	FE	Div:-	D	Sub.	EM-2	Sem-2	Teacher:-	Kute A. D.	AY:-	2022-23
Sr. No.	Exam Seat No	Roll No	Name of Student					Final Assessment Marks				
								25				
31	F190840408	D31	TAMBADE KARAN RAKHAMAJI					21	<i>[Signature]</i>			
32	F190840410	D32	TAMBADE VISHWARAJ BALASAHEB					18	<i>[Signature]</i>			
33	F190840413	D33	TATTU AKSHADA JAYSING					22	<i>[Signature]</i>			
34	F190840415	D34	THAKUR BHARTI SANTOSH					19	<i>[Signature]</i>			
35	F190840416	D35	THAPEKAR MANSI BABAN					22	<i>[Signature]</i>			
36	F190840417	D36	THIAME PRATIK DATTU					21	<i>[Signature]</i>			
37	F190840419	D37	THORAT ANIKET SANJAY					16	<i>[Signature]</i>			
38	F190840420	D38	THORAT DNYANESHWARI M					22	<i>[Signature]</i>			
39	F190840423	D39	THORAT RUTUJA VISHWANATH					23	<i>[Signature]</i>			
40	F190840425	D40	THORAT SANIKA DILIP					20	<i>[Signature]</i>			
41	F190840400	D41	THORAT SHREYA NANDKUMAR					17	<i>[Signature]</i>			
42	F190840429	D42	UNDE PRANALI MAHENDRA					16	<i>[Signature]</i>			
43	F190840430	D43	VARHADI DIKSHA DILIP					23	<i>[Signature]</i>			
44	F190840432	D44	VIDHATE NIKHIL LAXMAN					18	<i>[Signature]</i>			
45	F190840433	D45	VIDHATE RUDHIKESH A					19	<i>[Signature]</i>			
46	F190840435	D46	VISHWAKARMA TANMAY S					18	<i>[Signature]</i>			
47	F190840436	D47	VITE PARTH RAHUL					17	<i>[Signature]</i>			
48	F190840437	D48	WABLE ARYAN MANDAR					22	<i>[Signature]</i>			
49	F190840438	D49	WAGH KUNAL SANDIP					15	<i>[Signature]</i>			
50	F190840439	D50	WAGHIRE RUTUJA NANASAHEB					20	<i>[Signature]</i>			
51	F190840440	D51	WAGHMARE NARAYANI DEVIDAS					14				
52	F190840441	D52	WAGHULE ANIKET NAVNATHI					17	<i>[Signature]</i>			
53	F190840442	D53	WAJAGE SHIVAM SANTOSH					21	<i>[Signature]</i>			
54	F190840443	D54	WAKCHAURE SUJAL DHANANJAY					24	<i>[Signature]</i>			
55	F190840444	D55	WALE PRATHAMESH DASHRATH					24	<i>[Signature]</i>			
56	F190840446	D56	WALUNJ YASH SHANTARAM					22	<i>[Signature]</i>			
57	F190840449	D57	WATANE RITESH PRALHADRAO					20	<i>[Signature]</i>			
58	F190840450	D58	WAVHAL ARYAN ABAJI					20	<i>[Signature]</i>			
59	F190840452	D59	WAVHAL NIKHIL CHANDRAKANT					20				
60	F190840453	D60	WAVHAL SANIKA SANTOSH					23	<i>[Signature]</i>			

[Signature]
Subject Teacher

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JCEI's Jalhind College C
Head of Department
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JCEI Academic Dean
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Principal

Department:-		1st Year Engineering		Class:-	FE	Div:-	D	Sub.	EM-2	Sem-2	Teacher:-	Kute A. D.	AY:-	2022-23
Sr. No.	Exam Seat No	Roll No	Name of Student	Final Assessment Marks										
					25									
61	F190840454	D61	WAYAL PRATIK TANHAJI	22		Pratik								
62	F190840456	D62	YADAV LAXMAN JAYPRAKASH	0		Admission Cancel.								
63	F190840459	D63	YEVALE JAY ANNASAHEB	23		J. Ayreale								
64	F190840460	D64	YEWALE SRUSHTI EKNATH	25		Srushti								
65	F190840461	D65	ZINJAD PRAJWAL SHANTARAM	18		Prajwal								

AKW

Subject Teacher

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Principal

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