



‘येथे बहुतांचे हित ।’

Marathwada Mitramandal's
COLLEGE OF ENGINEERING

S.No.18, Plot No.5/3, Karvenagar, Pune-411 052

Accredited with 'A' Grade by NAAC

Accredited by NBA (Electrical and Mechanical Engg. Department)

Recipient of 'Best College Award 2019' of SPPU

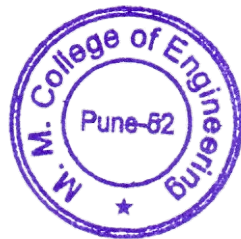
Recognized under section 2(f) and 12B of UGC Act 1956

Criterion 2

2.5 : Evaluation Process and Reforms

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

Internal and External Assessment	
Parameter	Page No.
1. <u>University Practical-Oral Time Table</u>	2
2. <u>University Question Paper and Solution</u>	35
3. <u>University Theory Examination Time Table</u>	63
4. <u>Unit Test Question paper, Model Answers, Attendance and Result</u>	69
5. <u>Practical Continuous Assessment Sheet</u>	106
6. <u>MOCK Practical-Oral Time Table</u>	150
7. <u>Assignment</u>	152
8. <u>Seminar-Project Review Sheet</u>	235





‘येथे बहुतांचे हित ।’

Marathwada Mitramandal's
COLLEGE OF ENGINEERING

S.No.18, Plot No.5/3, Karvenagar, Pune-411 052

Accredited with 'A' Grade by NAAC

Accredited by NBA (Electrical and Mechanical Engg. Department)

Recipient of 'Best College Award 2019' of SPPU

Recognized under section 2(f) and 12B of UGC Act 1956

External Assessment

University Practical/ Oral Time Table

MARATHWADA MITRA MANDAL'S
COLLEGE OF ENGINEERING, PUNE -52
Department of Computer Engineering
Practical / Oral Examination Time Table Oct-2018 (SEM I)

CLASS : SE (2015 Course)

Date :20-10-2018

Sr. No	Subject	Exam Head	Date - Day	Timing	Exam Seat No.	Lab Name
1	Object Oriented Programming Lab (OOPL)	Practical	22-10-2018 Monday	9.00 AM to 12.00 PM	S150454201 To S150454212	506 C
				1.00 PM TO 4.00 PM	S150454213 To S150454224	506 C
				9.00 AM to 12.00 PM	S150454225 To S150454236	506 D
				1.00 PM TO 4.00 PM	S150454237 To S150454248	506 D
			23-10-2018 Tuesday	9.00 AM to 12.00 PM	S150454249 to S150454260	506 C
				1.00 PM TO 4.00 PM	S150454261 to S150454272	506 C
				9.00 AM to 12.00 PM	S150454273 to S150454284	506 D
				1.00 PM TO 4.00 PM	S150454285 to S150454296	506D
			24-10-2018 Wednesday	9.00 AM to 12.00 PM	S150454297 to S150454308	506 C
				1.00 PM TO 4.00 PM	S150454309 to S150454320	506 C
				9.00 AM to 12.00 PM	S150454321 to S150454332	506 D
				1.00 PM TO 4.00 PM	S150454333 to S150454344	506 D
				1.00 PM TO 4.00 PM	S150454345,349,350,361,362,413,416,418,420,428	506 A
2	Digital Electronics Lab (DEL)	Practical	25-10-2018 Thursday	9.00 AM to 12.00 PM	S150454201 To S150454212	511 A
				1.00 PM TO 4.00 PM	S150454213 To S150454224	511 A
				9.00 AM to 12.00 PM	S150454225 To S150454236	511 B
				1.00 PM TO 4.00 PM	S150454237 To S150454248	511B
			26-10-2018 Friday	9.00 AM to 12.00 PM	S150454249 to S150454260	511 A
				1.00 PM TO 4.00 PM	S150454261 to S150454272	511 A
				9.00 AM to 12.00 PM	S150454273 to S150454284	511 B
				1.00 PM TO 4.00 PM	S150454285 to S150454296	511B
			27-10-2018 Saturday	9.00 AM to 12.00 PM	S150454297 to S150454308	511 A
				1.00 PM TO 4.00 PM	S150454309 to S150454320	511 A
				9.00 AM to 12.00 PM	S150454321 to S150454332	511 B
				1.00 PM TO 4.00 PM	S150454333 to S150454344	511B
				1.00 PM TO 4.00 PM	S150454345,S150454355,356,362,416,418,426	501

	Subject	Exam Head	Date - Day	Timing	Exam Seat No.	Lab Name
3	Data Structures Lab (DSL)	Practical	29-10-2018 Monday	9.00 AM to 12.00 PM	S150454201 To S150454212	506 C
				1.00 PM TO 4.00 PM	S150454213 To S150454224	506 C
				9.00 AM to 12.00 PM	S150454225 To S150454236	506 D
				1.00 PM TO 4.00 PM	S150454237 To S150454248	506 D
			30-10-2018 Tuesday	9.00 AM to 12.00 PM	S150454249 to S150454260	506 C
				1.00 PM TO 4.00 PM	S150454261 to S150454272	506 C
				9.00 AM to 12.00 PM	S150454273 to S150454284	506 D
				1.00 PM TO 4.00 PM	S150454285 to S150454296	506D
			31-10-2018 Wednesday	9.00 AM to 12.00 PM	S150454297 to S150454308	506 C
				1.00 PM TO 4.00 PM	S150454309 to S150454320	506 C
				9.00 AM to 12.00 PM	S150454321 to S150454332	506 D
				1.00 PM TO 4.00 PM	S150454333 to S150454344	506 D
				12.00 PM TO 3.00 PM	S150454345, 355,356,361,362,407,420	506 A
4	Advanced Data Structures Lab (ADSL)	Practical	29-10-2018 Monday	9.00 AM to 12.00 PM	S150454347, S150454353 to S150454356, S150454359, S150454361 To S150454364, S150454383, S150454384,	506 C
				1.00 PM TO 4.00 PM	S150454391, S150454397, S150454401, S1504543402, S150454409, S150454313, S150454314, S150454416, S150454418, S150454420, S1504544426, S150454428, S1504543429, S150454435	506 D
5	Computer Graphics Lab (CGL)	Practical	22-10-2018 Monday	9.00 AM to 12.00 PM	S150454356, S150454361, S150454362 S150454396, S150454397, S150454401 S150454416, S150454418, S150454420 S150454426, S150454428, S150454429, S150454435	504

	Subject	Exam Head	Date - Day	Timing	Exam Seat No.	Lab Name
6	Microprocessor Lab (MPL)	Practical	24-10-2018 Wednesday	9.00 AM to 12.00 PM	S150454346, S150454348 to S150454351, S150454355, S150454356, S150454361, S150454362, S150454365, S150454368, S150454369	506 C
				9.00 AM to 12.00 PM	S150454370, S150454372, S150454373, S150454375, S150454377, S150454378, S150454380 To S150454384, S150454393	506 D
				9.00 AM to 12.00 PM	S150454394 To S150454402, S150454406, S150454408, S150454409	506 A
				1.00 PM TO 4.00 PM	S150454411, S150454413 to S150454416, S150454418 to S150454420, S15045422, S150454426, S150454428	506 D
				1.00 PM TO 4.00 PM	S150454429, S150454431, S150454432, S150454435, S150454400, S150454441	506C

Note

- 1] All the candidates should remain present along with journal 1:00 hour before start of the Examination.
- 2] Uniform is Compulsory.
- 3] Students should carry I-card, Hall ticket, calculator, pencil etc with them. Exchange of any material is not allowed.


Practical Exam Co-ordinator


H.O.D

Department of Computer Engineering

MARATHWADA MITRA MANDAL'S
COLLEGE OF ENGINEERING, PUNE -52

Department of Computer Engineering
Practical / Oral Examination Time Table Oct-2018 (SEM I)

CLASS : TE (2015 Course)

Date :20-10-2018

Sr. No	Subject	Exam Head	Date - Day	Timing	Exam Seat No.	Laboratory Name
1	Database Management Systems Lab (DBMS)	Practical	25-10-2018 Thursday	8.00 AM to 11.00 AM	T150454201 To T150454212	506C
				8.00 AM to 11.00 AM	T150454213 To T150454224	506D
				11:30 AM To 2:30 PM	T150454225 To T150454236	506 C
				11:30 AM To 2:30 PM	T150454237 To T150454248	506D
				3:00 PM To 6:00 PM	T150454249 To T150454260	506 C
				3:00 PM To 6:00 PM	T150454261 To T150454272	506 D
			26-10-2018 Friday	8.00 AM to 11.00 AM	T120454273 To T120454284	506C
				8.00 AM to 11.00 AM	T150454285 To T150454296	506D
				11:30 AM To 2:30 PM	T150454297 To T150454308	506 C
				11:30 AM To 2:30 PM	T150454309To T150454320	506D
				3:00 PM To 6:00 PM	T150454321 To T150454332	506 C
				3:00 PM To 6:00 PM	T150454233 To T150454344	506 D
				3:00 PM To 6:00 PM	T150454345, T150454347	506 A
2	Computer Network Lab (CNL)	Practical	1-11-2018 Thursday	8.00 AM to 11.00 AM	T150454201 To T150454212	511
				11:30 AM To 2:30 PM	T150454213 To T150454224	504
				8.00 AM to 11.00 AM	T150454225 To T150454236	511
				11:30 AM To 2:30 PM	T150454237 To T150454248	504
				3:00 PM To 6:00 PM	T150454249 To T150454260	505
			2-11-2018 Friday	8.00 AM to 11.00 AM	T150454261 To T150454272	504
				11:30 AM To 2:30 PM	T120454273 To T120454284	511
				8.00 AM to 11.00 AM	T150454285 To T150454296	504
				11:30 AM To 2:30 PM	T150454297 To T150454308	511
			3-11-2018 Saturday	8.00 AM to 11.00 AM	T150454309To T150454320	504
				11:30 AM To 2:30 PM	T150454321 To T150454332	511
				3:00 PM To 6:00 PM	T150454233 To T150454344	504
				8.00 AM to 11.00 AM	T150454345, T150454347	511

3	Skills Development Lab (SDL)	Oral	22-10-2018 Monday	9.00 AM TO 12.00 PM	T150454201 To T150454220	504
				9.00 AM TO 12.00 PM	T150454221 To T150454240	505
				1.00 PM TO 4.00 PM	T150454241 To T150454260	504
			23-10-2018 Tuesday	1.00 PM TO 4.00 PM	T150454261 To T150454280	505
				9.00 AM TO 12.00 PM	T150454281 To T150454300	504
				9.00 AM TO 12.00 PM	T150454301 To T150454320	505
				1.00 PM TO 4.00 PM	T150454321 To T150454340	504
1.00 PM TO 4.00 PM	T150454341 To T150454347	505				
4	SP & OS LAB	Practical	22-10-2018 Monday	10.00 AM TO 1.00 PM	T150454346 to T150454349, T150454352, T150454358, T150454359, T150454363, T150454364, T150454367, T150454370 to T150454372, T150454380	501
5	Web Technology Lab	Practical	23-10-2018 Tuesday	9.00 AM TO 12.00 PM	T150454352, T150454367, T150454370, T150454371	506B

Note: 1] All the candidates should remain present along with journal 1:00 hour before start of the Examination.

2] Uniform is Compulsory.

3] Students should carry I-card, Hall ticket, calculator, pencil etc with them. Exchange of any material is not allowed.


Practical Exam Co-ordinator


H.O.D

Department of Computer Engineering

MARATHWADA MITRA MANDAL'S
COLLEGE OF ENGINEERING, PUNE -52
Department of Computer Engineering
Practical / Oral Examination Time Table Oct-2018 (SEM I)

CLASS :B.E (2015 Course)

Date:20-10-2018

Sr. No	Subject	Exam Head	Date - Day	Timing	Exam Seat No.	Laboratory Name
1	LP-I	Practical, TW	29-10-2018 Monday	9:00 AM TO 12:00 PM	B150454201 To B150454212	504
				9:00 AM TO 12:00 PM	B150454213 To B150454224	511
				1:00 PM TO 4:00 PM	B150454225 To B150454236	504
				1:00 PM TO 4:00 PM	B150454237 To B150454248	511
			30-10-2018 Tuesday	9:00 AM TO 12:00 PM	B150454249 To B150454260	504
				9:00 AM TO 12:00 PM	B150454261 To B150454272	511
				1:00 PM TO 4:00 PM	B150454273 To B150454284	504
				1:00 PM TO 4:00 PM	B150454285 To B150454296	511
			31-10-2018 Wednesday	9:00 AM TO 12:00 PM	B150454297 To B150454308	504
				9:00 AM TO 12:00 PM	B150454309 To B150454320	511
				1:00 PM TO 4:00 PM	B150454321 To B150454332	504
				1:00 PM TO 4:00 PM	B150454333 To B150454343	511
2	LP-II	Oral, TW	1-11-2018 Thursday	9:00 AM TO 12:00 PM	B150454201 To B150454215	507
				9:00 AM TO 12:00 PM	B150454216 To B150454230	511
				1:00 PM TO 4:00 PM	B150454231 To B150454245	507
				1:00 PM TO 4:00 PM	B150454246 To B150454260	511
			2-11-2018 Friday	4:00 PM TO 7:00 PM	B150454261 To B150454275	507
				9:00 AM TO 12:00 PM	B150454276 To B150454290	511
				9:00 AM TO 12:00 PM	B150454291 To B150454305	507
				1:00 PM TO 4:00 PM	B150454306 To B150454320	511
				1:00 PM TO 4:00 PM	B150454321 To B150454335	507
				4:00 PM TO 7:00 PM	B150454336 To B150454343	511

Note: 1] All the candidates should remain present along with journal 1:00 hour before start of the Examination.
 2] Uniform is Compulsory.

3] Students should carry I-card, Hall ticket, calculator, pencil etc with them. Exchange of any material is not allowed.


 Practical Exam Co-ordinator


 H.O.D

Department of Computer Engineering

MARATHWADA MITRA MANDAL'S
COLLEGE OF ENGINEERING, PUNE -52

Department of Computer Engineering

Practical / Oral Examination Time Table Oct-2018 (SEM I)

CLASS :TE (2012 Course)

Date :20-10-2018

Sr. No	Subject	Exam Head	Date - Day	Timing	Exam Seat No.	Laboratory Name
1	Prgramming Lab - III	Practical, Oral	26-10-2018 Friday	12.00 PM TO 3.00 PM	T120454202, T120454203, T120454204, T120454208, T120454211	505

- Note 1] All the candidates should remain present along with journal 1:00 hour before start of the Examination.
2] Uniform is Compulsory.
3] Students should carry I-card, Hall ticket, calculator, pencil etc with them. Exchange of any material is not allowed.


Practical Exam Co-ordinator


H.O.D
Department of Computer Engineering

MARATHWADA MITRA MANDAL'S
COLLEGE OF ENGINEERING, PUNE -52

Department of Computer Engineering
Practical / Oral Examination Time Table Oct-2018 (SEM I)

CLASS :B.E (2012 Course)

Date:20-10-2018

Sr. No	Subject	Exam Head	Date - Day	Timing	Exam Seat No.	Laboratory Name
1	Computer Laboratory-II	Oral, TW	22-10-2018 Monday	8:00 AM TO 11:00 AM	B120454201	505
2	Computer Laboratory-III	Practical, TW	25-10-2018 Thursday	11:00 AM TO 2:00 PM	B120454201	505
3	Computer Laboratory-IV	Oral, TW	23-10-2018 Tuesday	8:00 AM TO 11:00 AM	B120454201	505

- Note: 1] All the candidates should remain present along with journal 1:00 hour before start of the Examination.
2] Uniform is Compulsory.
3] Students should carry I-card, Hall ticket, calculator, pencil etc with them. Exchange of any material is not allowed.


Practical Exam Co-ordinator


H.O.D

Department of Computer Engineering

MARATHWADA MITRA MANDAL'S
COLLEGE OF ENGINEERING, PUNE -52
Department of Computer Engineering

Practical / Oral Examination Time Table April 2019 (Sem II)

CLASS : SE (2015 Course)

Date: 10-04-2019

Sr. No	Subject	Exam Head	Date - Day	Timing	Exam Seat No.	Lab Name
1	Computer Graphics Lab (CGL)	Practical	12-04-19 Friday	8.30 AM to 11.30 AM	S150454201 To S150454212	506 A
				8.30 AM to 11.30 AM	S150454213 To S150454224	506 B
				12.00 PM TO 3.00 PM	S150454225 To S150454236	506 A
				12.00 PM TO 3.00 PM	S150454237 To S150454248	506 B
				3.00 PM to 6.00 PM	S150454249 To S150454260	506 A
				3.00 PM to 6.00 PM	S150454261 To S150454272	506 B
			13-04-19 Saturday	8.30 AM to 11.30 AM	S150454273 To S150454284	506 A
				8.30 AM to 11.30 AM	S150454285 To S150454296	506 B
				12.00 PM TO 3.00 PM	S150454297 To S150454308	506 A
				12.00 PM TO 3.00 PM	S150454309 To S150454320	506 B
				3.00 PM to 6.00 PM	S150454321 To S150454332	506 A
				3.00 PM to 6.00 PM	S150454333 To S150454345	506 B
				1.00 PM to 4.00 PM	S150454361, S150454362, S150454396, S150454418	506 C
				1.00 PM to 4.00 PM	S150454418	506 C
2	Microprocessor Lab (MPL)	Practical	15-04-19 Monday	9.00 AM to 12.00 PM	S150454201 To S150454212	506 A
				9.00 AM to 12.00 PM	S150454213 To S150454224	506 B
				12.30 AM TO 3.30 PM	S150454225 To S150454236	506 A
				12.30 AM TO 3.30 PM	S150454237 To S150454248	506 B
			16-04-19 Tuesday	9.00 AM to 12.00 PM	S150454249 To S150454260	506 A
				9.00 AM to 12.00 PM	S150454261 To S150454272	506 B
				12.30 AM TO 3.30 PM	S150454273 To S150454284	506 A
				12.30 AM TO 3.30 PM	S150454285 To S150454296	506 B
			17-04-19 Wednesday	9.00 AM to 12.00 PM	S150454297 To S150454308	506 A
				9.00 AM to 12.00 PM	S150454309 To S150454320	506 B
				12.30 AM TO 3.30 PM	S150454321 To S150454332	506 A
				12.30 AM TO 3.30 PM	S150454333 To S150454345	506 B
				12.00 AM TO 3.00 PM	S150454348,349,350,355,361,362,394,396,399,400,401,409,411,413,416,418,426,428,432,440	506 C
				12.00 AM TO 3.00 PM	S150454348,349,350,355,361,362,394,396,399,400,401,409,411,413,416,418,426,428,432,440	506 C

Subject	Exam Head	Date - Day	Timing	Exam Seat No.	Lab Name
Advanced Data Structures Lab (ADSL)	Practical	19-04-19 Friday	8.30 AM to 11.30 AM	S150454201 To S150454212	506 A
			8.30 AM to 11.30 AM	S150454213 To S150454224	506 B
			12.00 PM TO 3.00 PM	S150454225 To S150454236	506 A
			12.00 PM TO 3.00 PM	S150454237 To S150454248	506 B
			3.00 PM to 6.00 PM	S150454249 To S150454260	506 A
			3.00 PM to 6.00 PM	S150454261 To S150454272	506 B
		22-04-19 Monday	8.30 AM to 11.30 AM	S150454273 To S150454284	506 A
			8.30 AM to 11.30 AM	S150454285 To S150454296	506 B
			12.00 PM TO 3.00 PM	S150454297 To S150454308	506 A
			12.00 PM TO 3.00 PM	S150454309 To S150454320	506 B
			3.00 PM to 6.00 PM	S150454321 To S150454332	506 A
			3.00 PM to 6.00 PM	S150454333 To S150454345	506 B
			3.00 PM to 6.00 PM	S150454355, S150454361, S150454362, S150454401, S150454413, S150454416, S150454418, S150454426, S150454428	506 C
Data Structure Lab (DSL)	Practical	22-04-19 Monday	10.00 am to 1.00 pm	S150454205, 214, 219, 229, 238, 248, 250, 270, 271, 273, 282, 283,	506 A
			11.00 AM TO 2.00 PM	S150454288, 291, 297, 299, 304, 307, 309, 311, 316, 317, 326,	506 B
			12.00 PM TO 3.00 PM	S150454327, 333, 343, 355, 361, 362, 407	506 A
Object Oriented Programming (OOPL)	Practical	24-04-19 Wednesday	9.00 AM to 12.00 PM	S150454205, 229, 238, 239, 247, 248, 249, 250, 280, 299, 309, 316,	506 C
			12.00 PM TO 3.00 PM	S150454326, 333, 339, 361, 362, 396, 413, 418, 428	506 C
Digital Electronics Lab (DEL)	Practical	25-04-19 Thursday	10.00 am to 1.00 pm	S150454226, 227, 229, 247, 249, 280, 282, 283, 291, 299, 316, 341,	511
			1.00 PM to 4.00 PM	S150454362, 416, 418, 426	

te: 1] All the candidates should remain present along with journal 1:00 hour before start of the Examination.
Inform is Compulsory.
Students should carry I-card, Hall ticket, calculator, pencil etc with them. Exchange of any material is not allowed.


Practical Exam Co-ordinator
Department of Computer Engineering

MMCOE/academic/UE/Comp/File No.17/2018-19


H.O.D

Department of Computer Engineering

MARATHWADA MITRA MANDAL
COLLEGE OF ENGINEERING, PUNE -52
Department of Computer Engineering
Practical / Oral Examination Time Table April 2019(SEM II)

No	Subject	Exam Head	Date - Day	Timing	Exam Seat No.	Lab Name
1	Web Technology Lab	Practical	19-04-19 Friday	9.00 AM TO 12.00 PM	T150454201 To T150454212	504
				9.00 AM TO 12.00 PM	T150454213 To T150454225	511
				1.00 PM TO 4:00 PM	T150454226 To T150454237	504
				1.00 PM TO 4:00 PM	T150454238 To T150454249	511
			20-04-19Saturday	9.00 AM TO 12.00 PM	T150454250 To T150454262	504
				9.00 AM TO 12.00 PM	T150454264 To T150454275	511
				1.00 PM TO 4:00 PM	T150454276 To T150454287	504
				1.00 PM TO 4:00 PM	T150454288 To T150454300	511
			22-04-19 Monday	9.00 AM TO 12.00 PM	T150454314 To T150454326	504
				9.00 AM TO 12.00 PM	T150454327 To T150454339	511
				1.00 PM TO 4:00 PM	T150454340 To T150454345	504
				8.30 AM to 11.30 AM	T150454201 To T150454212	506 C
2	SP & OS Lab	Practical	15-04-19 Monday	8.30 AM to 11.30 AM	T150454213 To T150454225	506 D
				12.00 PM TO 3.00 PM	T150454226 To T150454237	506 A
				12.00 PM TO 3.00 PM	T150454238 To T150454249	506 B
				3.00 PM to 6.00 PM	T150454250 To T150454262	506 C
				3.00 PM to 6.00 PM	T150454264 To T150454275	506 D
				16-04-19Tuesday	8.30 AM to 11.30 AM	T150454276 To T150454287
			8.30 AM to 11.30 AM		T150454288 To T150454300	506 D
			12.00 PM TO 3.00 PM		T150454314 To T150454326	506 A
			12.00 PM TO 3.00 PM		T150454327 To T150454339	506 B
			3.00 PM to 6.00 PM		T150454340 To T150454347	506 C
			12:00 PM TO 3.00 PM		T150454250, T150454279, T150454287, T150454347	506 D
			3	Database Management Systems Lab	Practical	12-04-19 Friday
4	Computer Network Lab (CNL)	Practical	24/04/19	10.00 AM to 01.00 PM	T150454210, 213,230,250,260,262, 279,287,298,328,337,347	511
5	Skills Development Lab (SDL)	Oral	13/04/19	01:00 PM TO 04.00 PM	T150454253, 287,328,347	505

Note: 1] All the candidates should remain present along with journal 1:00 hour before start of the Examination.

2] Uniform is Compulsory. 3] Students should carry I-card, Hall ticket, calculator, pencil etc with them. Exchange of any material is ngt allowed.

Practical Exam Co-ordinator
Department of Computer Engineering

H.O.D
Department of Computer Engineering

Department of Computer Engineering
Practical / Oral Examination Time Table April 2019 (SEM II)

CLASS : TE (2012 Course)

Date: 10-04-2019

Sr. No	Subject	Exam Head	Date - Day	Timing	Exam Seat No.	Laboratory Name
1	Prgramming Lab - III	Practical, Oral	12-04-19 Friday	10:00 AM To 1:00 PM	T120454202, T120454204	504

Note 1] All the candidates should remain present along with journal 1:00 hour before start of the Examination.

2] Uniform is Compulsory.

3] Students should carry I-card, Hall ticket, calculator, pencil etc with them. Exchange of any material is not allowed.


Practical Exam Co-ordinator
Department of Computer Engineering


H.O.D

ARATI WADA MITRA MANDAL'S
COLLEGE OF ENGINEERING, PUNE -52
Department of Computer Engineering

Practical / Oral Examination Time Table April 2019 (SEM-II)

CLASS : BE (2015 Course)

Date: 10-04-2019

Subject	Exam Head	Date - Day	Timing	Exam Seat No.	Laboratory Name			
Laboratory Practice III	Practical / TW	15-04-19 Monday	9.30 AM to 12.30 PM	B150454201 To B150454212	504			
			9.30 AM to 12.30 PM	B150454213 To B150454225	511			
			12.30 PM TO 3.30 PM	B150454226 To B150454237	504			
			12.30 PM TO 3.30 PM	B150454238 To B150454249	511			
			3.00 PM TO 6.00 PM	B150454250 To B150454262	504			
			3.00 PM TO 6.00 PM	B150454263 To B150454275	511			
		16-04-19 Tuesday	9.30 AM to 12.30 PM	B150454276 To B150454289	504			
			9.30 AM to 12.30 PM	B150454290 To B150454301	511			
			12.30 PM TO 3.30 PM	B150454302 To B150454313	504			
			12.30 PM TO 3.30 PM	B150454314 To B150454327	511			
			3.00 PM TO 6.00 PM	B150454328 To B150454339	504			
			3.00 PM TO 6.00 PM	B150454340 To B150454343	511			
			Laboratory Practice IV	Oral / TW	19-04-19 Friday	9.30 AM to 12.30 PM	B150454201 To B150454212	501
						9.30 AM to 12.30 PM	B150454213 To B150454225	502
12.30 PM TO 3.30 PM	B150454226 To B150454237	501						
12.30 PM TO 3.30 PM	B150454238 To B150454249	502						
1.00 AM TO 4.00 PM	B150454250 To B150454262	501						
1.00 AM TO 4.00 PM	B150454263 To B150454275	502						
20/04/2019 Saturday	9.30 AM to 12.30 PM	B150454276 To B150454289			501			
	9.30 AM to 12.30 PM	B150454290 To B150454301			502			
	12.30 PM TO 3.30 PM	B150454302 To B150454313			501			
	12.30 PM TO 3.30 PM	B150454314 To B150454327			502			
	1.00 AM TO 4.00 PM	B150454328 To B150454339			501			
	1.00 AM TO 4.00 PM	B150454340 To B150454343			502			
	Laboratory Practice I	Practical/ TW			17-04-19 Wednesday	10.00 AM to 1.00 PM	B150454329, B150454335, B150454336, B150454338,	504
	Laboratory Practice II	Oral / TW			22-04-19 Monday	10.00 AM to 1.00 PM	B150454329, B150454335, B150454336, B150454338,	511

1] All the candidates should remain present along with journal 1:00 hour before start of the Examination.
2] Uniform is Compulsory. 3] Students should carry I-card, Hall ticket, calculator, pencil etc with them. Exchange of any material is not allowed.

Practical Exam Co-ordinator
Department of Computer Engineering

H.O.D
Department of Computer Engineering

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING
Karvenagar, Pune-52
Schedule for Oral/Practical Exam
S. E. Electrical (2015 Pat.)

1) Electrical Measurements and Instrumentation (PR) [50 M]

Sr. No.	Date	Time	Roll No.
01	22/10/2018	09:00 am to 11:00 am	S150452501-S150452513
		10:30 am to 12:30pm	S150452514-S150452524
		12:00 pm to 2:00pm	S150452525-S150452536
		1:30 pm to 3:30pm	S150452537-S150452548
02	23/10/2018	09:00 am to 11:00 am	S150452549-S150452560
		10:30 am to 12:30pm	S150452561-S150452572
		12:00 pm to 2:00pm	S150452573-S150452577
		1:30 pm to 3:30pm	All backlog students

2) Analog and Digital Electronics (PR) [50 M]

Sr. No.	Date	Time	Roll No.
01	24/10/2018	09:00 am to 11:00 am	S150452501-S150452513
		10:30 am to 12:30pm	S150452514-S150452524
		12:00 pm to 2:00pm	S150452525-S150452536
		1:30 pm to 3:30pm	S150452537-S150452548
02	25/10/2018	09:00 am to 11:00 am	S150452549-S150452560
		10:30 am to 12:30pm	S150452561-S150452572
		12:00 pm to 2:00pm	S150452573-S150452577
		1:30 pm to 3:30pm	All backlog students

3) Material Science (OR) [50 M]

Sr. No.	Date	Time	Roll No.
01	26/10/2018	09:00 am to 12:00pm	S150452501-S150452520
		12:00 pm to 3:00pm	S150452521-S150452540
02	27/10/2018	09:00 am to 12:00pm	S150452541-S150452560
		12:00 pm to 3:00pm	S150452561-S150452577

4) Fundamentals of Microcontroller and Applications (OR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	25/10/2018	09:00 am to 11:00 am	S150452581,592,593,598,600,617

5) Electrical Machines-I (PR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	26/10/2018	09:00 am to 11:00 am	S150452578,585,592,593,594,598,600 ,618,620

6) Numerical Methods and Computer Programming (PR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	26/10/2018	09:00 am to 11:00 am	S150452578,580,592,593,594,598,607 ,610



Ms. K. S. Sagar
Practical/ Oral Exam Coordinator



Dr. V. N. Gohokar
HOD Electrical Engg. Dept.

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING
 Karvenagar, Pune-52
 Schedule for Oral/Practical Exam
T. E. Electrical (2015 Pat.)

1) Advance Microcontroller & Its Application (OR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	22/10/2018	09:00 am to 12:30 pm	T150452501-T150452520
		12:30 pm to 3:30 pm	T150452521-T150452540
02	23/10/2018	09:00 am to 12:30 pm	T150452541-T150452560
		12:30 pm to 3:30 pm	T150452561-T150452562

2) Electrical Machines II (PR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	24/10/2018	09:00 am to 11:00 am	T150452501-T150452512
		10:30 am to 12:30pm	T150452513-T150452524
		12:00 pm to 2:00pm	T150452525-T150452536
		1:30 pm to 3:30pm	T150452537-T150452548
02	25/10/2018	09:00 am to 11:00 am	T150452549-T150452560
		10:30 am to 12:30pm	T150452561-T150452562
		12:00 pm to 2:00pm	All backlog students
		1:30 pm to 3:30pm	

3) Power Electronics (PR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	26/10/2018	09:00 am to 11:00 am	T150452501-T150452512
		10:30 am to 12:30pm	T150452513-T150452524
		12:00 pm to 2:00pm	T150452525-T150452536
		1:30 pm to 3:30pm	T150452537-T150452548
02	27/10/2018	09:00 am to 11:00 am	T150452549-T150452560
		10:30 am to 12:30pm	T150452561-T150452562
		12:00 pm to 2:00pm	All backlog students
		1:30 pm to 3:30pm	

4) Power System II (PR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	26/10/2018	09:00 am to 11:00 am	T150452568,575,587

5) Control System I (OR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	23/10/2018	09:00 am to 12:00 am	T150452568,570,577,578,586,588,590

6) Design of Electrical Machines (OR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	22/10/2018	09:00 am to 12:00 am	T150452563,564,566,574,578,581,584,586,587,590



Ms. K. S. Sagar
Practical/ Oral Exam Coordinator



Dr. V. N. Gohokar
HOD Electrical Engg. Dept.

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING
Karvenagar, Pune-52
Schedule for Oral/Practical Exam
T. E. Electrical (2012 Pat.)

1) Advance Microcontroller & Its Application (OR) [50 M]


Sr. No.	Date	Time	Exam Seat No.
01	23/10/2018	09:00 am to 12:30 pm	T120452510

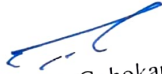
2) Electrical Machines II (PR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	25/10/2018	09:00 am to 12:30 pm	T120452509

3) Control System I (OR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	23/10/2018	09:00 am to 12:00 am	T120452506


Ms. K. S. Sagar
Practical/ Oral Exam Coordinator


Dr. V. N. Gohokar
HOD Electrical Engg. Dept.

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING
Karvenagar, Pune-52
Schedule for Oral/Practical Exam
B. E. Electrical (2015)

1) PLC AND SCADA Applications (PR-50M)


Sr. No.	Date	Time	Exam No.
01	29/10/2018	09:00 am to 10:00 am	B150452508


2) Control System II (OR-25 M)

Sr. No.	Date	Time	Exam No.
01	30/10/2018	09:00 am to 10:00 am	B150452508

3) Power System Operation And Control (OR-25 M)

Sr. No.	Date	Time	Exam No.
01	31/10/2018	09:00 am to 10:00 am	B150452508


Ms. K. S. Sagar
Practical/ Oral Exam Coordinator


Dr. V. N. Gohokar
HOD Electrical Engg. Dept.

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING
 Karvenagar, Pune-52
 Schedule for Oral/Practical Exam
B. E. Electrical (2015/12 Pat.)

1) PLC AND SCADA Applications (PR-50M)


Sr. No.	Date	Time	Roll No.
01	22/10/2018	09:00 am to 11:00 am	B150452501-B150452512
		10:30 am to 12:30pm	B150452513-B150452524
		12:00 pm to 2:00pm	B150452525-B150452536
		1:30 pm to 3:30pm	B150452537-B150452548
02	23/10/2018	09:00 am to 11:00 am	B150452549-B150452560
		10:30 am to 12:30pm	B150452561-B150452572
		12:00 pm to 2:00pm	B150452573-B150452580
		1:30 pm to 3:30pm	All backlog students

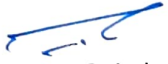
2) Control System II (OR-25 M)

Sr. No.	Date	Time	Roll No.
01	24/10/2018	09:00 am to 12:30 pm	B150452501-B150452520
		12:30 pm to 3:30 pm	B150452521-B150452540
02	25/10/2018	09:00 am to 12:30 pm	B150452541-B150452560
		12:30 pm to 3:30 pm	B150452561-B150452580

3) Power System Operation And Control (OR-25 M)

Sr. No.	Date	Time	Roll No.
01	26/10/2018	09:00 am to 12:30 pm	B150452501-B150452520
		12:30 pm to 3:30 pm	B150452521-B150452540
02	27/10/2018	09:00 am to 12:30 pm	B150452541-B150452560
		12:30 pm to 3:30 pm	B150452561-B150452580


 Ms. K. S. Sagar
 Practical/ Oral Exam Coordinator


 Dr. V. N. Gohokar
 HOD Electrical Engg. Dept.

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING
 Karvenagar, Pune-52
 Schedule for Oral/Practical Exam
S. E. Electrical (2015 Pat.)

1) ELECTRICAL MACHINES I (PR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	20/04/2019	09:00 am to 11:00 am	S150452501-S150452514
		10:30 am to 12:30pm	S150452515-S150452526
		12:00 pm to 2:00pm	S150452528-S150452539
		1:30 pm to 3:30pm	S150452540-S150452552
02	22/04/2019	09:00 am to 11:00 am	S150452553-S150452564
		10:30 am to 12:30pm	S150452565-S150452598
		12:00 pm to 2:00pm	All backlog students
		1:30 pm to 3:30pm	

2) NUMERICAL METHODS & COMPUTER PROGRAMMING (PR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	15/04/2019	09:00 am to 11:00 am	S150452501-S150452514
		10:30 am to 12:30pm	S150452515-S150452526
		12:00 pm to 2:00pm	S150452528-S150452539
		1:30 pm to 3:30pm	S150452540-S150452552
02	16/04/2019	09:00 am to 11:00 am	S150452553-S150452564
		10:30 am to 12:30pm	S150452565-S150452598
		12:00 pm to 2:00pm	All backlog students
		1:30 pm to 3:30pm	

3) FUNDAMENTAL OF MICROCONTROLLER & ITS APPLICATION (OR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	24/04/2019	09:00 am to 12:00pm	S150452501-S150452522
		12:00 pm to 3:00pm	S150452523-S150452544
02	25/04/2019	09:00 am to 12:00pm	S150452545-S150452564
		12:00 pm to 3:00pm	S150452565-S150452598 & backlog students

4) MATERIAL SCIENCE (OR) [50 M]


Sr. No.	Date	Time	Exam Seat No.
01	22/04/2019	09:00 am to 11:00 am	S150452510,S150452512,S150452543

5) ANALOG & DIGITAL ELECTRONICS (PR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	16/04/2019	09:00 am to 11:00 am	S150452510,S150452512,S150452543, S150452561

6) ELECTRICAL MEASUREMENT & INSTRUMENTATION (PR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	24/04/2019	09:00 am to 11:00 am	S150452505,S150452543,S150452548, S150452561


Mrs.S.A.Upasani
Practical/ Oral Exam Coordinator

Dr. V. N. Gohokar
HOD Electrical Engg. Dept.

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING
 Karvenagar, Pune-52
 Schedule for Oral/Practical Exam
T. E. Electrical (2015 Pat.)

1) CONTROL SYSTEM I (OR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	20/04/2019	09:00 am to 12:30 pm	T150452501-T150452521
		12:30 pm to 3:30 pm	T150452522-T150452543
02	22/04/2019	09:00 am to 12:30 pm	T150452544-T150452560
		12:30 pm to 3:30 pm	All backlog students

2) DESIGN OF ELECTRICAL MACHINES (OR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	15/04/2019	09:00 am to 12:30 pm	T150452501-T150452521
		12:30 pm to 3:30 pm	T150452522-T150452543
02	16/04/2019	09:00 am to 12:30 pm	T150452544-T150452560
		12:30 pm to 3:30 pm	All backlog students

2) POWER SYSTEM II (PR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	24/04/2019	09:00 am to 11:00 am	T150452501-T150452513
		10:30 am to 12:30pm	T150452514-T150452527
		12:00 pm to 2:00pm	T150452528-T150452539
		1:30 pm to 3:30pm	T150452540-T150452551
02	25/04/2019	09:00 am to 11:00 am	T150452552-T150452560
		10:30 am to 12:30pm	All backlog students
		12:00 pm to 2:00pm	
		1:30 pm to 3:30pm	

4) ELECTRICAL MACHINES II (PR) [50 M]


Sr. No.	Date	Time	Exam Seat No.
01	25/04/2019	09:00 am to 11:00 am	T150452502,T150452529,T150452537 ,T150452539,T150452545

5) ADVANCED MICROCONTROLLER & ITS APPLICATION (OR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	22/04/2019	09:00 am to 12:00 am	T150452502, T150452509, T150452522, T150452528, T150452529, T150452537, T150452539, T150452544, T150452545, T150452547

6) POWER ELECTRONICS (PR) [50 M]

Sr. No.	Date	Time	Exam Seat No.
01	15/04/2019	09:00 am to 12:00 am	T150452529, T150452539, T150452545


Mrs. S.A. Upasani
Practical/ Oral Exam Coordinator

Dr. V. N. Gohokar
HOD Electrical Engg. Dept.

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING
 Karvenagar, Pune-52
 Schedule for Oral/Practical Exam
B. E. Electrical (2015 Pat.)

1) SWITCHGEAR & PROTECTION (OR)

Sr. No.	Date	Time	Exam Seat No.
01	15/04/2019	09:00 am to 12:30 pm	B150452501-B150452520
		12:30 pm to 3:30 pm	B150452521-B150452540
02	16/04/2019	09:00 am to 12:30 pm	B150452541-B150452560
		12:30 pm to 3:30 pm	B150452561-B150452580

2) HIGH VOLTAGE ENGINEERING (OR)

Sr. No.	Date	Time	Exam Seat No.
01	20/04/2019	09:00 am to 12:30 pm	B150452501-B150452520
		12:30 pm to 3:30 pm	B150452521-B150452540
02	22/04/2019	09:00 am to 12:30 pm	B150452541-B150452560
		12:30 pm to 3:30 pm	B150452561-B150452580

3) POWER ELECTRONICS CONTROL & DRIVES (PR)

Sr. No.	Date	Time	Exam Seat No.
01	24/04/2019	09:00 am to 11:00 am	B150452501-B150452512
		10:30 am to 12:30pm	B150452513-B150452524
		12:00 pm to 2:00pm	B150452525-B150452536
		1:30 pm to 3:30pm	B150452537-B150452548
02	25/04/2019	09:00 am to 11:00 am	B150452549-B150452560
		10:30 am to 12:30pm	B150452561-B150452572
		12:00 pm to 3:00pm	B150452573-B150452580

4) PLC & SCADA APPLICATIONS (PR)

Sr. No.	Date	Time	Exam Seat No.
01	20/04/2019	09:00 am to 11:00 am	B150452515,B150452566,B1504525569

5) CONTROL SYSTEM II (OR)

Sr. No.	Date	Time	Exam Seat No.
01	15/04/2019	09:00 am to 12:30 pm	B150452565,B150452567,B150452573 ,B150452574,B150452576

6) POWER SYSTEM OPERATION & CONTROL (OR)

Sr. No.	Date	Time	Exam Seat No.
01	20/04/2019	09:00 am to 11:00 am	Backlog Students

7) SWITCHGEAR & PROTECTION (OR)

Sr. No.	Date	Time	Exam Seat No.
01	16/04/2019	09:00 am to 11:00 am	Backlog Students

8) HIGH VOLTAGE ENGINEERING (OR)

Sr. No.	Date	Time	Exam Seat No.
01	22/04/2019	09:00 am to 11:00 am	Backlog Students

9) POWER ELECTRONICS CONTROL & DRIVES (PR)

Sr. No.	Date	Time	Exam Seat No.
01	25/04/2019	09:00 am to 11:00 am	Backlog Students



Mrs.S.A.Upasani
Practical/ Oral Exam Coordinator

Dr. V. N. Gohokar
HOD Electrical Engg. Dept.

SAVITRIBAI PHULE PUNE UNIVERSITY

PROFORMA FOR SUPPLYING INFORMATION BY THE PRINCIPAL

FOR S.E. PRACTICAL / ORAL EXAMINATION OF April-May 2019


EXAMINATION : April-May 2019

Name of the College - Marathwada Mitra Mandal's College of Engineering, Karvenagar,Pune - 411052.

Branch - S.E. Information Technology 2015 Course

College Code: 045

Sr.no.	Subject no.	Subject	Exam Head	Students Count	Suggested Dates	Internal Examiner
1	214448	Object Oriented programming Lab	PR	11	12/04/2019	Mrs. Shital Kakad
2	214446	Digital Laboratory	PR	4	15/04/2019	Mrs.Rasmi Bhattad
3	214447	Programming Lab.	PR	10	16/04/2019	Mr. Jitendra Chavan
4	214454	Processor Interfacing Laboratory	PR	74	19/04/2019 & 20/04/2019	Mrs.Rasmi Bhattad
5	214455	Data Structure and Files Lab.	PR	74	24/04/2019 & 25/04/2019	Dr. V. S. Bidave
6	214456	Computer Graphics Laboratory	PR	74	27/04/2019 & 28/04/2019	Ms. P.R. Kuche


Mrs. P.S. Joshi
Practical Exam Coordinator




Dr. V. S. Bidave
HOD,IT

SAVITRIBAI PHULE PUNE UNIVERSITY

PROFORMA FOR SUPPLYING INFORMATION BY THE PRINCIPAL
FOR T.E. PRACTICAL / ORAL EXAMINATION OF April-May 2019


EXAMINATION : April-May 2019

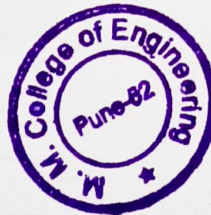
Name of the College - Marathwada Mitra Mandal's College of Engineering, Karvenagar,Pune - 411052.


Branch - T.E. Information Technology (2015) Course

College Code:45

Sr.no.	Subject no.	Subject	Exam Head	No. Of Students	Suggested Dates	Internal Examiner
1	314447	Software Laboratory - II	PR	4	12/04/2019	Mr. Swapnil Shinde
2	314446	Software Laboratory - I	OR+PR	3+1	13/04/2019	Mr. Nikhil Dhavase
3	314455	Software Laboratory – IV	OR	70	15/04/2019 & 16/04/2019	Mrs. P. S. Joshi
4	314456	Software Laboratory – V	PR	70	19/04/2019 & 20/04/2019	Mrs. Shital Kakad
5	314458	Seminar	OR	70	22/04/2019	Mrs. P. S. Joshi
6	314457	Software Laboratory – VI	PR	70	26/04/2019 & 27/04/2019	Mr. Nikhil Dhavase


Mrs. P.S. Joshi
Practical Exam Coordinator




Dr. V. S. Bidave
HOD,IT


SAVITRIBAI PHULE PUNE UNIVERSITY
PROFORMA FOR SUPPLYING INFORMATION BY THE PRINCIPAL
FOR B.E. PRACTICAL / ORAL EXAMINATION OF April-May 2019
EXAMINATION : April-May 2019

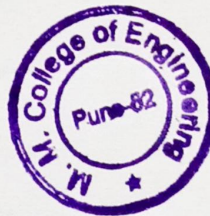
Name of the College - Marathwada Mitra Mandal's College of Engineering, Karvenagar, Pune - 411052.

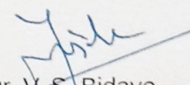
Branch - B.E. Information Technology (2015) Course

College Code:45

Sr.no.	Subject no.	Subject	Exam Head	Students Count	Suggested Dates	Internal Examiner
1	414459	Computer Laboratory-VIII	OR	4	13/04/2019	Mr. P. B. Kamble
2	414458	Computer Laboratory-VII	PR	3	15/04/2019	Mrs.Rasmi Bhattad
3	414467	Computer Laboratory-X	TW+OR	71	19/04/2019 & 20/04/2019	Mrs. P. S. Joshi
4	414464	Elective-III	TW+OR	71	22/04/2019	Mr. P. B. Kamble + Ms. P.R. Kuche
5	414466	Computer Laboratory-IX	TW+PR	71	24/04/2019 & 25/04/2019	Mr. Swapnil Shinde


Mrs. P.S. Joshi
Practical Exam Coordinator




Dr. V.S. Bidave
HOD,IT

SAVIRIBAI PHULE PUNE UNIVERSITY

PROFORMA FOR SUPPLYING INFORMATION BY THE PRINCIPAL

FOR S.E. PRACTICAL / ORAL EXAMINATION OF April-May 2019

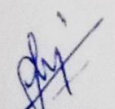
EXAMINATION : April-May 2019

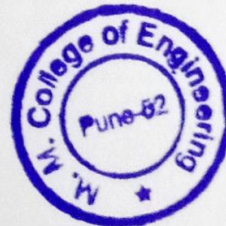
Name of the College - Marathwada Mitra Mandal's College of Engineering, Karvenagar, Pune - 411052.

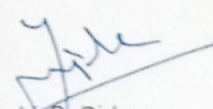
Branch - S.E. Information Technology 2015 Course

College Code: 045

Sr.no.	Subject no.	Subject	Exam Head	Students Count	Suggested Dates	Internal Examiner
1	214448	Object Oriented programming Lab	PR	11	12/04/2019	Mrs. Shital Kakad
2	214446	Digital Laboratory	PR	4	15/04/2019	Mrs.Rasmi Bhattad
3	214447	Programming Lab.	PR	10	16/04/2019	Mr. Jitendra Chavan
4	214454	Processor Interfacing Laboratory	PR	74	19/04/2019 & 20/04/2019	Mrs.Rasmi Bhattad
5	214455	Data Structure and Files Lab.	PR	74	24/04/2019 & 25/04/2019	Dr. V. S. Bidave
6	214456	Computer Graphics Laboratory	PR	74	27/04/2019 & 28/04/2019	Ms. P.R. Kuche


Mrs. P.S. Joshi
Practical Exam Coordinator




Dr. V. S. Bidave
HOD, IT


SAVITRIBAI PHULE PUNE UNIVERSITY
PROFORMA FOR SUPPLYING INFORMATION BY THE PRINCIPAL
FOR T.E. PRACTICAL / ORAL EXAMINATION OF April-May 2019
EXAMINATION : April-May 2019

Name of the College - Marathwada Mitra Mandal's College of Engineering, Karvenagar,Pune - 411052.


Branch - T.E. Information Technology (2015) Course

College Code:45

Sr.no.	Subject no.	Subject	Exam Head	No. Of Students	Suggested Dates	Internal Examiner
1	314447	Software Laboratory - II	PR	4	12/04/2019	Mr. Swapnil Shinde
2	314446	Software Laboratory - I	OR+PR	3+1	13/04/2019	Mr. Nikhil Dhavase
3	314455	Software Laboratory – IV	OR	70	15/04/2019 & 16/04/2019	Mrs. P. S. Joshi
4	314456	Software Laboratory – V	PR	70	19/04/2019 & 20/04/2019	Mrs. Shital Kakad
5	314458	Seminar	OR	70	22/04/2019	Mrs. P. S. Joshi
6	314457	Software Laboratory – VI	PR	70	26/04/2019 & 27/04/2019	Mr. Nikhil Dhavase


Mrs. P.S. Joshi
Practical Exam Coordinator




Dr. V. S. Bidave
HOD,IT

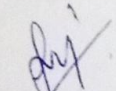
SAVITRIBAI PHULE PUNE UNIVERSITY
PROFORMA FOR SUPPLYING INFORMATION BY THE PRINCIPAL
FOR B.E. PRACTICAL / ORAL EXAMINATION OF April-May 2019
EXAMINATION : April-May 2019

Name of the College - Marathwada Mitra Mandal's College of Engineering, Karvenagar,Pune - 411052.

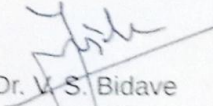
Branch - B.E. Information Technology (2015) Course

College Code:45

Sr.no.	Subject no.	Subject	Exam Head	Students Count	Suggested Dates	Internal Examiner
1	414459	Computer Laboratory-VIII	OR	4	13/04/2019	Mr. P. B. Kamble
2	414458	Computer Laboratory-VII	PR	3	15/04/2019	Mrs.Rasmi Bhattad
3	414467	Computer Laboratory-X	TW+OR	71	19/04/2019 & 20/04/2019	Mrs. P. S. Joshi
4	414464	Elective-III	TW+OR	71	22/04/2019	Mr. P. B. Kamble + Ms. P.R. Kuche
5	414466	Computer Laboratory-IX	TW+PR	71	24/04/2019 & 25/04/2019	Mr. Swapnil Shinde


Mrs. P.S. Joshi
Practical Exam Coordinator




Dr. V. S. Bidave
HOD,IT



‘येथे बहुतांचे हित ।’

Marathwada Mitramandal's
COLLEGE OF ENGINEERING

S.No.18, Plot No.5/3, Karvenagar, Pune-411 052

Accredited with 'A' Grade by NAAC

Accredited by NBA (Electrical and Mechanical Engg. Department)

Recipient of 'Best College Award 2019' of SPPU

Recognized under section 2(f) and 12B of UGC Act 1956

External Assessment

University Question Paper and Solution

Total No. of Questions : 6]

P5822

SEAT No. :

[Total No. of Pages : 2

BE/Insem. Oct.-589

B.E. (Computer Engineering)

DATA MINING AND WAREHOUSING

(2015 Pattern) (Elective - I) (Semester - I)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.
- 2) Assume suitable data, if necessary.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Figures to the right indicate full marks.

- Q1) a) Suppose that the minimum and maximum values for the attribute income are \$12,000 and \$98,000 respectively. Normalize income value \$73,600 to the range [0.0, 1.0] using min-max normalization method. 0.716 [4]
- b) Explain various data cleaning techniques. [4]
- c) What is correlation analysis? [2]

- Q2) a) Explain different methods for attribute subset selection (any 2). [4]
- b) For the given attribute marks values :
35, 45, 50, 55, 60, 65, 75
Compute mean, median, mode.
Also compute Five number summary of above data. [4]
- c) Enlist different methods of sampling. [2]
- Handwritten notes:*
mean = 55
median = 55
25% Q = 45
Q3 = 65
lowest = 35

- Q3) a) From the architectural point of view, explain different data warehouse models. [4]
- b) Differentiate between ROLAP, MOLAP and HOLAP [4]
- c) What is Concept Hierarchy? Explain. [2]
- OR

- Q4) a) Draw and Explain a data warehouse architecture. [4]
- b) Explain following OLAP operations with example. [4]
- i) Drill Up
 - ii) Slice & Dice
- c) What is fact table and dimension table.

Q5) a) Calculate Euclidean and Manhattan distance between following two objects. [4]

$$A = \{2, 4, 8, 6, \}, \quad B = \{3, 4, 6, 7\}$$

Euclidean = 2.44
Manhattan = 2

b) How to compute dissimilarity between categorical variables. Explain with suitable example. [4]

c) What is cosine similarity? [2]

OR

Q6) a) Compute cosine similarity among following documents using term frequency vector [4]

d_1 : "The sun in the sky is bright"

d_2 : "We can see the shining sun, the bright sun"

0.6864

b) How to compute dissimilarity between ordinal variables. Explain with suitable example. [4]

c) Explain Data matrix and Dissimilarity matrix. [2]

114.143.165.238 10/08/2018 13:24:31

CEGP012621
114.143.165.238 10/08/2018 13:24:31

CEGP012621
143.165.238 10/08/2018 13:24:31

INSEM-EXAM-MODEL ANSWERSHEET

Subject - Data Mining & Warehousing.
Class - BE-computer
Subject-Teacher - Mrs. S. P. Mone.
A.Y. - 2018-19 (SEM-I).

Q.1) (a) Suppose that the minimum & maximum values for the attribute income are \$12,000 & \$98,000 respectively. Normalize income value \$73,600 to the range [0.0, 1.0], using min-max normalization method.

Ans)

$$V_i' = \frac{V_i - \min_A}{\max_A - \min_A} (\text{new_max}_A - \text{new_min}_A) + \text{new_min}_A$$

$$= \frac{73600 - 12000}{98000 - 12000} (1.0 - 0) + 0$$

$$V_i' = 0.716$$

Q.1b) Explain various data cleaning techniques.

Ans) Data Cleaning -

- It attempt to fill in missing values, smooth out noise, while identifying outliers, and correct inconsistencies in the data.

⊙ Missing values -

It may happen that, in the database many tuples have no recorded value for several attributes such as customer 'income'. We can fill missing values by any of the following methods -

⊙ i) Ignore the tuple -

- This is usually done when the class label is missing. This method is not very effective, unless the tuple contains several attributes with missing values.

ii) Fill in the missing value manually -

In general, this approach is time consuming & may not be feasible, given a large data set with

with many missing values.

ii) Use a global constant to fill in the missing value -
Replace all missing attribute values by the same constant such as a label like "unknown" or

$-\infty$. Many of the tuples will have this "unknown" value so although this method is simple but it is not ~~fast~~ ~~help~~ complete.

iv) Use a measure of central tendency for the attribute to fill in the missing value -

- This indicate the "middle" value of a data distribution. For normal (symmetric) data distribution, the mean can be used, while skewed data distribution should employ the median. We can use this value to replace the missing value for "income" attribute.

v) Use the attribute mean or median for all samples belonging to the same class as the given tuple -

- For example, if classifying customers accordingly to credit risk, we may replace the missing value with the mean income value for customers in the same credit risk category as that of the given tuple. If the data distribution for a given class is skewed, the median value is a better choice.

(b) Noisy Data -

- Noise is a random error or variance in a measured variable. Basic statistical description techniques, methods of data visualization can be used to identify outliers which may represent noise. We can "smooth" out the data to remove the noise. Following are data smoothing techniques -

i) Binning - Binning methods smooth a sorted data value by consulting its "neighborhood", that is, the value around it. The sorted values are distributed into a number of "buckets" or bins.

- In "smoothing by bin means" method, each value in a bin is replaced by the mean value of the bin.

ii) Regression - Data smoothing can also be done by regression, a technique that confirms data values to a function. Linear regression involves finding the "best" line to fit two attributes (or variables) so that one attribute can be used to predict the other.

- ~~the~~ Multiple linear regression is an extension of linear regression, where more than two attributes are involved and the data are fit to a multidimensional surface.

© Outlier Analysis - Outlier may be detected by clustering, for example, where similar values are organized into groups, or "clusters". The values that fall outside of the set of clusters may be considered outliers.

Q.1c) What is Correlation Analysis.

Ans) Redundancy is an important issue in data integration.

- Some redundancies can be detected by correlation analysis. Given two attributes, such analysis can measure how strongly one attribute implies the other, based on the available data.

① Correlation Test for Nominal Data -

- For nominal data, a correlation relationship between two attributes, A & B, can be discovered by χ^2 (chi-square) test.

- Suppose A has 'c' distinct values, namely a_1, a_2, \dots, a_c . B has 'r' distinct values, namely b_1, b_2, \dots, b_r .
- The data tuples described by A and B can be shown as a contingency table. Let (A_i, B_j) denote the joint event that attribute 'A' takes an value a_i and attribute B takes on value b_j , that is, where $(A=a_i, B=b_j)$. The χ^2 value is computed as -

$$\chi^2 = \sum_{i=1}^c \sum_{j=1}^r \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

where O_{ij} - observed frequency (i.e. actual count) of the joint event (A_i, B_j) and

E_{ij} - Expected frequency of (A_i, B_j) which can be computed as -

$$E_{ij} = \frac{\text{count}(A=a_i) \times \text{count}(B=b_j)}{n}$$

where n - number of data tuples.

- χ^2 statistical tests the hypothesis that A & B are independent, that is, there is no correlation between them. If the hypothesis can be rejected, then we say that A & B are statistically ~~correlat~~ correlated.

(II) Correlation Coefficient for Numeric Data -

- For numeric attributes, we can evaluate the correlation between two attributes A & B, by computing the correlation coefficient (also known as Pearson's product moment coefficient) This is,

$$r_{AB} = \frac{\sum_{i=1}^n (a_i - \bar{A})(b_i - \bar{B})}{n \sigma_A \sigma_B}$$

n - no. of tuples

a_i & b_i - the respective values of A & B in tuple i .

\bar{A} & \bar{B} - mean values of A & B respectively.

σ_A & σ_B - standard deviations of A & B respectively

$\sum (a_i b_i)$ - the sum of the AB cross-product.

III) Covariance of Numeric Data -

- In probability theory & statistics, correlation & covariance are two similar measures for accessing how much two attributes change together.

- The covariance between A & B is defined as

$$\begin{aligned} \text{cov}(A, B) &= E((A - \bar{A})(B - \bar{B})) \\ &= \frac{\sum_{i=1}^n (a_i - \bar{A})(b_i - \bar{B})}{n} \end{aligned}$$

$$r_{A, B} = \frac{\text{cov}(A, B)}{\sigma_A \sigma_B}$$

Q.2 a) Explain different methods for attribute subset selection. (any 2).

Ans) - Attribute subset selection is carried out by greedy method. This leads the local optimal choice.

- This selection is good or not that depends upon the dependency of the attributes on each other. Greedy methods of attribute subset selection are as follows

- (a) Stepwise forward selection
- (b) Stepwise backward elimination
- (c) Combination of backward elimination & forward selection
- (d) Decision tree Induction.

(a) Stepwise Forward selection -

- The procedure starts with an empty set of attributes as the reduced set. At each subsequent iteration or step, the best of the remaining original attributes is added to the set.

(b) Stepwise Backward Elimination -

- The procedure starts with the full set of attributes. At each step, it removes the ~~worst~~ worst attribute remaining in the set.

Q.2b) For the given attribute marks values:

35, 45, 50, 55, 60, 65, 75. Compute Five-number summary.
Compute mean, median & mode.

Ans)

$$\text{Mean} = \bar{x} = \frac{\sum_{i=1}^N x_i}{N}$$

$$= \frac{35 + 45 + 50 + 55 + 60 + 65 + 75}{7}$$

$$= \frac{385}{7} = 55$$

Median = 55 as it is the middlemost value of all the numbers if all are in sorted order.

Mode - Mode for a set of data is the value that occurs most frequently in the set. Therefore, it can be determined for quantitative & qualitative attributes. If each data value occurs only once, then there is no mode.

So Here also all values occur only once, so there is no mode.

Q.2c) Five Number Summary -

The quartiles give an indication of a distribution's center, spread & shape. The first quartile, denoted by Q_1 , is the 25%. The third quartile denoted by Q_3 , is 75%. The second quartile is the 50%, which gives the median of the data.

So In the given data,

$$(25\%) Q_1 = 45$$

$$Q_3 (75\%) = 65$$

lowest value of data set = 35

highest value of data set = 75

and median = 55

This is the five-number summary.

Q.2c) Enlist different methods of sampling

Ans) Different methods of sampling are as follows

① Simple Random sample without replacement (SRSWOR) of size s -

This is created by drawing s of the N tuples from D ($s \leq N$), where the probability of drawing any tuple in D is $1/N$, that is, all tuples are equally likely to be sampled.

② Simple random sample with replacement (SRSWR) of size s -

This is similar to SRSWOR, except that each time a tuple is drawn from D , it is recorded & then replaced. That is, after a tuple is drawn, it is placed back in D so that it may be drawn again.

③ Cluster sample - If the tuples in D are grouped into M mutually disjoint "clusters", then an SRS of s clusters can be obtained, where $s \leq M$. For example, tuples in a database are usually retrieved a page at a time, so that each page can be considered a cluster.

④ Stratified Sample -

If D is divided into mutually disjoint parts called strata, a stratified sample of D is generated by obtaining an SRS at each stratum. This helps ensure a representative sample, especially when the data are skewed.

Q.3a) From the architectural point of view, explain different data warehouse models.

Ans) From the architectural point of view, there are 3 data warehouse models -

(a) The enterprise warehouse.

(b) The data mart.

(c) Virtual Warehouse.

① Enterprise Warehouse -

An enterprise warehouse collects all of the information about subjects spanning the entire organization. It provides corporate-wide data integration, usually from one or more operational systems or external information providers and is cross-functional in scope.

(b) Data Mart - A data mart contains a subset of corporate-wide data that is of value to a specific group of users. The scope is confined to specific selected subjects. For example, a marketing data mart may confine its subjects to customers, items, and sales. The data contained in data marts tend to be summarized.

(c) Virtual Warehouse - A virtual warehouse is a set of views over operational databases. For efficient query processing, only some of the possible summary views may be materialized. A virtual

warehouse is easy to build but requires excess capacity on operational database servers.

Q.3 b) Differentiate between ROLAP, MOLAP and HOLAP.

Ans) Relational OLAP server - These are the intermediate servers that stand between a relational back-end server & client front-end tool. They use a relational or extended-relational DBMS to store and manage warehouse data, and OLAP middleware to support missing pieces.

- ROLAP servers include optimization for each DBMS back end, implementation of aggregation ~~and~~ navigation logic, and additional tools and services.
- ROLAP technology tends to have greater scalability than MOLAP technology. The DSS server of Microstrategy, for example, adopts the ROLAP approach.

b) Multidimensional OLAP servers - These servers support multidimensional data views through "array-based multidimensional storage engines". They map multidimensional views directly to data cube array structures.

- The advantage of using a data cube is that it allow fast indexing to precomputed summarized data.
- Many MOLAP servers adopt a two-level storage ~~represent~~ representation to handle dense and sparse data sets: denser subcubes are identified and stored as array structures, whereas sparse subcubes employ compression technology for efficient storage utilization.

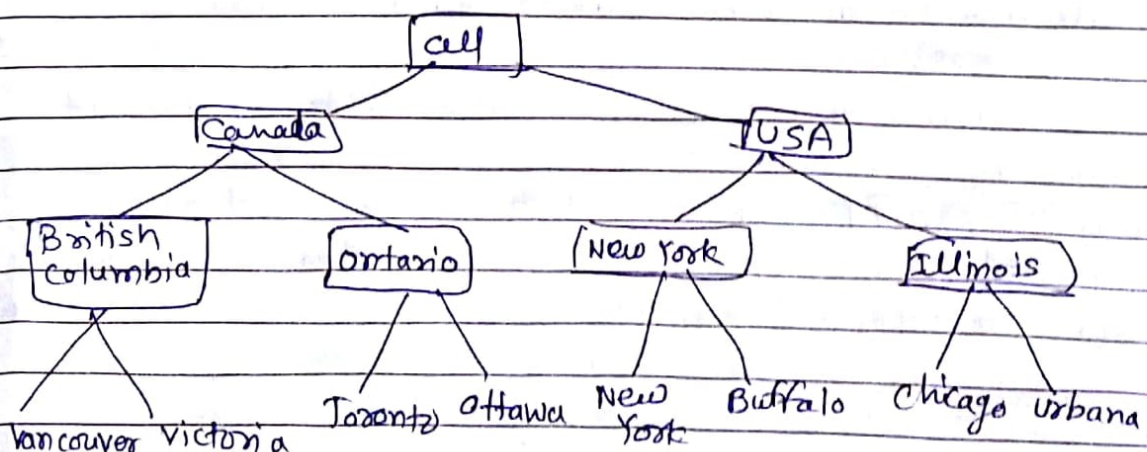
c) Hybrid OLAP servers - The hybrid OLAP approach combines ROLAP and MOLAP technology, benefiting from the greater scalability of ROLAP and the faster computation of MOLAP.

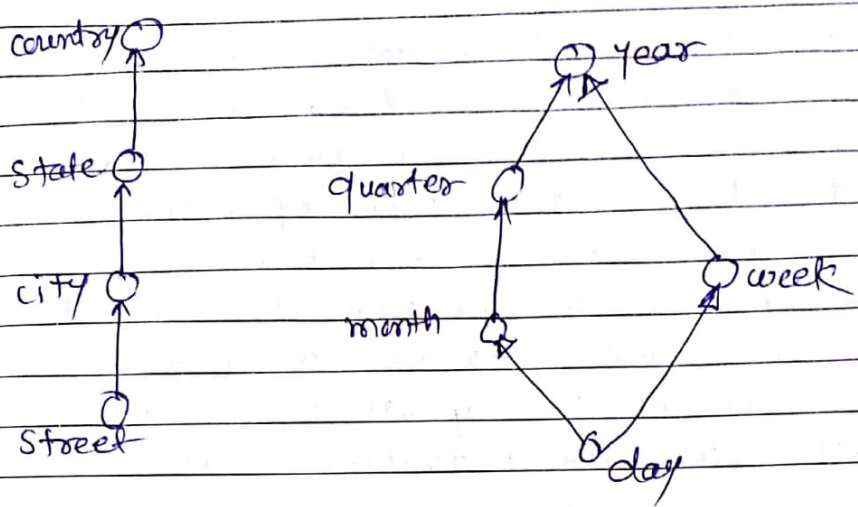
- For example, a HOLAP server may allow large volumes of detailed data to be stored in a relational database, while aggregations are kept in a separate MOLAP store. The Microsoft SQL Server 2000 supports a hybrid OLAP server.

Q.3c) What is concept Hierarchy? Explain.

Ans) Concept hierarchy defines a sequence of mappings from a set of low-level concepts to higher level.

- Consider a concept hierarchy for the dimension location. City values for 'location' include Vancouver, Toronto, New York, and Chicago. Each city, however, can be mapped to the province or state to which it belongs.
- Many concept hierarchies are implicit within the database schema. For example, suppose that the dimension location is described by the attributes number, street, city, state, zip-code & country. This hierarchy can be shown as

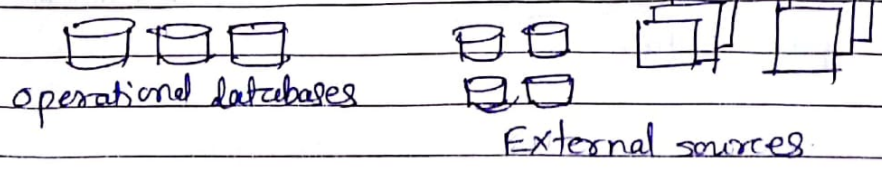
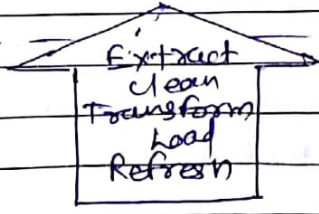
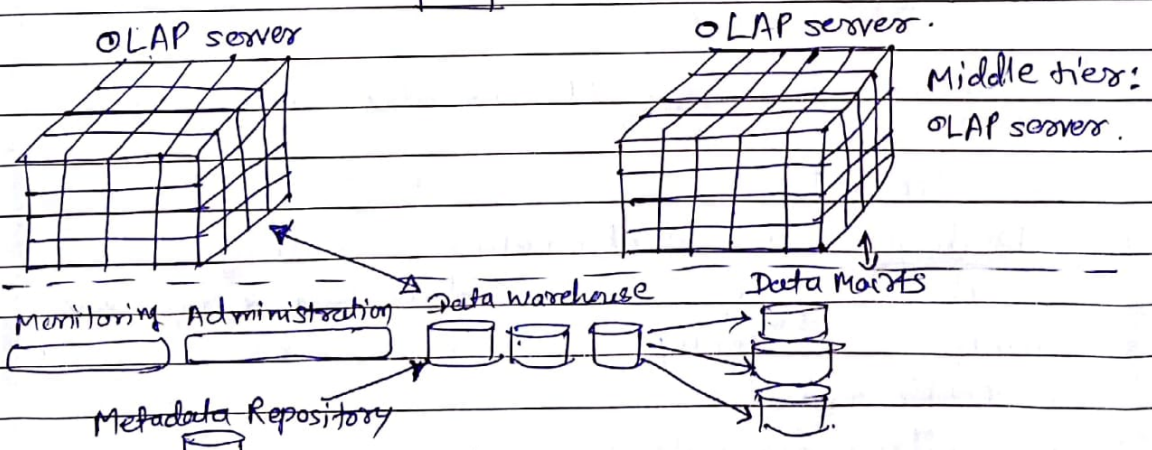
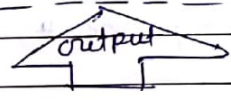
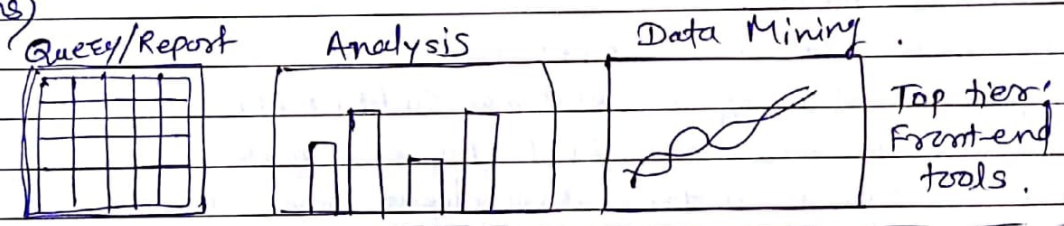




Hierarchical & lattice structures of attributes

Q.4a) Draw & Explain a data warehouse architecture

Ans)



- The bottom tier is a warehouse database server that is almost always a relational database system. Back-end tools and utilities are used to feed data into the bottom tier from operational databases or other external sources.
- These tools and utilities perform data extraction, cleaning & transformation as well as load & refresh functions to update the data warehouse. The data are extracted using application program interfaces known as gateways.
- This tier also contains a metadata repository, which stores information about the data warehouse and its contents.
- The middle tier is an OLAP server that is typically implemented using a relational OLAP (ROLAP) model or a multidimensional OLAP (MOLAP) model.
- The top tier is a front-end client layer which contains query and reporting tools, analysis tools, and/or data mining tools.

Q.4b) Explain following OLAP operations with example.

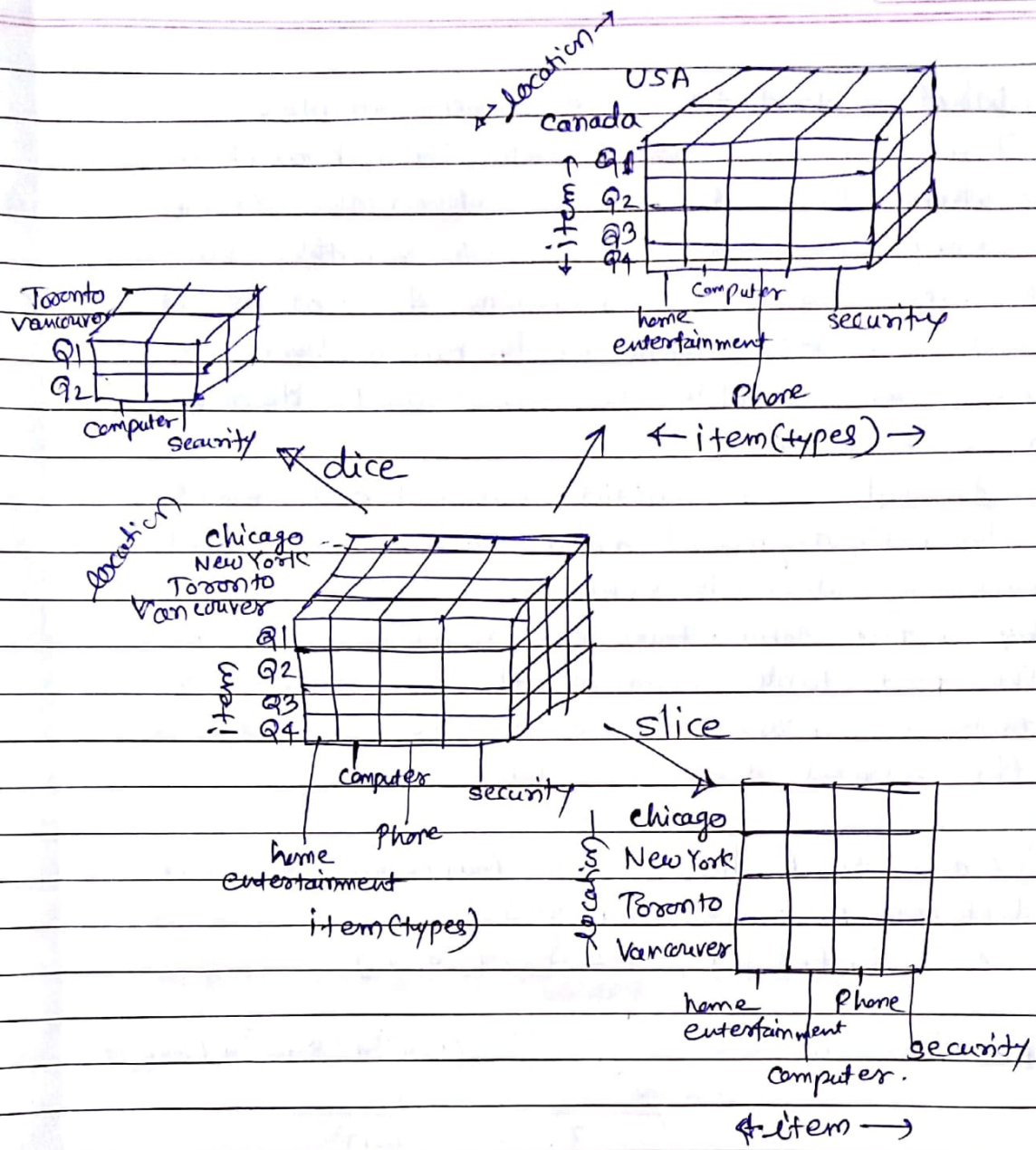
i) Drill UP.

ii) Slice & Dice.

Ans) i) Drill-up - This is also called as roll-up. It performs aggregation on a data cube, either by climbing up a concept hierarchy or a ~~or~~ by a dimension reduction.

- The roll-up operation shown aggregates the data by ascending the location hierarchy from the level of city to the level of country.

- When roll-up is performed by dimension reduction, one or more dimensions are removed from the given cube.



Slice & Dice -

- > The slice operation performs a selection on one dimension of the given cube, resulting in a subcube. As shown in above fig., a slice operation where the sales data are selected from the central cube for the dimension 'time' using the criterion time = "Q1".
- > The dice operation defines a subcube by performing a selection on two or more dimensions. As shown in fig., above, a dice operation on the central cube based on the following selection that involves 3 dimensions: (location = "Toronto" or "Vancouver") and time = "Q1" or "Q2" and (item = "computer" or "security").

Q. 4c) What is fact table and dimension table.

Ans) Dimensions are entities. sales, item, branch & location, these dimensions allow the store to keep track of things like monthly sales of items and the branches & locations at which the items were sold. Each dimension may have a table associated with it, called a dimension table.

- Fact Table - A multidimensional data model is typically organized around a central theme, such as sales. This scheme is represented by a fact table. Facts are numeric measures. The fact table contains the names of the facts, or measures as well as keys to each of the related dimension tables.

Q. 5a) Calculate Euclidean and Manhattan distance between following 2 objects -

$$A = \{2, 4, 8, 6\}, \quad B = \{3, 4, 6, 7\}$$

Ans)

$$\text{Euclidean distance} = \sqrt{(2-3)^2 + (4-4)^2 + (8-6)^2 + (6-7)^2}$$

$$= \sqrt{(-1)^2 + 0^2 + 2^2 + (-1)^2}$$

$$= \sqrt{1 + 0 + 4 + 1}$$

$$= \sqrt{6}$$

$$= 2.4494$$

$$\text{Manhattan distance} = |2-3| + |4-4| + |8-6| + |6-7|$$

$$= 1 + 0 + 2 + 1$$

$$= 4$$

Q.5b) How to compute dissimilarity between categorical variables. Explain with suitable example.

Ans) A nominal or categorical attribute can take two or more states. For example, map-color is a nominal attribute that may have, five states: red, yellow, green, pink & blue.

= The dissimilarity between two objects i & j can be computed based on the ratio of mismatches:

$$d(i, j) = \frac{P - m}{P}$$

where m is the number of matches.
 P - is the total number of attributes.

Example -

object Id	test-I
1	code A
2	code B
3	code C
4	code A.

To find the dissimilarity between above nominal attributes, suppose that, dissimilarity matrix is,

0			
$d(2,1)$	$d(3,1)$	$d(4,1)$	0
$d(3,2)$	0	$d(4,2)$	$d(4,3)$
			0

if object i & j matches, $d(i, j) = 0$ otherwise 1.
So it becomes,

0			
1	0		
1	1	0	
0	1	1	0

Q.5c) What is cosine similarity?

Ans) A document can be represented by thousands of attributes, each recording the frequency of a particular word or phrase in the document.

- Thus each document is an object represented by what is called a term-frequency vector.

- Cosine similarity is a measure of similarity that can be used to compare documents, or, to give a ranking of documents with respect to a given vector of query words.

- Let x and y be two vectors for comparison.

Using the cosine measure as a similarity function, we have,

$$\text{sim}(x, y) = \frac{x \cdot y}{\|x\| \|y\|}$$

where $\|x\|$ is the Euclidean norm of vector $x = (x_1, x_2, \dots, x_p)$, defined as $\sqrt{x_1^2 + x_2^2 + \dots + x_p^2}$.

- This measure computes the cosine of the angle between vectors x & y . The cosine value of 0 means that the two vectors are at 90 degrees to each other and have no match.

- The closer the cosine value to 1, the smaller angle and the greater the match between vectors.

Q.6a) Compute the Cosine similarity among following documents using term frequency vector -

d_1 : "The sun is the sky is bright"

d_2 : "We can see the shining sun, the bright sun"

Document The sun is sky bright we can see shining
 Document 1 2 1 1 1 1 0 0 0 0
 Document 2 2 2 0 0 1 1 1 1 1

$$\text{Thus, } x = (2, 1, 1, 1, 1, 0, 0, 0, 0)$$

$$y = (2, 2, 0, 0, 1, 1, 1, 1, 1)$$

$$\|x\| = \sqrt{2^2 + 1^2 + 1^2 + 1^2 + 1^2 + 0^2 + 0^2 + 0^2 + 0^2}$$

$$= \sqrt{4 + 1 + 1 + 1 + 1}$$

$$= \sqrt{8}$$

$$= 2.8284$$

$$\|y\| = \sqrt{2^2 + 2^2 + 0^2 + 0^2 + 1^2 + 1^2 + 1^2 + 1^2 + 1^2}$$

$$= \sqrt{4 + 4 + 1 + 1 + 1 + 1 + 1}$$

$$= \sqrt{13}$$

$$= ~~2.8284~~ 3.6055$$

$$x \cdot y = 2 \times 2 + 1 \times 2 + 1 \times 0 + 1 \times 0 + 1 \times 1 + 0 \times 1 + 0 \times 1 + 0 \times 1 + 0 \times 1$$

$$= 4 + 2 + 0 + 0 + 1 + 0 + 0 + 0 + 0$$

$$x \cdot y = 7$$

$$\therefore \text{ cosine similarity} = \frac{x \cdot y}{\|x\| \|y\|}$$

$$= \frac{7}{2.8284 \times 3.6055}$$

$$= \frac{7}{10.1977}$$

$$\boxed{\text{ cosine similarity} = 0.6864}$$

Q.6b) How to compute dissimilarity between ordinal variables. Explain with suitable example.

Ans) The computation process of finding dissimilarity between ordinal variables is similar to that of numeric attributes. Suppose that f is an attribute from a set of ordinal attributes describing n objects.

= The dissimilarity computation with respect to f involves the following steps -

(a) The value of f for the i th object is x_{if} , and f has M_f ordered states, representing the ranking $1, \dots, M_f$. Replace each x_{if} by its corresponding rank, $x_{if} \in \{1, \dots, M_f\}$

(b) Since each ordinal attribute can have a different number of states, it is often necessary to map the range of each attribute onto $[0.0, 1.0]$ so that each attribute has equal weight. We perform such data normalization by replacing the rank x_{if} of the i th object in the f th attribute by

$$z_{if} = \frac{x_{if} - 1}{M_f - 1}$$

(c) Dissimilarity can then be computed using any of the distance measures, ~~described~~ using z_{if} to represent the f value for the i th object.

Example -

object-ID	(ordinal) test 2
1	excellent
2	fair
3	good
4	excellent

we know that, dissimilarity matrix is,

$$\begin{bmatrix} 0 & & & & \\ d(2,1) & 0 & & & \\ d(3,1) & d(3,2) & 0 & & \\ d(4,1) & d(4,2) & d(4,3) & 0 & \end{bmatrix}$$

ranks can be defined as $r_i \Rightarrow$

$$r_1 = 3$$

$$r_2 = 1$$

$$r_3 = 2$$

$$r_4 = 3$$

& $M_f = 3$

$$z_{if} = \frac{r_{if} - 1}{M_f - 1}$$

$$\therefore z_1 = \frac{3-1}{3-1} = 1.0$$

$$z_2 = \frac{1-1}{2} = \frac{0}{2} = 0$$

$$z_3 = \frac{2-1}{2} = \frac{1}{2} = 0.5$$

So rank 1 normalizes to 0.0
rank 2 normalizes to 0.5
rank 3 normalizes to 1.0.

$$\therefore \begin{bmatrix} 0 & & & & \\ 1.0 & 0 & & & \\ 0.5 & 0.5 & 0 & & \\ 0 & 1.0 & 0.5 & 0 & \end{bmatrix}$$

Q.60) Explain Data matrix & Dissimilarity matrix.

Ans) Data Matrix - This structure stores the n data objects in the form of a relational table, or n -by- p -matrix

x_{11}	---	x_{1f}	---	x_{1p}
---	---	---	---	---
x_{i1}	---	x_{if}	---	x_{ip}
---	---	---	---	---
x_{n1}	---	x_{nf}	---	x_{np}

Each row corresponds to an object. As part of notation, we can use f to index through ' p ' attributes.

Dissimilarity Matrix -

This structure stores a collection of proximities that are available for all pairs of n objects. It is often represented by an n -by- n table -

0			
$d(2,1)$	0		
$d(3,1)$	$d(3,2)$	0	
⋮	⋮	⋮	
$d(n,1)$	$d(n,2)$	---	0

where $d(i,j)$ is the measured dissimilarity or "difference" between objects i & j . $d(i,j)$ is a non-negative number that is close to 0 when objects i & j are highly similar or "near" each other, and becomes larger the more they differ.

Total No. of Questions : 6]

SEAT No. :

P5810

[Total No. of Pages : 2

BE/Insem/Oct.-548

B.E. (E & TC) (Semester - I)

RADIATION AND MICROWAVE TECHNIQUES
(2015 Pattern)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Use of calculator is allowed.
- 5) Assume suitable data if necessary.

- Q1) a) A free space microwave link consisting transmitter and receivers each of 30dB gain operates at 10 GHz. The distance between transmitter and receiver is 20 km. The transmitter radiates 15 W power. Calculate the power received by the receiver and the path loss of the link in dB. [6]
- b) Define antenna. Explain the radiation mechanism in antenna. [4]

- OR
- Q2) a) Explain the following terms related to antenna. [6]
- i) Half power beamwidth
 - ii) Gain
 - iii) Bandwidth
- b) An antenna has a radiation resistance of 73Ω and a loss resistance of 7Ω . If the power gain is 20, calculate the directivity and efficiency of the antenna. [4]

- Q3) a) Derive the expression of array factor for N element uniform linear array. [6]
- b) Give the comparison between Broadside array and End Fire array. [4]

OR

P.T.O.

- Q4) a) Explain in short the Pattern Multiplication method. [6]
b) Find the phase difference required to steer a beam zenith to -40° for a 5 element array with 0.4λ internal element spacing. [4]

- Q5) a) What are microwaves? Explain advantages and applications of Microwaves. [6]
b) Determine the cut-off wavelength for the dominant mode in a rectangular waveguide of breadth 10 cm. For a 2.5GHz signal propagated in this waveguide in the dominant mode; calculate the guide wavelength, the group and the phase velocities? [4]

OR

- Q6) a) With a neat diagram explain the working of a rectangular cavity resonator. Obtain the expression for resonant frequency of oscillation. [6]
b) Write a short note on stripline. [4]

P5954

BE/S/INSEM./OCT, - 548

B.E. (E & TC)

RADIATION AND MICROWAVE TECHNIQUES

(2015 Pattern) (Semester - I)

Scheme of Marking

Q 1 a) $(G_{Dmax})_t = (G_{Dmax})_r = 30 \text{ dB}$ $f = 10 \text{ GHz} = 10 \times 10^9 \text{ Hz}$
 $r = 20 \text{ km} = 20 \times 10^3 \text{ m}$, $P_{rad} = 15 \text{ W}$

$$\lambda = \frac{c}{f} = \frac{3 \times 10^8}{10 \times 10^9} = 0.03 \text{ m} \quad \text{--- (1)}$$

The path loss in dB

$$P_{Loss} = 10 \log_{10} \left(\frac{4\pi r}{\lambda} \right)^2 = 20 \log_{10} \left[\frac{4\pi \times 20 \times 10^3}{0.03} \right] \quad \text{--- (1)}$$

$$= 138.4623 \text{ dB} \quad \text{--- (1)}$$

$$P_{received} = (G_{Dmax})_t (G_{Dmax})_r P_{rad} \left(\frac{\lambda}{4\pi r} \right)^2 \quad \text{--- (1)}$$

$$(G_{Dmax})_t = (G_{Dmax})_r = 10^{30/10} = 10^3 = 1000 \quad \text{--- (1)}$$

$$P_{received} = 1000 \times 1000 \times 15 \left[\frac{0.03}{4\pi \times 20 \times 10^3} \right]^2 \quad \text{--- (1)}$$

$$= 2.1372 \times 10^{-7} \text{ W} \quad \text{--- (1)}$$

$$= 0.2137 \text{ } \mu\text{W}$$

b) Defination of antenna _____ (1)

Diagram of radiation mechanism _____ (1)

Explanation _____ (2)

OR

Q 2 a) Half power beamwidth

Bandwidth

Defination _____ (1)

Mathematical expression _____ (1)

b) $R_{rad} = 73 \Omega$ $R_{loss} = 7 \Omega$ $G_p = 20$

$$\eta_r = \frac{P_{rad}}{P_{rad} + P_{loss}} = \frac{R_{rad}}{R_{rad} + R_{loss}} \quad \text{_____ (1/2)}$$

$$= \frac{73}{73+7} = \frac{73}{80} = 0.9125$$

$$\% \eta_r = 91.25 \% \quad \text{_____ (1/2)}$$

$$G_p = \eta_r G_d \quad \text{_____ (1/2)}$$

$$G_d = \frac{G_p}{\eta_r} = \frac{20}{0.9125} = 21.9178 \quad \text{_____ (1/2)}$$

$$G_d (\text{in db}) = 10 \log_{10}(G_d) = 10 \log_{10}(21.9178) \quad \text{_____ (1)}$$

$$= 13.4079 \text{ db} \quad \text{_____ (1)}$$

Q3 a) Definition of array factor for N element uniform linear array. _____ (4)

Diagram _____ (2)

b) Comparison between broadside array and end fire array _____ (4)

Any four points

OR

Q4 a) Diagram _____ (2)

Explanation of pattern multiplication _____ (4)

b) $n = 5$ $d = 0.4 \lambda$ $2\phi = -40^\circ$

$$\psi = \frac{2\pi}{\lambda} d \cos \theta + \beta \quad \text{_____ (1)}$$

Here assume $\beta = 0$ _____ (1)

$$\psi = \frac{2\pi}{\lambda} (0.4\lambda) \cos(-20^\circ) \quad \text{_____ (1)}$$

$$\psi = 2.3617 \text{ rad} \quad \text{_____ (1)}$$

Q5 a) Definition of microwaves and features _____ (2)

Advantages _____ (2)

Applications _____ (2)

b) λ_c for dominant mode is TE₁₀
 $\lambda_c = 2a = 2 \times 10 = 20 \text{ cm}$, $f = 2.5 \text{ GHz}$

$$\lambda_0 = \frac{c}{f} = \frac{3 \times 10^{10}}{2.5 \times 10^9} = 12 \text{ cm} \quad \text{_____ (1)}$$

$$\lambda_g = \frac{\lambda_0}{\sqrt{1 - \left(\frac{\lambda_0}{\lambda_c}\right)^2}} \quad \text{_____ (1/2)}$$

$$\lambda_g = \frac{12}{\sqrt{1 - \left(\frac{12}{20}\right)^2}} = \frac{12}{0.8} = 15 \text{ cm} \quad \text{_____ (1/2)}$$

$$V_p = \frac{c}{\sqrt{1 - \left(\frac{\lambda_0}{\lambda_c}\right)^2}} \quad \text{_____ (1/2)}$$

$$V_p = \frac{3 \times 10^8}{0.8} = 3.75 \times 10^{10} \text{ cm/sec} \quad \text{_____ (1/2)}$$

$$c^2 = v_p \cdot v_g \quad \text{_____ (1/2)}$$

$$v_g = \frac{c^2}{v_p} = \frac{(3 \times 10^{10})^2}{3.75 \times 10^{10}} = 2.4 \times 10^{10} \text{ cm/sec} \quad \text{_____ (1/2)}$$

OR

Q6 a) Diagram of rectangular cavity resonator _____ (2)

Explanation _____ (2)

Expression for resonant frequency of oscillation _____ (2)

b) Short note on stripline _____ (2)

Diagram & Explanation _____ (2)

Types of stripline _____ (2)





‘येथे बहुतांचे हित ।’

Marathwada Mitramandal's
COLLEGE OF ENGINEERING

S.No.18, Plot No.5/3, Karvenagar, Pune-411 052

Accredited with 'A' Grade by NAAC

Accredited by NBA (Electrical and Mechanical Engg. Department)

Recipient of 'Best College Award 2019' of SPPU

Recognized under section 2(f) and 12B of UGC Act 1956

External Assessment

University Theory Examination Time Table

SAVITRIBAI PHULE PUNE UNIVERSITY

(Formerly University of Pune)



EXAMINATION CIRCULAR NO.153 OF.2019

PROGRAMME OF SECOND YEAR(2015 COURSE)ENGINEERING

Examination of APR/MAY-2019

(Under Faculty of SCIENCE AND TECHNOLOGY : B)ENGINEERING)
INSTRUCTIONS FOR CANDIDATES

1. Candidates are required to be present at the examination centre, THIRTY MINUTES before the time fixed for paper.
2. Candidates are forbidden from taking any material into the examination hall, that can be used for malpractice at the time of examination.
3. **Candidates are requested to see the Notice Board at their place of examination regularly for changes if any, that may be notified later in the program.**
4. No request for any special concession such as a change in time or any day fixed for the University Examination on any ground shall be granted.
5. Candidates are requested to note the Day, Date and Time of every Paper on every day.
6. Candidates are permitted to use stencils at the time of examination.
7. Candidates appearing for the examinations are expected to provide themselves with Side- rules.
8. The exchange or loan of side-rules, drawing instruments of other materials used in the examination hall is Not Permitted while the examinations are in process.
9. Candidates must bring their own instruments and will not be allowed to borrow from each other under any circumstances.
10. Use of non-programmable battery operated electronic Calculator of Pocket-size is allowed. The exchange of Calculators is not allowed.
11. The written examination will be conducted in the following order.
12. **The Practical/Oral examination will be conducted between 11/04/2019 to 25/04/2019.**
13. **Students of 2012 Course have to appear for equivalent subjects to 2015 course. (Circular No 86/2018 dated 12 Jun, 2018)**

COMPUTER

SEM-I

	2015 Course TIME-10.00 AM To 12.00 PM
Day & Date	Subject
Saturday 04/05/2019	Discrete Mathematics (210241)
Thursday 09/05/2019	Digital Electronics & Logic Design (210242)
Saturday 11/05/2019	Data Structures & Algorithms (210243)
Tuesday 14/05/2019	@ Operating System & Administration (210244)
	Computer Organization and Architecture (210244)
Thursday 16/05/2019	Object Oriented Programming (210245)

SEM-II

	2015 Course TIME-10.00 AM To 12.00 PM
Day & Date	Subject
Monday 20/05/2019	* Engineering Mathematics-III (207003)
Wednesday 22/05/2019	Computer Graphics (210251)
Friday 24/05/2019	@ Microprocessor Architecture (210245) :SEM-1
	Advanced Data Structures (210252)
Monday 27/05/2019	@ Computer Organization (210250)
	Microprocessor (210253)
Wednesday 29/05/2019	@ Microprocessor and Interfacing Techniques (210248)
	Principles of Programming Languages (210254)

NOTE:-

** Common with Information Technology.*

@ As no equivalence to this subjects is given in (2015 Pattern) backlog students of 2012 Pattern will have to appear for this subject.

ELECTRICAL

SEM-I

	2015 Course TIME-10.00 AM To 12.00 PM
Day & Date	Subject
Saturday 04/05/2019	* Engineering Mathematics- III (207006)
Thursday 09/05/2019	Power Generation Technologies (203141)
Saturday 11/05/2019	Analog and Digital Electronics (203143)
Tuesday 14/05/2019	Material Science (203142)
Thursday 16/05/2019	Electrical Measurements and Instrumentation (203144)

SEM-II

	2015 Course TIME-10.00 AM To 12.00 PM
Day & Date	Subject
Monday 20/05/2019	Electrical Machines-I (203146)
Wednesday 22/05/2019	Power System-I (203145)
Friday 24/05/2019	Network Analysis (203147)
Monday 27/05/2019	Numerical Methods and Computer Programming (203148)
Wednesday 29/05/2019	Fundamentals of Microcontroller and Applications (203149)

NOTE:-

** Common with Instrumentation and Control.*

ELECTRONICS/E & TC

SEM-I

	2015 Course TIME-10.00 AM To 12.00 PM
Day & Date	Subject
Saturday 04/05/2019	Signals & Systems (204181)
Thursday 09/05/2019	Electronic Devices & Circuits (204182) @ Electronic Devices & Circuits (204182)
Saturday 11/05/2019	Electrical Circuits and Machines (204183) @ Network Theory (204183)
Tuesday 14/05/2019	Data Structures & Algorithms (204184)
Thursday 16/05/2019	Digital Electronics (204185)

SEM-II

	2015 Course TIME-10.00 AM To 12.00 PM
Day & Date	Subject
Monday 20/05/2019	Engineering Mathematics-III (207005)
Wednesday 22/05/2019	Integrated Circuits (204187)
Friday 24/05/2019	Control Systems (204188)
Monday 27/05/2019	Analog Communication (204189)
Wednesday 29/05/2019	Object Oriented Programming (204190) @ Computer Organization (204190)

NOTE:-

@ As no equivalence to this subjects is given in (2015 Pattern) backlog students of 2012 Pattern will have to appear for this subject.

INFORMATION TECHNOLOGY

SEM-I

	2015 Course TIME-10.00 AM To 12.00 PM
Day & Date	Subject
Saturday 04/05/2019	Computer Organization & Architecture (214442)
Thursday 09/05/2019	Digital Electronics and Logic Design (214443)
Saturday 11/05/2019	Fundamentals of Data Structures (214444)
Tuesday 14/05/2019	Problem Solving and Object Oriented Programming (214445)
Thursday 16/05/2019	Discrete Structures (214441)

SEM-II

	2015 Course TIME-10.00 AM To 12.00 PM
Day & Date	Subject
Monday 20/05/2019	* Engineering Mathematics -III (207003)
Wednesday 22/05/2019	Computer Graphics (214450)
Friday 24/05/2019	Processor Architecture and Interfacing (214451)
Monday 27/05/2019	Data Structures & Files (214452)
Wednesday 29/05/2019	Foundations of Communication and Computer Network (214453)

NOTE:-

** Common with Computer.*



‘येथे बहुतांचे हित ।’

Marathwada Mitramandal's
COLLEGE OF ENGINEERING

S.No.18, Plot No.5/3, Karvenagar, Pune-411 052

Accredited with 'A' Grade by NAAC

Accredited by NBA (Electrical and Mechanical Engg. Department)

Recipient of 'Best College Award 2019' of SPPU

Recognized under section 2(f) and 12B of UGC Act 1956

Internal Assessment

Unit Test Question Papers, Solution, Sample Sheets, Marks

Marathwada Mitra Mandal's
College Of Engineering, Pune
Accredited with 'A' Grade by NAAC
Department of Computer Engineering

A.Y. 2018-19

Unit Test

SEM-I

Class: T.E.

Course: Computer Networks Date: 12/07/2018

Unit No. :1

Time: 30 Minutes

Maximum Marks: 10

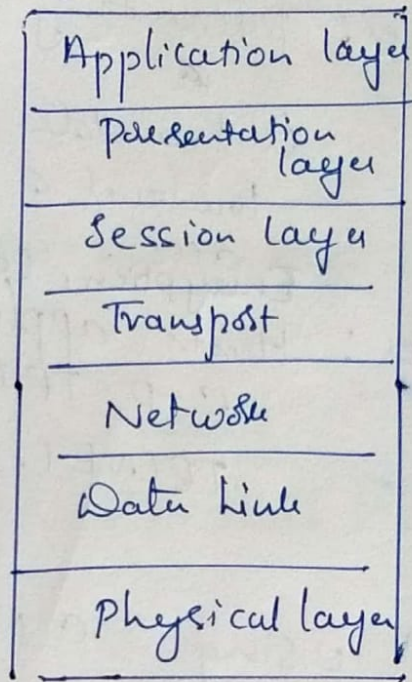
N.B.:- All questions are compulsory

- Q.1 (a)** Explain OSI Reference model with a neat diagram [3]
- Q.1 (b)** Encode the following bits 01100110 using [2]
i) Manchester ii) Diff Manchester Line Coding Technique.
- Q.1 (c)** Explain various networking devices. [3]
- Q.1 (d)** Write short note on Spread Spectrum. [2]

UT-8 (Model Ans)

Subject: CN. class: TE

Q1, 1. Explain OSI reference model with neat dgm [3]



Physical layer: - It is concerned with transmission of bits.

- It is concerned with electrical & mechanical specifications of the physical medium

Data link layer:
framing
physical addressing
Error control
flow control
Access control

Network layer:
Routing
IP addressing (logical)
Congestion control

Transport layer: - End-to-end transmission of data
 - TCP & UDP
 - Congestion Control
 - Segmentation & Reassembly.
 - Connection Control: Connless Conn: Oriented

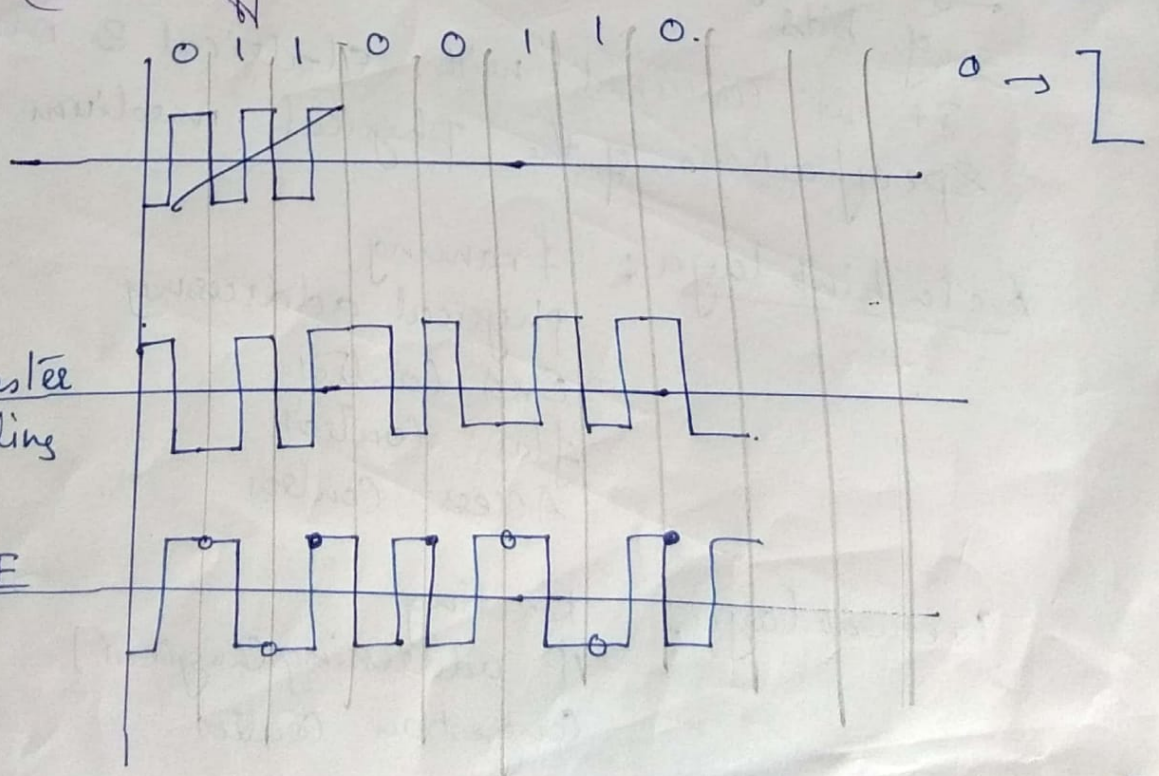
Session layer: Manage Sessions & dialog Control

Presentation layer: Presenting data to system & file to the
 & translation from high level to low level & vice versa

Application layer: Hosts applications. Such as
 FTP, TFTP, SMTP, HTTP
 TELNET.
 - Encryption, Compression.

2) Encode following using 01100110.
 (i) Manchester

(2) Diff Manchester



Q2 (a) Explain various networking devices.

Hub

- works at physical layer
- connects multiple n/w hosts & data
- when host sends a pkt, the hub broadcasts to all of its ports connected
- Not secure & safe.
- slower & more congested.

Bridge

- Bridge is used to divide a large n/w into smaller segments
- Join diff media types such as UTP with fiber optic
- Join diff n/w architectures such as Ethernet with Token Ring

Switch : Data link layer device

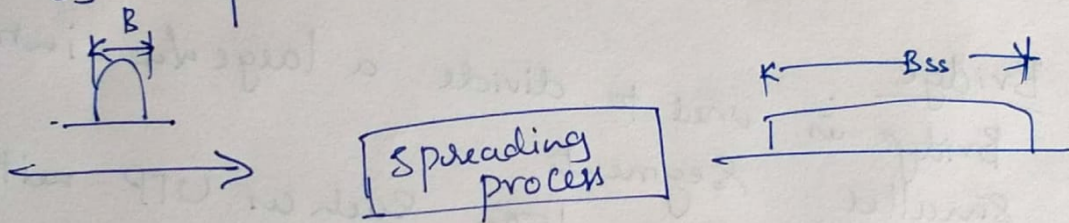
- more intelligent than hub
- when a frame comes, it checks for errors & then forwards or drops.
- Cut-through.
- Store & forward strategy

Router

- N/w layer device.
- forwards pkt based on dest'n address
- maintain Routing table
- connects small n/w's in large n/w
- connects diff n/w architectures, protocols & media

(b) write short note on spread spectrum

- In spread spectrum (SS), we combine signals from diff sources into to fit into a larger bandwidth.
- SS is designed for wireless applications.
- SS adds redundancy to the input data to spread the signal.
- If req Bw for each station is B , SS expands it to B_{SS} , such that $B_{SS} \gg B$.



Two techniques to SS

- ① Frequency hopping SS
- ② Direct Sequence SS

Marathwada Mitra Mandal's
College Of Engineering, Pune
 Department of Electrical Engineering

A.Y. 2018-19

Unit Test

Sem- II

Class: T.E.

Subject: Power System II

Date: 05/03/2019

Unit No. : III

Time: 30 Minutes

Maximum Marks: 10

N.B.:— All questions are compulsory

Q. 1 A) What do you mean by p.u. system ? Prove that the single phase and three phase values are same in p.u.

(03)

Q. 1 B) Determine the unknown elements from following Y_{BUS} matrix.

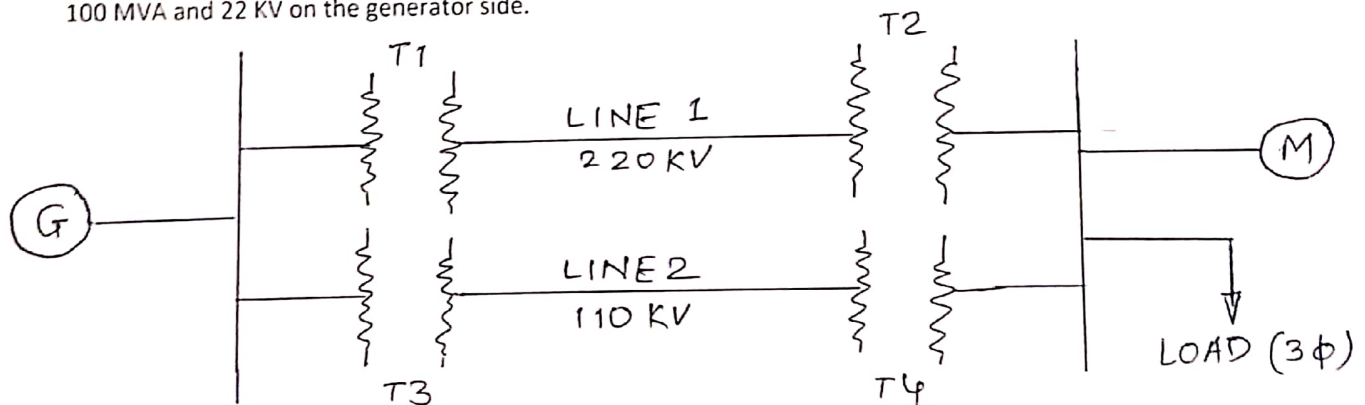
$$Y_{BUS} = \begin{vmatrix} ? & ? & ? & ? \\ -j2 & ? & -j5 & ? \\ -j4 & ? & ? & -j4 \\ 0 & -j7 & ? & ? \end{vmatrix}$$

(02)

Q. 2 A) Explain the Newton – Raphson method for load flow analysis along with the flow chart (polar coordinates)

(03)

Q. 2 B) The one line diagram of a 3 phase power system is shown below. Select a common base of 100 MVA and 22 KV on the generator side.



Draw its impedance diagram with all impedances including the load impedance in p.u. The manufacturer's data for each device are given below:

G : 90 MVA, 22 KV, X= 18 %

T1 : 50 MVA, 22/220 KV, X= 10 %

T2 : 40 MVA, 220/11 KV, X= 6 %

T3 : 40 MVA, 22/110 KV, X= 6.4 %

T4 : 40 MVA, 110/11 KV, X= 8 %

M : 66.5 MVA, 10.45 KV, X= 18.5 %

The 3 phase load absorbs 57 MVA, 0.6 pf lagging at 10.45 KV. Line 1 and Line 2 have reactances of 48.4 Ω and 65.43 Ω respectively.

(02)

TE (Electrical)

Unit Test III (On Unit No. III)

Sub. :- PS - II

Model Answers and Scheme of Marking

Q. 1 A) Explain the meaning of pu system

show how 1 ph and 3 ph values are same in pu

$$\text{i.e. pu kv} = \frac{\text{kVA}_{\text{Actual}}}{\text{kV}_B} ; I_{\text{pu}} = \frac{\text{Actual Current}}{\text{kVA}_B} \text{kV}_B$$

$$Z_{\text{pu}} = \text{Actual Imp.} \times \frac{\text{kVA}_B}{\text{kV}_B^2 \times 1000}$$

Q. 1 B)

$$Y_{11} = y_{12} + y_{14} \quad Y_{12} = -y_{12} = Y_{21} \quad Y_{13} = -y_{13} = Y_{31}$$

$$Y_{14} = -y_{14} = Y_{41}, \quad Y_{22} = y_{12} + y_{23}$$

$$Y_{23} = -y_{23} = Y_{32} = -j5$$

$$Y_{24} = -y_{24} = Y_{42}$$

$$Y_{33} = y_{23} + y_{13} =$$

$$Y_{34} = Y_{43} = -y_{34} = -j4$$

$$Y_{44} = y_{34} + y_{14}$$

Q. 2 A) Explain Newton-Raphson method.

Draw its flow chart.

Q. 2 B) Base kVA for complete circuit = 100 MVA

Base kV on gen side = 22 kV

$$\text{pu reactance of gen} = 0.18 \times \frac{100}{30} \times \left(\frac{22}{22}\right)^2 = j0.2 \text{ pu}$$

$$T1 = 0.10 \times \frac{100}{50} \times \left(\frac{22}{22}\right)^2 = j0.2 \text{ pu}$$

$$T3 = 0.064 \times \frac{100}{40} \times \left(\frac{22}{22}\right)^2 = j0.16 \text{ pu}$$

$$\text{Base kV in line 1} = 22 \times k \text{ of } T1 = 22 \times \frac{220}{22} = 220 \text{ kV}$$

$$\therefore \text{pu of line 1} = \frac{\text{Actual}}{I_{mp}} \times \frac{kV_{AB}}{kV_B^2 \times 1000} = j48.4 \times \frac{100 \times 1000}{(220)^2 \times 1000} = j0.1$$

$$\text{Base kV in line 2} = 22 \times \frac{110}{22} = 110 \text{ kV}$$

$$\therefore \text{pu of line 2} = j65.43 \times \frac{100 \times 1000}{(110)^2 \times 1000} = j0.54 \text{ pu}$$

$$\text{pu reactance of } T2 = 0.08 \times \frac{100}{40} \times \left(\frac{220}{220}\right)^2 = j0.15 \text{ pu}$$

— Page 2 of 3

$$T\phi = 0.08 \times \frac{100}{40} \times \left(\frac{110}{110}\right)^2 = j0.2 \text{ pu}$$

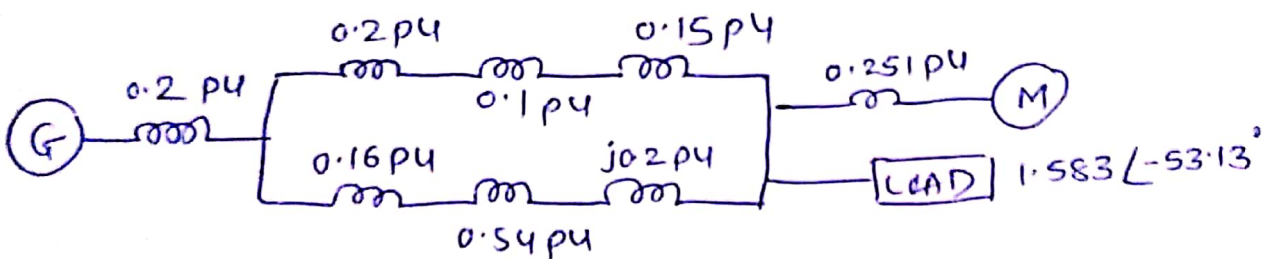
Base kV in motor ckt = 220 x k of T2
 OR 110 x k of T4 = 11 kV

$$\text{pu reactance of motor ckt} = 0.185 \times \frac{100}{66.5} \times \left(\frac{10.45}{11}\right)^2$$

$$= j0.251 \text{ pu}$$

Base voltage for load = Base voltage for motor = 11 kV

$$\text{load} = \left(\frac{10.45}{11}\right)^2 \times \frac{100}{57} \angle -\cos^{-1} 0.6 = 1.583 \angle -53.13^\circ$$



Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE

Accredited with 'A' Grade by NAAC

Department of Electrical Engineering

Date :- 05/03/2019

Sub	PS-II	Faculty	BBB	Unit Test	III
Roll No.	Name of Student	Attendance	Marks Obtained		Total
TE 01	AFAQ AHMAD BHAT	Arabb	04		
TE 02	AMIT KUMAR GUPTA	Amit	03		
TE 03	ANMUL WAD SHYAM SAMBLAJI	Arabb	04		
TE 04	ARMAL VISHAL SUDHAKAR	AH	02		
TE 05	AWASTHI AKSHAY DHANANJAY	Arabb	04		
TE 06	BARISHUBHAM VASUDEV	Arabb	04		
TE 07	BHALKARE CHETAN NARAYAN	Arabb	05		
TE 08	BODKE PRANAV SANJAY	Arabb	06		
TE 09	BUDDAWAR VAIBHAV NARSIMLU	Arabb	04		
TE 10	CHOUGULE KUNAL SUJEET	Arabb	05		
TE 11	DAVANE MONIKA ANKUSH	↑	-AB-		
TE 12	DESHMANI MEGHA ABASO	↑	-AB-		
TE 13	GAME KARTIK RAJENDRA	AB	-AB-		
TE 14	GAURI KULKARNI	↓	-AB-		
TE 15	GAVHANE SHUBHAM KISAN	↓	-AB-		
TE 16	HUKKERIKAR SIDDHI SANJEEV	Arabb	04		
TE 17	JADHAV CHETAN NANASAHEB	Arabb	-AB-		
TE 18	JOSHI PRADNYA ANIL	AB	-AB-		
TE 19	KAGDE PALLAVI BHARAT	AB	-AB-		
TE 20	KAPADANE AASHISH MUKUNDRAO	Arabb	04		
TE 21	KAWALE CHHAYENDRA VISHNU	Arabb	05		
TE 22	KULKARNI MRUNAL DATTATRAYA	AB	-AB-		
TE 23	MALI SAMEEKSHA UMESH	AB	-AB-		
TE 24	MARATHE YASHUDAY	Arabb	04		
TE 25	MESHARAM RAHUL DAMODHAR	Arabb	04		
TE 26	MORKHANDE AVINASH SANGRAM	-AB-	-AB-		
TE 27	NAIKAWADI NIKHIL PRADIP	Arabb	03		
TE 28	NANAWARE ASHUTOSH GOVIND	AB	-AB-		
TE 29	NARWADE MANISHA DEBRAO	AB	-AB-		
TE 30	NAYKAWDI YOGESH ASHOK	Arabb	04		
TE 31	NEMADE RISHIKESH RAJENDRA	-AB-	-AB-		
TE 32	PADOLE AISHWARYA SHIVANANDRAO	Arabb	05		
TE 33	PADOLE VAISHNAVI NILKANTH	Arabb	04		
TE 34	PALASH SANJAY BOBADE	-AB-	-AB-		
TE 35	PATIL PRITI VIJAY	Arabb	05		
TE 36	PATIL ROHAN GOPAL	Arabb	05		
TE 37	PATIL URVESH SUBHASH	Arabb	04		
TE 38	PIMPARKAR POOJA HEMRAJ	Arabb	05		
TE 39	PRADEEP BABU KUTE	Arabb	04		
TE 40	PRIYA SANJAY MORE	-AB-	-AB-		

TE 41	RAIPATREWAR AKANKSHA NITINRAO	AB	05				
TE 42	RAJE PRAJAKTA DHANANJAY	AB	05				
TE 43	RAMOSHI JYOTI BHAGWAT	AB	05				
TE 44	RUTVIK CHINCHMALATPURE	AB	04				
TE 45	SALUNKHE PRASAD BABASAHEB	AB	AB				
TE 46	SANKPAL ROHAN UTTAM	AB	06				
TE 47	SANYOG CHAMLATE NISHA	AB	AB				
TE 48	SARWADE PRATIKSHA SHAHURAJ	AB	05				
TE 49	SHAIKH SAMEER SHAHADAT	AB	04				
TE 50	SHINDE OMKAR ASHOK	AB	AB				
TE 51	SHIRKE ASHISH GAJANAN	AB	05				
TE 52	SHIVAM R CHAUBEY	AB	04				
TE 53	SUTHAR DEEPAK JIVARAM	AB	AB				
TE 54	THAKARE KANCHAN RAVINDRA	AB	04				
TE 55	WAGHMARE MRUNALI BHAGVAN	AB	05				
TE 56	WAGHMARE SHAKUNTALA SHIVAJIRAO	AB	06				

Total No. of students in class : 56

_____ " _____ " _____ present : 36

_____ " _____ " _____ absent : 20

_____ " _____ " _____ passed : 33

% of passing : 91.66 %

Bh

Course Coordinator

HOD

Marathwada Mitra Mandal's
College Of Engineering, Pune
Department of Electrical Engineering

A.Y. 2018-19

Unit Test

Sem- II

Class: T.E.

Subject: Power System II

Date: 20/02/2019

Unit No. : II

Time: 30 Minutes

Maximum Marks: 10

N.B.:— All questions are compulsory

Q. 1 A) What are the factors and conditions which affects corona loss.

(03)

Q. 1 B) Determine critical disruptive voltage, visual critical voltage and corona loss under foul weather condition for 3 ph line, 160 km long, conductor diameter 1.036 cm, 2.44 cm delta spacing, air temperature 26.6 °C corresponding to an approximate barometric pressure of 73.15 cm of Hg, opening voltage 110 KV at 50 Hz, surface irregularity factor 0.85, assume a value of $m_v = 0.72$

(02)

Q. 2 A) Justify the need for EHV AC transmission.

(03)

Q. 2 B) A power of 2000 MW is required to be transmitted from super thermal power station in Central India over 800 Km to Delhi. Use 400 KV as transmission voltage level. The angle between sending and receiving end is maintained at 30°. The average values of R and X are 0.031 ohm/ph/km and 0.327 ohm/ph/km. Suggest the number of circuits required and Calculate total power loss and loss per km if transmission line is

(i) Compensated (ii) 50 % series compensated

(02)

TE (Electrical)
Unit Test (On Unit No. II)

Sub. :- PS-II

Model Answers & scheme of marking

Q. No. 1 A)

Factors & conditions affecting corona loss

- Effect of system frequency
- voltage
- " conductivity of air
- " density of air
- rain, dust etc. i.e. atmospheric conditions
- conductor radius
- surface
- heating by load current

Q. No 1 B) $\delta = \frac{3.92b}{273+t} = 0.957$

$$V_{CD} = g_0 \delta m_0 r \ln\left(\frac{d}{r}\right)$$

$$= 21.1 \times 0.957 \times 0.85 \times 0.518 \ln\left(\frac{244}{0.518}\right) = 54.72 \text{ kV}$$

$$V_{CV} = g_0 \delta m_v r \left(1 + \frac{0.3}{\sqrt{\delta r}}\right) \ln\left(\frac{d}{r}\right)$$

$$= 21.1 \times 0.957 \times 0.72 \times 0.518 \times \left(1 + \frac{0.3}{\sqrt{0.957 \times 0.518}}\right) \ln \frac{244}{.518}$$

$$= 66.1 \text{ kV}$$

$$P'_c = \frac{244}{\delta} (f + 25) \sqrt{\frac{r}{d}} (V_{ph} - 0.8 V_{CD})^2 \times 10^{-5} \text{ kW/km/ph}$$

$$= 3.43 \text{ kW/km/ph}$$

$$= 3.43 \times 160 \times 3 = 1646.4 \text{ kW}$$

Q. No. 2 A)

- 1) Increase in efficiency & improvement of voltage regulation
- 2) construction of power line for huge power transmission is more economical
- 3) inevitable in case of huge power transmission over long distances from power plants to load centres
- 4) flexibility for future system growth
- 5) Possibility of interconnection of power systems
- 6) Increase of transmission capacity of line
- 7) Increase of SIL
- 8) Right-of-way reduction

Q. No. 2 B) $P = \frac{V^2}{LX} \sin \delta = 305.81 \text{ MW}$

$$\begin{aligned} \text{No. of ckt's required} &= \frac{\text{Total Power}}{\text{Power per ckt}} \\ &= \frac{2000}{305.81} = 6.54 \end{aligned}$$

$$\% P_{\text{loss}} = \frac{\sin \delta}{X/Y} \times 100 = 4.74 \%$$

$$\therefore \text{Total Power loss} = 0.0474 \times 2000 = 94.8 \text{ MW}$$

$$\text{Line loss per km} = \frac{94.8}{800} = 0.1185 \text{ MW}$$

With 50% Compensation

$$X_t = X - X_c = X - 0.5X = 0.5X$$

$$\therefore P = \frac{V^2}{LX} \sin \delta = 2 \times P \text{ in above case} = 611.62 \text{ MW}$$

$$\therefore \text{No. of ckt's required} = \frac{2000}{611.62} = 3.27$$

$$\% P_{\text{loss}} = 9.48$$

$$\text{Total Power loss} = 189.6 \text{ MW}$$

$$\text{Line loss per km} = 0.237 \text{ MW}$$

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE

Accredited with 'A' Grade by NAAC

Department of Electrical Engineering

Date :- 20/02/2019

Roll No.	Name of Student	Attendance	Marks Obtained						
TE 01	AARFAQ AHMAD BHAI	06	06						
TE 02	AMIT KUMAR GUPTA	-AB-	-AB-						
TE 03	ANMUL WAD SHYAM SAMBHAJI	06	06						
TE 04	ARMAL VISHAL SUDHAKAR	07	07						
TE 05	AWASTHI AKSHAY DHANANJAY	07	07						
TE 06	BARI SHUBHAM VASUDEV	-AB-	-AB-						
TE 07	BHALKARE CHETAN NARAYAN	07	07						
TE 08	BODKE PRANAV SANJAY	06	06						
TE 09	BUDDAWAR VAIBHAV NARSIMLU	05	05						
TE 10	CHOUGULE KUNAL SUJEET	07	07						
TE 11	DAVANE MONIKA ANKUSH	06	06						
TE 12	DESHMANE MEGHA ABASO	06	06						
TE 13	GAME KARTIK RAJENDRA	07	07						
TE 14	GAURI KULKARNI	06	06						
TE 15	GAVHANE SHUBHAM KISAN	07	07						
TE 16	HUKKERIKAR SIDDHI SANJEEV	08	08						
TE 17	JADHAV CHETAN NANASAHEB	08	08						
TE 18	JOSHI PRADNYA ANIL	06	06						
TE 19	KAGDE PALLAVI BHARAT	07	07						
TE 20	KAPADANE AASHISH MUKUNDRAO	07	07						
TE 21	KAWALE CHHAYENDRA VISHNU	06	06						
TE 22	KULKARNI MRUNAL DATTATRAYA	-AB-	-AB-						
TE 23	MALI SAMEEKSHA UMESH	07	07						
TE 24	MARATHE YASH UDAY	06	06						
TE 25	MESHARAM RAHUL DAMODHAR	05	05						
TE 26	MORKHANDE AVINASH SANGRAM	-AB-	-AB-						
TE 27	NAIKAWADI NIKHIL PRADIP	05	05						
TE 28	NANAWARE ASHUTOSH GOVIND	06	06						
TE 29	NARWADE MANISHA DEVRAO	09	09						
TE 30	NAYKAWDI YOGESH ASHOK	08	08						
TE 31	NEMADE RISHIKESH RAJENDRA	09	09						
TE 32	PADOLE AISHWARYA SHIVANANDRAO	08	08						
TE 33	PADOLE VAISHNAVI NILKANTH	08	08						
TE 34	PALASH SANJAY BOBADE	05	05						
TE 35	PATIL PRITI VIJAY	07	07						
TE 36	PATIL ROHAN GOPAL	07	07						
TE 37	PATIL URVESH SUBHASH	06	06						
TE 38	PIMPARKAR POOJA HEMRAJ	08	08						
TE 39	PRADEEP BABU KUTE	07	07						
TE 40	PRIYA SANJAY MORE	07	07						

TE 41	RAIPATREWAR AKANKSHA NITINRAO	<u>AKANKSHA</u>	08				
TE 42	RAJE PRAJAKTA DHANANJAY	<u>P.D. Rajee</u>	06				
TE 43	RAMOSHI JYOTI BHAGWAT	<u>JBP</u>	07				
TE 44	RUTVIK CHINCHMALATPURE	<u>Rutvik</u>	07				
TE 45	SALUNKHE PRASAD BABASAHEB	<u>Prasad</u>	06				
TE 46	SANKPAL ROHAN UTTAM	<u>Rohant</u>	06				
TE 47	SANYOG CHAMLATE NISHA	<u>Nisha</u>	07				
TE 48	SARWADE PRATIKSHA SHAHURAJ	<u>Pratiksha</u>	09				
TE 49	SHAIKH SAMEER SHAHADAT	<u>Sameer</u>	08				
TE 50	SHINDE OMKAR ASHOK	AB	AB				
TE 51	SHIRKE ASHISH GAJANAN	<u>Ashish</u>	06				
TE 52	SHIVAM R CHAUBEY	<u>Shivam</u>	06				
TE 53	SUTHAR DEEPAK JIVARAM	<u>Deepak</u>	04				
TE 54	THAKARE KANCHAN RAVINDRA	<u>Kanchan</u>	05				
TE 55	WAGHMARE MRUNALI BHAGVAN	<u>Waghmare</u>	08				
TE 56	WAGHMARE SHAKUNTALA SHIVAJIRAO	<u>Shakuntala</u>	07				

Total No. of Students in class : 56

———— " ————— present : 51

———— " ————— absent : 05

———— " ————— passed : 51

% of passing : 100 %

HOD

Bh

Course Coordinator

Marathwada Mitra Mandal's
College Of Engineering, Pune
Department of Electrical Engineering

A.Y. 2018-19

Unit Test

Sem- II

Class: T.E.

Subject: Power System II

Date: 07/02/2019

Unit No. : I

Time: 30 Minutes

Maximum Marks: 10

N.B.:— All questions are compulsory

Q. 1 A) "Receiving end power circle diagram of a transmission line is based on generalized constants". Justify the statement.

(03)

Q. 1 B) A 3 phase 132 KV overhead transmission line delivers 50 MVA at 132 KV and p.f. 0.8 lag at its RE. The constants of lines are $A=0.98\angle 3^\circ$, $B=110\angle 75^\circ$ ohm/ph Find line value of sending end voltage.

(02)

Q. 2 A) With significance, explain different types of compensation given to transmission line.

(03)

Q. 2 B) If a 3 ph TL supplies a load at 132 KV and at 0.85 pf lag when sending end voltage is 140 KV. The resistance and reactance of TL per phase is 3 ohm and 10 ohm respectively. Using RE end power circle diagram, determine the load which the line will be supplying.

(02)

TE (Electrical)

Unit Test I (On Unit No. I)

Sub. :- PS-II

Model Answers and Scheme of Marking

Q. No. 1 A)

$$x \text{ coordinate of centre of circle} = -\frac{A}{B} V_R^2 \cos(\beta - \alpha)$$

$$y \text{ coordinate of centre of circle} = -\frac{A}{B} V_R^2 \sin(\beta - \alpha)$$

$$\text{Radius of circle} = \frac{V_S V_R}{B}$$

which justifies the statement

— 03

$$\text{Q. No. 1 B)} \quad V_R = \frac{V_{RL}}{\sqrt{3}} = 76.21 \text{ kV}$$

$$I_R = \frac{\text{Load}}{\sqrt{3} V_{RL}} = 218.69 \text{ Amp}$$

$$\therefore V_S = A V_R + B I_R = 95.3679 \angle 11.35^\circ \text{ kV}$$

$$\therefore V_{SL} = 165.182 \angle 11.35^\circ \text{ kV}$$

— 02

Q. No. 2 A) (i) series compensation

(ii) Shunt ——— $\left\{ \begin{array}{l} \text{shunt reactor} \\ \text{shunt capacitor} \end{array} \right.$

(iii) Syn. Phase Modifiers or compensators — 03

— Page 1 of 2

Q. No. 2 B) Radius of circle = $\frac{V_{SL} V_{RL}}{B} = 1770 \text{ MVA}$

X coordinate = $-\frac{A}{B} V_{RL}^2 \cos(\beta - \alpha) = -479.5948 \text{ MW}$

Y coordinate = $-\frac{A}{B} V_{RL}^2 \sin(\beta - \alpha) = -1598.57 \text{ MVAr}$

Power supplied = $oa' = 0.45 \text{ cm} \quad (0.45 \times 200)$
 $= 90 \text{ MW}$

— 02

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE

Accredited with 'A' Grade by NAAC

Department of Electrical Engineering

Date :- 07/02/2019

Sub	PS-II	Faculty	BBB	Unit Test I				Total
Roll No.	Name of Student	Attendance	Mark obtained					
TE 01	AAFAQ AHMAD BHAT	Atm	04					
TE 02	AMIT KUMAR GUPTA	-AB-	-AB-					
TE 03	ANMULWAD SHYAM SAMBHAJI	Shed	05					
TE 04	ARMAL VISHAL SUDHAKAR	NI	06					
TE 05	AWASTHI AKSHAY DHANANJAY	JR	06					
TE 06	BARI SHUBHAM VASUDEV	Shub	04					
TE 07	BHALKARE CHETAN NARAYAN	Chetan	05					
TE 08	BODKE PRANAV SANJAY	Pranav	06					
TE 09	BUDDAWAR VAIBHAV NARSIMLU	Shubham	07					
TE 10	CHOUGULE KUNAL SUJEET	Chou	04					
TE 11	DAVANE MONIKA ANKUSH	Monika	07					
TE 12	DESHMANE MEGHA ABASO	Megha	05					
TE 13	GAME KARTIK RAJENDRA	Kartik	08					
TE 14	GAURI KULKARNI	Gauri	05					
TE 15	GAVHANE SHUBHAM KISAN	-AB-	-AB-					
TE 16	HUKKERIKAR SIDDHI SANJEEV	Siddhi	06					
TE 17	JADHAV CHETAN NANASAHEB	Chetan	05					
TE 18	JOSHI PRADNYA ANIL	Pradnya	05					
TE 19	KAGDE PALLAVI BHARAT	Pallavi	07					
TE 20	KAPADANE AASHISH MUKUNDRAO	Aashish	08					
TE 21	KAWALE CHHAYENDRA VISHNU	Chhayendra	06					
TE 22	KULKARNI MRUNAL DATTATRAYA	Mrunal	08					
TE 23	MALI SAMEEKSHA UMESH	Sameeksha	07					
TE 24	MARATHE YASH UDAY	Yash	06					
TE 25	MESHARAM RAHUL DAMODHAR	Rahul	04					
TE 26	MORKHANDE AVINASH SANGRAM	Avinash	06					
TE 27	NAIKAWADI NIKHIL PRADIP	Nikhil	06					
TE 28	NANAWARE ASHUTOSH GOVIND	Ashutosh	05					
TE 29	NARWADE MANISHA DEVRAO	Manisha	06					
TE 30	NAYKAWDI YOGESH ASHOK	Yogesh	07					
TE 31	NEMADE RISHIKESH RAJENDRA	Rishikesh	08					
TE 32	PADOLE AISHWARYA SHIVANANDRAO	Aishwarya	07					
TE 33	PADOLE VAISHNAVI NILKANTH	Vaishnavi	08					
TE 34	PALASH SANJAY BOBADE	Palash	04					
TE 35	PATIL PRITI VIJAY	Priti	06					
TE 36	PATIL ROHAN GOPAL	Rohan	05					
TE 37	PATIL URVESH SUBHASH	Urvesh	06					
TE 38	PIMPARKAR POOJA HEMRAJ	Pooja	05					
TE 39	PRADEEP BABU KUTE	Pradeep	07					
TE 40	PRIYA SANJAY MORE	Priya	07					

TE 41	RAIPATREWAR AKANKSHA NITINRAO	<u>Atankar</u>	07				
TE 42	RAJE PRAJAKTA DHANANJAY	<u>P. Rajee</u>	06				
TE 43	RAMOSHI JYOTI BHAGWAT	<u>TBB</u>	07				
TE 44	RUTVIK CHINCHMALATPURE	<u>Rutvik</u>	05				
TE 45	SALUNKHE PRASAD BABASAHEB	<u>Prasad</u>	06				
TE 46	SANKPAL ROHAN UTTAM	<u>Rohant</u>	05				
TE 47	SANYOG CHAMLATE NISHA	<u>Sanyog</u>	06				
TE 48	SARWADE PRATIKSHA SHAHURAJ	<u>Pratiksha</u>	09				
TE 49	SHAIKH SAMEER SHAHADAT	<u>Sameer</u>	05				
TE 50	SHINDE OMKAR ASHOK	<u>Omkar</u>	05				
TE 51	SHIRKE ASHISH GAJANAN	<u>Ashish</u>	06				
TE 52	SHIVAM R CHAUBEY	<u>Shivam</u>	04				
TE 53	SUTHAR DEEPAK JIVARAM	<u>Deepak</u>	07				
TE 54	THAKARE KANCHAN RAVINDRA	<u>Kanchan</u>	06				
TE 55	WAGHMARE MRUNALI BHAGVAN	<u>Waghmare</u>	07				
TE 56	WAGHMARE SHAKUNTALA SHIVAJIRAO	<u>Shakuntala</u>	08				

Total No. of Students in class : 56

———— " ————— present : 54

———— " ————— absent : 02

———— " ————— passed : 54

% of Passing : 100 %

HOD

Bh
Course Coordinator

Marathwada Mitra Mandal's
College Of Engineering, Pune
Accredited with 'A' Grade by NAAC
Department of E&TC

A.Y. 2018-19

Unit Test

SEM-II

Class: T.E.

Course: Advanced Processor

Date:31/01/19

CO:1

Unit No. :I

Maximum Marks: 10

Time: 30 Minutes

N.B.:- All questions are compulsory

Q.1 (a) Discuss Programmers Model of ARM processor with the help of neat diagram. [2]

Q.1 (b) State the point of view of data flow model of ARM processor. [3]

Q.2 (a) What is your idea for RISC design philosophy in ARM? [2]

Q.2 (b) State in your own words architecture of TIVA processor. [3]



Marathwada Mitra Mandal's COLLEGE OF ENGINEERING

Accredited with 'A' Grade by NAAC

S. No. 18, Plot No. 5/3, Near Vandevi Temple, Karvenagar, Pune - 52.
Ph.: (020) 25121363 / 93718 36543 | E-mail : mmcoe@mmcoe.edu.in

Verified & all the entries found correct

Signature, Date & Name of Invigilator

Roll No.: (In figures) : 232 Centre : _____

Roll No.: (In words) : Two Three Two

Day & Date : _____ Examination : Unit Test - I

Subject : Advanced Processors Section : _____

Course / Paper No. : _____ Medium of Answer : English

Main Ans. Book + No. of Supplements : _____ Total : _____

Question No.	1	2	3	4	5	6	7	8	9	10	11	12	Total
Marks Obtained													<u>10/10</u>

Use of Coloured pencil or ink is strictly prohibited except in case of diagrams & sketches.
(Write on both sides & start writing on this page.)

1. Discuss various features of ARM7, ARM9 and ARM11.

A) ARM7

1. It is a 32-bit processor.
2. It has AHB bus interface.
3. It is a RISC processor.
4. Its clock frequency is from 100 to 133 MHz.
5. It supports Thumb instruction set.

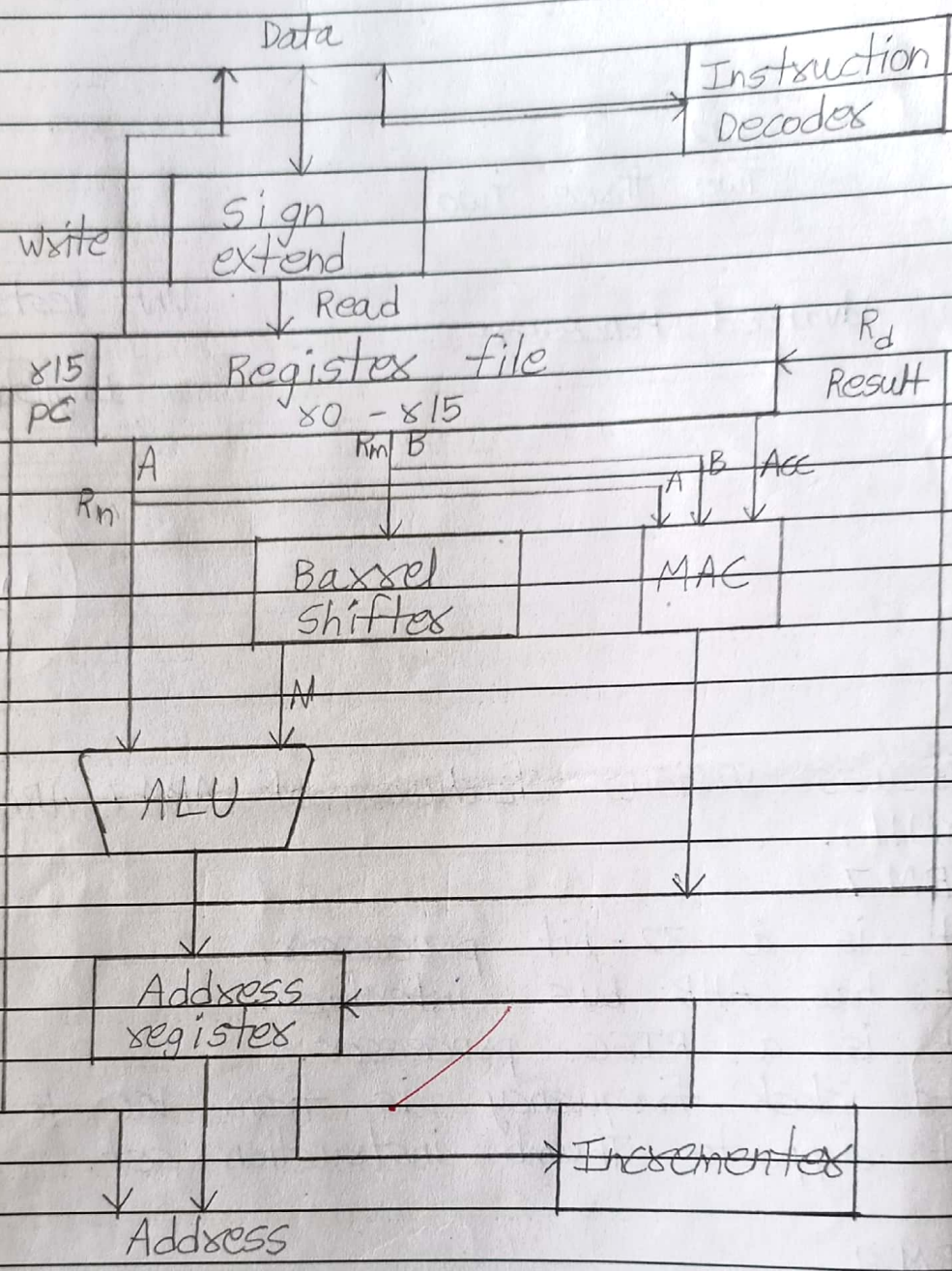
OR ARM9

1. It is a 32-bit processor.
2. It has AHB bus interface.
3. Its clock frequency is from 180 to 210 MHz.
4. It has 4kb code and 4kb data cache memory.
5. It has on-chip memory management unit.

ARM11

1. It is a 32-bit processor.
2. Its clock frequency is from 800MHz to 1GHz.
3. It has 4 to 64kb code and data cache memory.
4. It has one to four cores in SMP clusters.
5. It has on-chip memory management unit.

2. Draw dataflow diagram of ARM.
A)



1. Instruction decoder decodes the instruction opcode read from the memory and then the instruction is executed.
2. Sign extend
Some of the instructions require signed values. Whenever the processor reads an 8 or 16 bit signed number from the memory, the sign extend hardware converts the numbers to 32 bit values and places the numbers in the register file.

3. The register file is a set bank of 32-bit registers. The registers are used for storing the data.
4. Barrel shifter
The R_m i.e., source register contents can be preprocessed in the barrel shifter applying them to the ALU.
5. ALU performs arithmetical operations and result is given to destination register R_d .
6. Multiply - Accumulate Unit (MAC) is used for multiplication operations.
7. Address register is responsible for storing the address generated by the load and store instructions and placing it on address bus.
8. The incrementer is responsible for upgrading the address register contents before the core reads the next register value from memory location or writes the next register value to memory location.
9. R_m, R_n are source registers and R_d is destination register, $r15$ is program counter.

3. Elaborate in details a 7-TDMI w.r.t ARM processor core.

A) ARM {x}{y}{z} {T}{D}{M}{I} {E} {J} {F} {S}

x : ARM family

y : Memory management / protection unit

z : Cache

T : Thumb instruction set

D : Debug via JTAG interface

M : Multiplier Unit

I : Embedded ICE macrocell

E : Extended

J : Jazelle it executes java byte

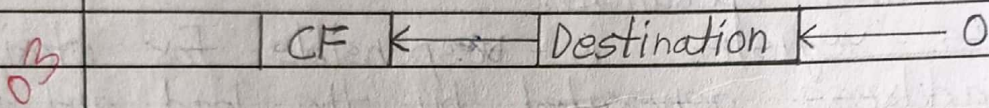
F : Vector floating point unit

S : Synthesizable version

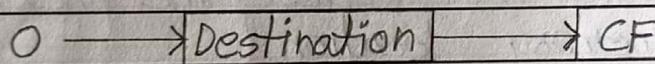
4. Discuss role of barrel shifter in ARM processor with the help of suitable examples.

A1. The barrel shifter is responsible for carrying the shifts as a part of other instructions.

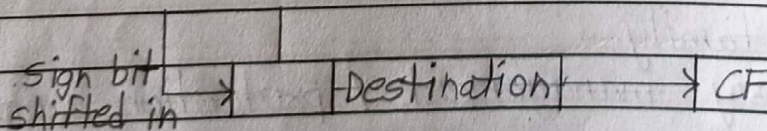
2. The barrel shifter can be used to perform left shift operation by required amount, i.e., it multiplies by the powers of 2.
e.g. LSL #4 (multiply by 16)



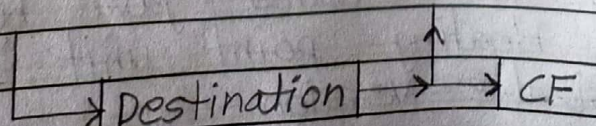
3. In logical shift right the barrel shifter shifts the bits to right by specified amount, i.e., divides by power of 2.
e.g. LSR #3 (divide by 8)



4. In arithmetic shift right the barrel shifter shifts the bits to the right by specified amount and preserves the sign bit for 2's complement operations.
e.g. ASR #5 (divide by 32)



5. In Rotate right (ROR) the barrel shifter performs operation similar to arithmetic shift right but wraps the bits around as they leave the LSB and appear as MSB.
e.g. ROR #2



Marathwada Mitra Mandal's
College Of Engineering, Pune
Accredited with 'A' Grade by NAAC

Department of Mechanical Engineering

A.Y. 2018-19

Unit Test-I

SEM-II

Class: T.E.

Course: DME-II

Date:15/02/19

Time: 30 Minutes

Unit No: 1

Maximum Marks: 10

NOTE: All questions are compulsory

Q.1 (a) State and derive Lewis Beam Strength equation.

[2] CO1 L1

Q.1 (b) It is desired to determine the proportions of a spur gear drive to transmit 8kW from a shaft rotating at 1200rpm to a low speed shaft, with a reduction of 3:1. Assume that the teeth are 20° full depth involute, with 24 teeth on pinion. The pinion is to be of 40C8 (Sut=660 MPa) Steel and gear of 30C8 (Sut=540 MPa) steel. Assume that the starting torque is 130 percent of rated torque. FOS=2, $C_v = \frac{6}{6+v}$

[5] CO1 L3

Q.1 (C) Explain different modes of gear failures

[3] CO1 L2

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE

Accredited with 'A' Grade by NAAC

A. Y. 2018-19 Sem: II

Unit Test Attendance Sheet

Department : Mechanical Engineering
Course Name: Design of Machine Elements-II
Course Co-ordinator:

Class : TE-A
Unit No. : 1
Date :
Time :

Sr. No.	Roll No.	Name of Student	Sign of Student	Marks obtained (Out of 10)	Remarks
1	TMA101	ABHINEEL SANJAY KRUPAN		04	
2	TMA102	NEHA SANJAY AWATE		07	
3	TMA103	BACHHAV TUSHAR NITIN		06	
4	TMA104	APEKSHA ASHOK BADERAO		07	
5	TMA105	RUSHIKESH SUBHASH BANSODE		05	
6	TMA106	SAHIL ANKUSH BENDURE		05	
7	TMA107	PRIYANKA RAHUL BHALERAO		09	
8	TMA108	ANIKET SANJAY BHOSALE		06	
9	TMA109	SANKET MADHAV BHUJANG		04	
10	TMA110	ATHARVA SHASHIKANT BORKAR		06	
11	TMA111	AMEYA SANJAY BULAKH		Ass	
12	TMA113	SHAILENDRA SUBHASH CHOPADE		Ass	
13	TMA114	ASHISH RAJESH DABHADE		05	
14	TMA115	AMOGH VISHWAS DATAR		05	
15	TMA116	AKSHAYKUMAR H DESHMUKH		06	
16	TMA117	CHINMAY SANJAY DESHMUKH		05	
17	TMA118	SHIVANI DEEPAK DESHMUKH		09	
18	TMA119	SHRIRANG ANILRAO DESHMUKH		05	
19	TMA120	GAUTAMI HEMANT DESHPANDE		As	
20	TMA121	ADITYA MUKUL DEWASTHALE		04	
21	TMA122	MAHESH ANANTA DIXIT		07	
22	TMA123	ONKAR SHAM GAJGHATE		06	
23	TMA124	SAURABH SANJAY GANDHI		08	
24	TMA125	PRAVIN RAMCHANDRA GHODAKE		07	
25	TMA126	SAGAR BHAUSAHEB GHUTE		07	
26	TMA128	ROHIT HIMANSHU GUPTA		04	
27	TMA133	NUPOOR MANOJ INGOLIKAR		07	
28	TMA135	ATHARV SANJAY JAGTAP		05	
29	TMA136	SANKET PRAKASH KADAM		07	
30	TMA138	INDRAJEET UDAY NIKAM		04	
31	TMA139	ROHAN SANJAY KATORE		04	
32	TMA141	CHINMAY MUKUND KULKARNI		05	
33	TMA142	HARSHAL MANGESH KULKARNI		04	
34	TMA144	SHREYES PRASHANT MAMIDWAR		04	
35	TMA145	ADITYA MAHESH MANE		04	
36	TMA146	AKSHAY SHIVAJI MANE		05	
37	TMA147	SHRIDHAR KRISHNA MYAKAL		04	
38	TMA151	AKASH MANOJ SHIRODKAR		05	
39	TMA152	AMEY MILIND KULKARNI		05	
40	TMA153	SHREYAS SUYOG NAIK		As	

Sr. No.	Roll No.	Name of Student	Sign of Student	Marks obtained (Out of 10)	Remarks
41	TMA154	AKSHAY RAHUL GADIA		07	
42	TMA155	SANDESH RAMDAS GAJARE		06	
43	TMA156	PRATIK ANIL DIXIT		08	
44	TMA157	NEHA PRAKASH CHAVAN		05	
45	TMA158	HIMANI MAHESH LIMAYE		06	
46	TMA159	VAIBHAV ANIL KOKARE		05	
47	TMA160	SUKANYA SUDHIR BHALWANKAR		06	
48	TMA161	BHUSHAN SHRIKANT JOSHI		04	
49	TMA162	POONAM DAGADU A. Phundakar		04	
50	TMA163	SANKET VIJAY KAMBLE		05	
51	TMA164	PRANALI NARENDRA INGULE		04	
52	TMA165	UZAIR MAJEED GAZI		05	
53	TMA166	AKSHAY SURESH MANE		07	
54	TMA167	RITUJA SAMBHAJI MOHITE		07	
55	TMA168	DIPAK SHAHADEV MISAL		04	
56	TMA169	RUTIKA RAHUL KADAM		05	
57	TMA170	SWAPNITA MUKUNDA TOKE		05	
58	TMA171	ADITYA NITIN PATIL		05	
59	TMA172	KUNAL BALKRISHNA MARATHE		ASS	
60	TMA173	SHRINIKETAN MOHAN KUMAWAT		ASS	
61	TMA174	SAURABH SUNIL MAKAR		05	
62	TMA175	ANEESH RAJESH GUNDU		05	
63	TMA176	VIKRAM HINGANE		05	
64	TMA177	NAZERPASHA N. SAYYAD			
65	TMA178	YOGESH INGOLE			
66	TMA179	RUTUJA RAJENDRA CHIKHALE			
67	TMA180	PRATIK SURESH AHIRE			
68	TMA181	SWAPNIL RANGRAO BARGE			
69					
70					
71					
72					
73					
74					
75					
76					

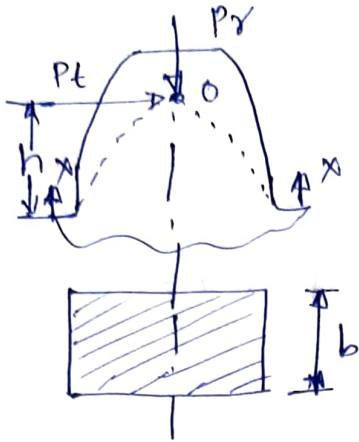
Total number of students in class: 68
Total number of students present: 56
Total number of students absent: 12
Total number of students passed: 55
Percentage of passing: 98.21%

Sign of Course
Coordinator

Solution of DME-II
Unit test - I

①

Q1.
(a)



At Section X-X

$$M_b = P_t \times h$$

$$I = bt^3/12$$

The bending stresses are given by -

$$\sigma_b = \frac{M_b y}{I}$$

Rearranging the terms

$$P_t = b \cdot \sigma_b \cdot \left(\frac{t^2}{6h} \right)$$

Multiplying the numerator & denominator of right hand side by m

$$P_t = m b \sigma_b \left[\frac{t^2}{6hm} \right]$$

Defining a factor γ ,

$$\gamma = \left(\frac{t^2}{6hm} \right)$$

the eqn is rewritten as -

$$\boxed{P_t = m \cdot b \cdot \sigma_b \cdot \gamma}$$

Q1(b) Given - $P = 8 \text{ kW}$, $n_p = 1200 \text{ rpm}$, $i = 3:1$, $Z_p = 24$,
 $(\sigma_{ut})_p = 660 \text{ MPa}$, $(\sigma_{ut})_g = 540 \text{ MPa}$, $C_s = 1.3$, $FOS = 2$
 $C_v = 6/6 + v$

Soln - $\sigma_{bp} = 220 \text{ MPa}$, $\sigma_{bg} = 180 \text{ MPa}$,

$$\gamma_p = 0.484 - \frac{2.87}{Z_p} = 0.3614$$

$$i = \frac{Z_g}{Z_p} = 3, \quad Z_g = 72$$

As $\sigma_{bp} \cdot \gamma_p < \sigma_{bg} \cdot \gamma_g$ pinion is weaker in bending as compared to gear.

Beam strength of spur pinion tooth -

$$S_b = 6b p \cdot b \cdot m \cdot Y_p$$

$$= 220 \times 10 \text{ m} \times m \times 0.3614$$

$$S_b = 795 \text{ m}^2$$

$$\text{Effective load, } P_{\text{eff}} = \frac{C_s \cdot P_t}{C_v}$$

$$P_t = \frac{P}{V}, \quad V = \frac{\pi d_p n_p}{60} = 1.507 \text{ m}$$

$$P_t = \frac{5308}{m},$$

$$C_v = \frac{6}{6+V} = \frac{6}{6+1.507 \text{ m}}$$

$$P_{\text{eff}} = \frac{6901.128 + 1733.33 \text{ m}}{m}$$

For safety against bending failure

$$S_b = \text{FOS} \times P_{\text{eff}}$$

$$m = 3.433$$

$$\boxed{m \approx 4.00 \text{ mm}}$$

$$d_p = m \cdot Z_p = 96 \text{ mm}, \quad d_g = 288 \text{ mm}, \quad b = 40 \text{ mm},$$
$$C.D = d_p + d_g / 2 = 192 \text{ mm}, \quad h_a = 1m = 4 \text{ mm},$$
$$h_f = 1.25 \times m = 5.00 \text{ mm}.$$

Q.1(c) Different modes of gear tooth failures are as follows.

- ① Abrasive wear
- ② Corrosive wear
- ③ Initial pitting
- ④ Destructive pitting
- ⑤ Scoring.



COLLEGE OF ENGINEERING

Accredited with 'A' Grade by NAAC

S. No. 18, Plot No. 5/3, Near Vandevi Temple, Karvenagar, Pune - 52.
Ph.: (020) 25121363 / 93718 36543 | E-mail : mmcoe@mmcoe.edu.in

Verified & all the entries found correct

$\frac{09}{10}$ *cpk*

Signature, Date & Name of Invigilator

Roll No.: (In figures) : 258 Centre : _____

Roll No.: (In words) : Two five eight

Day & Date : Friday 15/02/19 Examination : unit Test

Subject : DME-II Section : _____

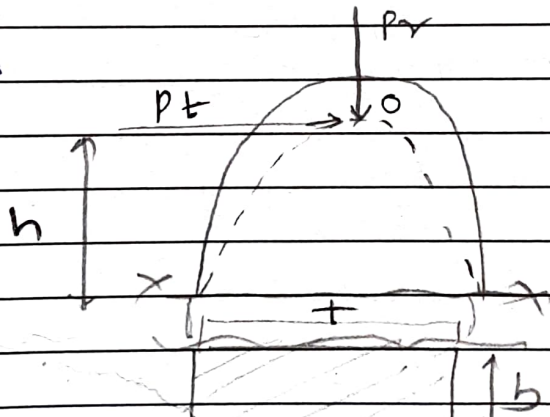
Course / Paper No. : _____ Medium of Answer : English

Main Ans. Book + No. of Supplements : _____ Total : _____

Question No.	1	2	3	4	5	6	7	8	9	10	11	12	Total
Marks Obtained													

Use of Coloured pencil or ink is strictly prohibited except in case of diagrams & sketches.
(Write on both sides & start writing on this page.)

Q1. $a] \rightarrow$



The bending is ~~due~~ failure is occurred at weakest section x-x.

So, $M_{bb} = P_t \times h$

~~$y = \frac{t}{2}$~~

The moment of inertia at weakest section:-

$$I = \frac{bt^3}{12}$$

$$\therefore \sigma_b = \frac{M_b \times y}{I}$$

$$= \frac{P_t \times h \times \frac{t}{2}}{bt^3}$$

$$= \frac{P_t \times h \times \frac{t}{2}}{bt^3}$$

$$S_b = \sigma_b \times$$

$$Pt = \frac{\sigma_b \times b t^2}{h}$$

$$Pt = \sigma_b \times b \times \frac{t^2}{h}$$

Multiply and divide by m

$$Pt = \sigma_b \times m \times b \times \frac{t^2}{hm}$$

$$\therefore y = \frac{t^2}{hm} \dots \text{Lewis Form Factor}$$

$$= \frac{Pt}{\sigma_b}$$

$$S_b = \sigma_b \times b \times m \times y$$

b = face width

Q2

Q.1. b)

→ given

$$P = 8 \text{ kW}$$

$$n = 12000 \text{ rpm}$$

$$Z_p = 24 \text{ teeth}$$

$$(S_{ut})_p = 660 \text{ MPa}$$

$$Z_g =$$

$$(S_{ut})_g = 540 \text{ MPa}$$

$$FOS = 2$$

$$CV = \frac{6}{64}$$

$$\rightarrow (\sigma_b)_p = \frac{(S_{ut})_p}{3}$$

$$= \frac{660}{3}$$

$$= 220 \text{ MPa}$$

$$(\sigma_b)_g = \frac{540}{3} = 180$$

$$y_p = \frac{0.484}{Z_p} = \frac{2.87}{24}$$

$$= \frac{0.481}{24} = \frac{2.87}{24}$$

$$Y_P = 0.3644$$

* The material used for gears and pinion is same. So that, pinion is weaker in bending.

$$\sigma_b = \frac{S_b}{b \times m \times Y_P}$$

$$S_b = (\sigma_b)_p \times b \times m \times Y_P$$

$$= 220 \times 10 \text{ mm} \times m \times 0.3644$$

$$= 801.47 \text{ mm}^2 \text{ N/mm}^2$$

$$V = \frac{\pi d p n}{60}$$

$$= \frac{\pi \times 24 \text{ mm} \times 12000}{60}$$

$$= 1507.96 \text{ mm}^3/\text{min}$$

$$= 1507.96 \text{ mm}^3$$

$$p_{\text{eff}} = \frac{C_s \times p_t}{C_v}$$

$$= 1.3 \times \frac{p}{v}$$

$$C_v = \frac{6}{6 + v} = \frac{6}{6 + 1.507 \text{ m}}$$

$$p_t = \frac{p}{v} = \frac{8 \times 10^3}{1.507 \text{ m}} = \frac{5.305}{\text{m}}$$

$$p_{\text{eff}} = 1.3 \times \frac{5.305}{\text{m}}$$

$$\frac{6}{6 + 1.507 \text{ m}}$$

$$= \frac{1.3 \times 5.305 \times (6 + 1.507 \text{ m})}{6 \text{ m}}$$

$$p_{eff} = \frac{6.89663}{m} + 1.7322$$

$$S_b = FOS \times p_{eff}$$

$$801.752 \text{ m}^2 = 2 \times \frac{6.89663}{m} + 1.7322$$

$$400.851 \text{ m}^2 = \frac{6.89663}{m} + 1.7322$$

$$m = 93.13 \approx 4$$

$$\begin{aligned} d_p &= m \times p \\ &= 24 \times 4 \\ &= 96 \text{ mm} \end{aligned}$$

$$\begin{aligned} b &= 10 \text{ m} \\ &= 10 \times 4 \\ &= 40 \text{ mm} \end{aligned}$$

$$\begin{aligned} S_b &= 801.702 \times (4)^2 \\ &= 12827.232 \text{ N/mm}^2 \end{aligned}$$

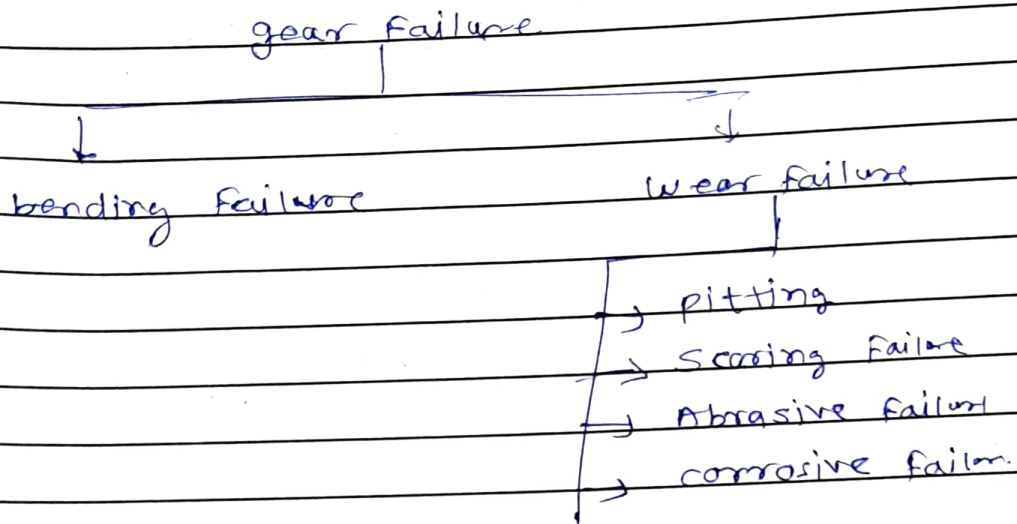
$$\begin{aligned} v &= 1.5079 \times (4)^2 \\ &= 24.1264 \text{ m/s} \end{aligned}$$

$$\begin{aligned} P_t &= \frac{P}{v} = \frac{8 \times 10^3}{1.5079 \times 4} \\ &= 13266.9983 \end{aligned}$$

$$p_{eff} =$$

Q1. c)

→ Different types of gear failure is



∴ bending failure =

~~it is failure because~~



‘येथे बहुतांचे हित ।’

Marathwada Mitramandal's
COLLEGE OF ENGINEERING

S.No.18, Plot No.5/3, Karvenagar, Pune-411 052

Accredited with 'A' Grade by NAAC

Accredited by NBA (Electrical and Mechanical Engg. Department)

Recipient of 'Best College Award 2019' of SPPU

Recognized under section 2(f) and 12B of UGC Act 1956

Internal Assessment

Practical Continuous Assessment Sheet

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	04	Class	SE-II	Date	07/01/19	Time	12.30-2.30
Department	COMPUTER	Sub	ADSL	Faculty	Anita Shinde	Batch	A

Roll No.	Name of Student	Cumulative Marks ()	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certificate (2)	Total (10)
SC201	AGRAWAL RITESH RAKESH	0	1	<i>[Signature]</i>	2	1	1	7
SC203	BAHIRI DURVESH KISHOR	0	-	-	-	-	-	-
SC204	CHAUDHARI NISHANT PRAMOD	0	-	-	-	-	-	-
SC205	CHAVAN JYOTIRAM	0	1	<i>[Signature]</i>	2	1	1	6
SC207	DAPHAL ANAGHA DATTATRAYA	0	1	<i>[Signature]</i>	2	2	1	7
SC208	DEO SIDDHESH GUNJAN	0	1	<i>[Signature]</i>	2	2	1	7
SC209	DESHPANDE APURV SHRIKANT	0	1	<i>[Signature]</i>	2	4	2	10
SC210	DESHPANDE PRADYUMNA GIRISH	0	1	<i>[Signature]</i>	2	2	2	8
SC211	DHIVAR SANKET SUNIL	0	1	<i>[Signature]</i>	2	1	1	6
SC212	DIBYO	0	-	-	-	-	-	-
SC213	GADKAR PRANAV VISHNU	0	1	<i>[Signature]</i>	2	4	1	8
SC215	GANDHE ARNAV SANTOSH	0	1	<i>[Signature]</i>	2	2	1	7
SC216	GAWHANE ATUL	0	-	-	-	-	-	-
SC217	GOLE VARUN MANOJ	0	1	<i>[Signature]</i>	2	4	1	9
SC219	JADHAV PRAKASH UMESH	0	-	-	-	-	-	-
SC221	JAGTAP SURAJ BHANUDAS	0	-	-	-	-	-	-
SC222	KARTHIK SHRINIKETAN	0	1	<i>[Signature]</i>	2	2	2	8
SC223	KEJKAR SHANTANU RAJKUMAR	0	-	-	-	-	-	-
SC224	KESHARWANI RITIK MANOJ	0	-	-	-	-	-	-
SC225	KHISE SAKSHI AJIT	0	-	-	-	-	-	-
SC226	KULKARNI SAMRUDDHI C	0	-	-	-	-	-	-
SC227	KULKARNI SHALAKA DEEPAK	0	1	<i>[Signature]</i>	2	3	1	8
SC228	KULKARNI SHUBHANKAR S	0	1	<i>[Signature]</i>	2	2	1	7

HOD

[Signature]
Course Coordinator

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	04	Class	SE-II	Date	10/1/19	Time	12.30-2.30
Department	COMPUTER	Sub	ADSL	Faculty	Anita Shinde	Batch	A

Roll No.	Name of Student	Cumulative Marks (10)	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certification(2)	Total (10)
SC201	AGRAWAL RHEESHRAKESH	07	1	<i>Rheesh</i>	2	2	2	8
SC203	BAHIRI DURVESH KISHOR	00	1	<i>Durvesh</i>	2	2	2	08
SC204	CHAUDHARI NISHANT PRAMOD	00	1	<i>Nishant</i>	1	2	1	6
SC205	CHAVAN JYOTI RAM	06	1	<i>Jyoti</i>	1	2	1	6
SC207	DAPHAL ANAGHA DATTATRAYA	07	1	<i>Anagha</i>	02	2	1	07
SC208	DEO SIDDHESH GUNJAN	07	1	<i>Siddesh</i>	2	2	2	8
SC209	DESHIPANDE APURV SHRIKANT	10	1	<i>Apurv</i>	2	2	2	09
SC210	DESHIPANDE PRADYUMNA GIRISH	08	1	<i>Pradyumna</i>	2	2	2	08
SC211	DHIVAR SANKET SUNIL	06	-	-	-	-	-	-
SC212	DIBYO	00	1	<i>Dibyo</i>	02	02	01	07
SC213	GADEKAR PRANAV VISHNU	08	-	-	-	-	-	-
SC215	GANDHE ARNAV SANTOSH	07	1	<i>Arnav</i>	2	2	2	8
SC216	GAWHANE ATUL	00	-	-	-	-	-	-
SC217	GOLE VARUN MANOJ	09	1	<i>Varun</i>	2	2	2	8
SC219	JADHAV PRATIK UMESH	00	1	<i>Pratik</i>	1	2	1	6
SC221	JAGTAP SURAJ BHANUDAS	00	-	-	-	-	-	-
SC222	KARTHIK SHRINIKETAN	08	1	<i>Karthik</i>	2	2	2	8
SC223	KEJKAR SHANTANU RAJKUMAR	00	-	-	-	-	-	-
SC224	KESHARWANI RITIK MANOJ	00	1	<i>Ritik</i>	2	2	2	8
SC225	KHESE SAKSHI AJIT	00	1	<i>Sakshi</i>	1	1	1	5
SC226	KULKARNI SAMRUDDHIC	00	1	<i>Samruddhi</i>	2	2	1	7
SC227	KULKARNI SHALAKA DELPAK	08	1	<i>Shalaka</i>	2	2	1	7
SC228	KULKARNI SHUBHANKAR S	07	-	-	-	-	-	-

HOD

AS
 Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	06	Class	SE-II	Date	24/1/19	Time	12-30-2-30
Department	COMPUTER	Sub	ADS Lab	Faculty	Anty S	Batch	A

Roll No.	Name of Student	Cumulative Marks (20)	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certification(2)	Total (10)
SC201	AGRAWAL RITESH RAKESH	15	2	<i>[Signature]</i>	2	2	1	7
SC203	BAHRE DURVESH KISHOR	08	2	<i>[Signature]</i>	2	2	2	8
SC204	CHAUDHARI NISHANT PRAMOD	06	2	-	-	-	-	-
SC205	CHAVAN JYOTI RAM	12	2	<i>[Signature]</i>	2	2	1	7
SC207	DAPHAL ANAGHA DATTATRAYA	14	2	<i>[Signature]</i>	2	2	1	7
SC208	DEO SIDDHESH GUNJAN	15	2	<i>[Signature]</i>	2	2	2	8
SC209	DESHIPANDE APURV SHRIKANT	19	2	<i>[Signature]</i>	2	2	2	8
SC210	DESHIPANDE PRADYUMNA GIRISH	16	2	<i>[Signature]</i>	2	2	1	7
SC211	DHIVAR SANKET SUNIL	06	2	<i>[Signature]</i>	2	2	1	7
SC212	DIBYO	07	-	-	-	-	-	-
SC213	GADEKAR PRANAV VISHNU	08	2	<i>[Signature]</i>	2	2	2	8
SC215	GANDHE ARNAV SANTOSH	15	2	<i>[Signature]</i>	2	2	2	8
SC216	GAWHANE ATUL	00	-	-	-	-	-	-
SC217	GOLE VARUN MANOJ	17	2	<i>[Signature]</i>	2	2	1	7
SC219	JADHAV PRATIK UMESH	06	2	<i>[Signature]</i>	2	2	1	7
SC221	JAGTAP SURAJ BHANUDAS	00	2	<i>[Signature]</i>	2	2	1	7
SC222	KARTHIK SHRINIKETAN	16	2	<i>[Signature]</i>	2	2	1	7
SC223	KEJKAR SHANTANU RAJKUMAR	00	-	-	-	-	-	-
SC224	KESHARWANI RITIK MANOJ	08	-	-	-	-	-	-
SC225	KHISE SAKSHI AJIT	05	2	<i>[Signature]</i>	2	2	1	7
SC226	KULKARNI SAMRUDDHI C	07	2	<i>[Signature]</i>	2	2	2	8
SC227	KULKARNI SHALAKA DEEPAK	15	2	<i>[Signature]</i>	2	2	2	8
SC228	KULKARNI SHUBHANKAR S	07	-	-	-	-	-	-

HOD

[Signature]
Course Coordinator

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	07	Class	SE-II	Date	28/1/19	Time	12.30-2.30
Department	COMPUTER	Sub	Ads Lab	Faculty	Anita S	Batch	A

Roll No.	Name of Student	Cumulative Marks (30)	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certification(2)	Total (10)
SC201	AGRAWAL RIHISH RAKESH	22	03	<i>Rihish</i>	2	2	1	7
SC203	BAHIRE DURVISH KISHOR	16	3	<i>Durvi</i>	2	2	2	8
SC204	CHAUDHARI NISHANT PRAMOD	06	3	<i>Nishant</i>	2	2	1	7
SC205	CHAVAN JYOTIRAM	19	-	-	-	-	-	-
SC207	DAPHAL ANAGHA DATTATRAYA	21	3	<i>Anagha</i>	2	2	2	8
SC208	DEO SIDDHESH GUNJAN	23	3	<i>Siddesh</i>	2	2	2	8
SC209	DESHPANDE APURV SHRIKANT	29	3	<i>Apurv</i>	2	2	3	9
SC210	DESHPANDE PRADYUMNA GIRISH	25	3	<i>Pradyumna</i>	2	2	2	8
SC211	DHIVAR SANKET SUNIL	13	3	<i>Sanket</i>	2	2	1	7
SC212	DIBYO	07	3	<i>Dibyoo</i>	2	2	1	7
SC213	GADEKAR PRANAV VISHNU	16	3	<i>Pranav</i>	2	2	2	8
SC215	GANDHE ARNAV SANTOSH	23	3	<i>Arnav</i>	2	2	2	8
SC216	GAWHANE ATUL	00	-	-	-	-	-	-
SC217	GOLF VARUN MANOJ	24	3	<i>Varun</i>	2	2	1	7
SC219	JADHAV PRATIK UMESH	13	-	-	-	-	-	-
SC221	JAGTAP SURAJ BHANUDAS	07	3	<i>Suraj</i>	2	2	2	8
SC222	KARTHIK SHRINIKETAN	23	3	<i>Karthik</i>	2	2	2	8
SC223	KEJKAR SHANTANU RAJKUMAR	00	3	<i>Kejkar</i>	2	2	1	7
SC224	KESHARWANI RITIK MANOJ	08	-	-	-	-	-	-
SC225	KHESE SAKSHI AJIT	12	3	<i>Sakshi</i>	2	2	1	7
SC226	KULKARNI SAMRUDDHI C	15	3	<i>Samruddhi</i>	2	2	2	8
SC227	KULKARNI SHALAKA DEEPAK	23	3	<i>Shalaka</i>	2	2	2	8
SC228	KULKARNI SHUBHANKAR S	07	-	-	-	-	-	-

HOD

AS
 Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	07	Class	SE-II	Date	31/1/19	Time	12:30-2:30
Department	COMPUTER	Sub	ADS Lab	Faculty	Anita S.	Batch	A

Roll No.	Name of Student	Cumulative Marks (40)	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certification(2)	Total (10)
SC201	AGRAWAL RITESH RAKESH	29	3	Ritesh	2	2	1	6
SC203	BAHIRE DURVESH KISHOR	24	3	Durvesh	2	2	2	8
SC204	CHAUDHARI NISHANT PRAMOD	13	-	-	-	-	-	-
SC205	CHAVAN JYOTI RAM	19	3	Jyoti	2	2	1	7
SC207	DAPHAL ANAGHA DATTATRAYA	29	-	-	-	-	-	-
SC208	DEO SIDDHESH GUNJAN	31	3	Siddhesh	2	2	2	8
SC209	DESHPANDE APURV SHRIKANT	36	3	Apurv	2	2	3	9
SC210	DESHPANDE PRADYUMNA GIRISH	33	-	-	-	-	-	-
SC211	DHIVAR SANKET SUNIL	20	3	Sanket	2	2	1	7
SC212	DIBYO	14	3	Dibyo	2	2	1	7
SC213	GADEKAR PRANAV VISHNU	24	-	-	-	-	-	-
SC215	GANDHE ARNAV SANTOSH	31	3	Arnav	2	2	1	7
SC216	GAWHANE ATUL	00	3	Atul	2	1	1	6
SC217	GOLE VARUN MANOJ	31	-	-	-	-	-	-
SC219	JADHAV PRATIK UMESH	13	3	Pratik	2	2	1	7
SC221	JAGTAP SURAJ BHANUDAS	15	-	-	-	-	-	-
SC222	KARTHIK SHRINIKETAN	31	3	Karthik	2	2	2	8
SC223	KEJKAR SHANTANU RAJKUMAR	07	3	Shantanu	2	2	1	7
SC224	KESHARWANI RITIK MANOJ	08	-	-	-	-	-	-
SC225	KHESE SAKSHI AJIT	19	3	Sakshi	2	2	1	7
SC226	KULKARNI SAMRUDDHI C	23	-	-	-	-	-	-
SC227	KULKARNI SHALAKA DEEPAK	31	-	-	-	-	-	-
SC228	KULKARNI SHUBHANKAR S	07	3	Shubhankar	2	2	1	7

HOD


 Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	08	Class	SE-II	Date	4/2/19	Time	12.30-2.30
Department	COMPUTER	Sub	ADS Lab	Faculty	Anita S.	Batch	A

Roll No.	Name of Student	Cumulative Marks (8)	Expt No	Att'd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certification(2)	Total (10)
SC201	AGRAWAL RITESH RAKESH	35	4	<i>[Signature]</i>	2	2	1	7
SC203	BAHIRE DURVESH KISHOR	32	4	<i>[Signature]</i>	2	2	2	8
SC204	CHAUDHARI NISHANT PRAMOD	13	-	-	-	-	-	-
SC205	CHAVAN JYOTI RAM	26	4	<i>[Signature]</i>	2	2	1	7
SC207	DAPHAL ANAGHA DATTATRAYA	29	4	<i>[Signature]</i>	2	2	2	8
SC208	DEO SIDDHESH GUNJAN	39	-	-	-	-	-	-
SC209	DESHPANDE APURV SHRIKANT	45	4	<i>[Signature]</i>	2	3	2	9
SC210	DESHPANDE PRADYUMNA GIRISH	33	4	<i>[Signature]</i>	2	2	2	8
SC211	DHIVAR SANKET SUNIL	27	4	<i>[Signature]</i>	2	2	1	7
SC212	DIBYO	21	-	-	-	-	-	-
SC213	GADEKAR PRANAV VISHNU	24	4	<i>[Signature]</i>	2	2	2	8
SC215	GANDHE ARNAV SANTOSH	38	4	<i>[Signature]</i>	2	2	2	8
SC216	GAWHANE ATUL	06	-	-	-	-	-	-
SC217	GOLE VARUN MANOJ	31	4	<i>[Signature]</i>	2	2	1	7
SC219	JADHAV PRATIK UMESH	20		<i>[Signature]</i>	2	2	1	7
SC221	JAGTAP SURAJ BHANUDAS	15	4	<i>[Signature]</i>	2	2	2	8
SC222	KARTHIK SHRINIKETAN	39	4	<i>[Signature]</i>	2	2	2	8
SC223	KEJKAR SHANTANU RAJKUMAR	15	4	<i>[Signature]</i>	2	2	1	7
SC224	KESHARWANI RITIK MANOJ	08	4	<i>[Signature]</i>	2	2	1	7
SC225	KHESE SAKSHI AJIT	26	4	<i>[Signature]</i>	2	2	1	7
SC226	KULKARNI SAMRUDDHI C	23	4	<i>[Signature]</i>	2	2	2	8
SC227	KULKARNI SHALAKA DEEPAK	31	4	<i>[Signature]</i>	2	2	2	8
SC228	KULKARNI SHUBHANKAR S	14	4	<i>[Signature]</i>	2	2	1	7

HOD

[Signature]
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	08	Class	SE-II	Date	7/2/19	Time	12-30 4-30
Department	COMPUTER	Sub	ADSL	Faculty	Anita Shinde	Batch	A

Roll No.	Name of Student	Cumulative Marks 66	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certificati on(2)	Total (10)
SC201	AGRAWAL RITESH RAKESH	42	5	<i>[Signature]</i>	2	2	2	8
SC203	BAHIRE DURVESH KISHOR	40	5	<i>[Signature]</i>	2	2	2	8
SC204	CHAUDHARI NISHANT PRAMOD	13	5	<i>[Signature]</i>	2	2	1	7
SC205	CHAVAN JYOTI RAM	23	5	<i>[Signature]</i>	2	2	1	7
SC207	DAPHAL ANAGHA DATTATRAYA	37	5	<i>[Signature]</i>	2	2	1	7
SC208	DLO SIDDHESH GUNJAN	39	5	<i>[Signature]</i>	2	2	2	8
SC209	DESHPANDE APURV SHRIKANT	54	5	<i>[Signature]</i>	2	2	3	9
SC210	DESHPANDE PRADYUMNA GIRISH	41	5	<i>[Signature]</i>	2	2	1	7
SC211	DHIVAR SANKET SUNIL	34	5	<i>[Signature]</i>	2	2	1	7
SC212	DIBYO	21	-	-	-	-	-	-
SC213	GADEKAR PRANAV VISHNU	32	5	<i>[Signature]</i>	2	2	3	9
SC215	GANDHE ARNAV SANTOSH	46	5	<i>[Signature]</i>	2	2	2	8
SC216	GAWHANE ARII	06	5	<i>[Signature]</i>	2	2	1	7
SC217	GOLE VARUN MANOJ	38	5	<i>[Signature]</i>	2	2	2	8
SC219	JADHAV PRATIK UMESH	27	5	<i>[Signature]</i>	2	2	2	8
SC221	JAGTAP SURAJ BHANUDAS	23	5	<i>[Signature]</i>	2	2	2	8
SC222	KARTHIK SHRINIKI TAN	47	5	<i>[Signature]</i>	2	2	2	8
SC223	KEJKAR SHANTANU RAJKUMAR	22	-	-	-	-	-	-
SC224	KESHARWANI RITIK MANOJ	15	5	<i>[Signature]</i>	2	2	3	9
SC225	KHESE SAKSHI AJIT	33	5	<i>[Signature]</i>	2	2	3	9
SC226	KULKARNI SAMRUDDHI C	31	5	<i>[Signature]</i>	2	2	3	9
SC227	KULKARNI SHALAKA DEEPAK	39	5	<i>[Signature]</i>	2	2	3	9
SC228	KULKARNI SHUBHANKAR S	21	5	<i>[Signature]</i>	2	2	1	7

HOD

[Signature]
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	09	Class	SE-II	Date	11/2/19	Time	12.30-2.30
Department	COMPUTER	Sub	ADSL	Faculty	Anita Shinde	Batch	A

Roll No.	Name of Student	Cumulative Marks ⁷⁰	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certification(2)	Total (10)
SC201	AGRAWAL RITESH RAKESH	50	SB	<i>[Signature]</i>	2	2	1	7
SC203	BAHIRE DURVESH KISHOR	48	SB	<i>[Signature]</i>	2	2	2	8
SC204	CHAUDHARI NISHANT PRAMOD	21	SB	<i>[Signature]</i>	2	1	1	6
SC205	CHAVAN JYOTI RAM	41	SB	<i>[Signature]</i>	2	1	1	6
SC207	DAPHAL ANAGHA DATTATRAYA	44	SB	<i>[Signature]</i>	2	1	1	6
SC208	DEO SIDDHESH GUNJAN	47	SB	<i>[Signature]</i>	2	2	1	7
SC209	DESHIPANDE APURV SHRIKANT	63	SB	<i>[Signature]</i>	2	2	3	9
SC210	DESHIPANDE PRADYUMNA GIRISH	48	-	-	-	-	-	-
SC211	DHIVAR SANKET SUNIL	41	SB	<i>[Signature]</i>	2	1	1	6
SC212	DIBYO	21	SB-	-	-	-	-	-
SC213	GADKAR PRANAV VISHNU	41	SB	<i>[Signature]</i>	2	2	1	7
SC215	GANDHE ARNAV SANTOSH	54	SB	<i>[Signature]</i>	2	2	2	8
SC216	GAWHANE ATUL	13	SB	<i>[Signature]</i>	2	1	1	6
SC217	GOLE VARUN MANOJ	46	-	-	-	-	-	-
SC219	JADHAV PRATIK UMESH	35	-	-	-	-	-	-
SC221	JAGTAP SURAJ BHANUDAS	31	SB	<i>[Signature]</i>	2	2	1	7
SC222	KARTHIK SHRINIKETAN	55	SB	<i>[Signature]</i>	2	2	1	7
SC223	KEJKAR SHANTANU RAJKUMAR	22	SB	<i>[Signature]</i>	2	1	1	6
SC224	KI.SHARWANI RITIK MANOJ	24	SB	<i>[Signature]</i>	2	2	1	7
SC225	KHESE SAKSHI AJJI	40	-	-	-	-	-	-
SC226	KULKARNI SAMRUDDHI C	48	SB	<i>[Signature]</i>	2	2	1	7
SC227	KULKARNI SHALAKA DEEPAK	48	SB	<i>[Signature]</i>	2	2	1	7
SC228	KULKARNI SHUBHANKAR S	28	SB	<i>[Signature]</i>	2	1	1	6

HOD

[Signature]
Course Coordinator



Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	09	Class	SE-II	Date	14/2/19	Time	12.30-2.30
Department	COMPUTER	Sub	ADS Lab	Faculty	Anita S	Batch	A

Roll No.	Name of Student	Cumulative Marks (80)	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certification(2)	Total (10)
SC201	AGRAWAL RITESH RAKESH	57	6	<i>[Signature]</i>	2	2	2	8
SC203	BAHIRE DURVESH KISHOR	56	6	<i>[Signature]</i>	2	2	3	9
SC204	CHAUDHARI NISHANT PRAMOD	27	-	-	-	-	-	-
SC205	CHAVAN JYOTI RAM	47	6	<i>[Signature]</i>	2	2	1	7
SC207	DAPHAL ANAGHA DATTATRAYA	50	6	<i>[Signature]</i>	2	2	2	8
SC208	DEO SIDDHESH GUNJAN	54	6	<i>[Signature]</i>	2	2	2	8
SC209	DESHPANDE APURV SHRIKANT	72	-	-	-	-	-	-
SC210	DESHPANDE PRADYUMNA GIRISH	48	6	<i>[Signature]</i>	2	2	1	7
SC211	DHIVAR SANKET SUNIL	47	6	<i>[Signature]</i>	2	2	1	7
SC212	DIBYO	21	-	-	-	-	-	-
SC213	GADEKAR PRANAV VISHNU	48	6	<i>[Signature]</i>	2	2	2	8
SC215	GANDHE ARNAV SANTOSH	62	-	-	-	-	-	-
SC216	GAWHANE ATUL	19	-	-	-	-	-	-
SC217	GOLE VARUN MANOJ	46	-	-	-	-	-	-
SC219	JADHAV PRATIK UMESH	35	6	<i>[Signature]</i>	2	2	2	8
SC221	JAGTAP SURAJ BHANUDAS	38	6	<i>[Signature]</i>	2	2	2	8
SC222	KARTHIK SHRINIKETAN	62	6	<i>[Signature]</i>	2	2	2	8
SC223	KEJKAR SHANTANU RAJKUMAR	28	6	<i>[Signature]</i>	2	2	1	7
SC224	KESHARWANI RITIK MANOJ	31	6	<i>[Signature]</i>	2	2	2	8
SC225	KHESE SAKSHI AJIT	40	6	<i>[Signature]</i>	2	2	1	7
SC226	KULKARNI SAMRUDDHI C	47	6	<i>[Signature]</i>	2	2	2	8
SC227	KULKARNI SHALAKA DEEPAK	55	6	<i>[Signature]</i>	2	2	2	8
SC228	KULKARNI SHUBHANKAR S	34	6	<i>[Signature]</i>	2	2	1	7

HOD

[Signature]
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	10	Class	SE-II	Date	18/2/19	Time	2-30 2-30
Department	COMPUTER	Sub	ADS Lab	Faculty	Anita S	Batch	A

Roll No.	Name of Student	Cumulative Marks (1)	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certification(2)	Total (10)
SC201	AGRAWAL RITESH RAKESH	63						
SC203	BAHIRE DURVESH KISHOR	65						
SC204	CHAUDHARI NISHANT PRAMOD	27	6	<u>Nishant</u>	2	2	1	7
SC205	CHAVAN JYOTI RAM	54						
SC207	DAPHAL ANAGHA DATTATRAYA	58						
SC208	DEO SIDDHESH GUNJAN	62						
SC209	DESHPANDE APURV SHRIKANT	72						
SC210	DESHPANDE PRADYUMNA GIRISH	55						
SC211	DHIVAR SANKET SUNIL	54						
SC212	DIBYO	21						
SC213	GADEKAR PRANAV VISHNU	56						
SC215	GANDHE ARNAV SANTOSH	62						
SC216	GAWHANE ATUL	19						
SC217	GOLE VARUN MANOJ	46						
SC219	JADHAV PRATIK UMESH	43						
SC221	JAGTAP SURAJ BHANUDAS	46						
SC222	KARTHIK SHRINIKETAN	70	6	<u>Kartik</u>	2	2	2	8
SC223	KEJKAR SHANTANU RAJKUMAR	35						
SC224	KESHARWANI RITIK MANOJ	39						
SC225	KHESE SAKSHI AJIT	47						
SC226	KULKARNI SAMRUDDHI C	55						
SC227	KULKARNI SHALAKA DEEPAK	63	6	<u>Shalaka</u>	2	2	2	8
SC228	KULKARNI SHUBHANKAR S	41						

HOD

AS
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	10	Class	SE-II	Date	21/2/19	Time	12.30 2.30
Department	COMPUTER	Sub	ADS Lab	Faculty	Anita S	Batch	A

Roll No.	Name of Student	Cumulative Marks (%) 100	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certificati on(2)	Total (10)
SC201	AGRAWAL RITESH RAKESH	63	7	<i>[Signature]</i>	2	2	1	7
SC203	BAHIRE DURVESH KISHOR	65	7	<i>[Signature]</i>	2	2	2	8
SC204	CHAUDHARI NISHANT PRAMOD	34	-	-	-	-	-	-
SC205	CHAVAN JYOTI RAM	54	7	<i>[Signature]</i>	2	2	1	7
SC207	DAPHAL ANAGHA DATTATRAYA	58	7	<i>[Signature]</i>	2	2	2	8
SC208	DEO SIDDHESH GUNJAN	62	-	-	-	-	-	-
SC209	DESHIPANDE APURV SHRIKANT	72	7	<i>[Signature]</i>	2	2	3	9
SC210	DESHPANDE PRADYUMNA GIRISH	55	7	<i>[Signature]</i>	2	2	2	8
SC211	DHIVAR SANKET SUNIL	54	7	<i>[Signature]</i>	2	2	1	7
SC212	DIBYO	21	-	-	-	-	-	-
SC213	GADEKAR PRANAV VISHNU	56	-	-	-	-	-	-
SC215	GANDHE ARNAV SANTOSH	62	7	<i>[Signature]</i>	2	2	2	8
SC216	GAWHANE ATUL	19	-	-	-	-	-	-
SC217	GOLE VARUN MANOJ	46	7	<i>[Signature]</i>	2	2	1	7
SC219	JADHAV PRATIK UMESH	43	-	-	-	-	-	-
SC221	JAGTAP SURAJ BHANUDAS	46	7	<i>[Signature]</i>	2	2	2	8
SC222	KARTHIK SHRINIKETAN	78	7	<i>[Signature]</i>	2	2	2	8
SC223	KEJKAR SHANTANU RAJKUMAR	35	7	<i>[Signature]</i>	2	2	1	7
SC224	KESHARWANI RITIK MANOJ	39	7	<i>[Signature]</i>	2	2	1	7
SC225	KHESE SAKSHI AJIT	47	7	<i>[Signature]</i>	2	2	1	7
SC226	KULKARNI SAMRUDDHI C	55	7	<i>[Signature]</i>	2	2	2	8
SC227	KULKARNI SHALAKA DEEPAK	71	7	<i>[Signature]</i>	2	3	2	9
SC228	KULKARNI SHUBHANKAR S	41	7	<i>[Signature]</i>	2	2	1	7

HOD

[Signature]
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	1)	Class	SE-II	Date	25/2/19	Time	12.30 2.30
Department	COMPUTER	Sub	ADS Lab	Faculty	Anita S	Batch	A

Roll No.	Name of Student	Cumulative Marks (1)	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certification(2)	Total (10)
SC201	AGRAWAL RITESH RAKESH	70	16 expt	<i>[Signature]</i>	2	2	2	8
SC203	BAHIRE DURVESH KISHOR	73	16 expt	<i>[Signature]</i>	2	2	2	8
SC204	CHAUDHARI NISHANT PRAMOD	34	16 expt	<i>[Signature]</i>	2	2	1	7
SC205	CHAVAN JYOTI RAM	61	16 expt	<i>[Signature]</i>	2	2	1	7
SC207	DAPHAL ANAGHA DATTATRAYA	66	16 expt	<i>[Signature]</i>	2	2	2	8
SC208	DEO SIDDHESH GUNJAN	62	16 expt	<i>[Signature]</i>	2	2	2	8
SC209	DESHPANDE APURV SHRIKANT	81	16 expt	<i>[Signature]</i>	2	3	2	9
SC210	DESHPANDE PRADYUMNA GIRISH	63	-	-	-	-	-	-
SC211	DHIVAR SANKET SUNIL	61	16 expt	<i>[Signature]</i>	2	2	1	7
SC212	DIBYO	21	16 expt	<i>[Signature]</i>	2	2	1	7
SC213	GADEKAR PRANAV VISHNU	56	16 expt	<i>[Signature]</i>	2	2	2	8
SC215	GANDHE ARNAV SANTOSH	70	16 expt	<i>[Signature]</i>	2	2	2	8
SC216	GAWHANE ATUL	19	-	-	-	-	-	-
SC217	GOLE VARUN MANOJ	53	-	-	-	-	-	-
SC219	JADHAV PRATIK UMESH	43	16 expt	<i>[Signature]</i>	2	2	1	7
SC221	JAGTAP SURAJ BHANUDAS	54	16 expt	<i>[Signature]</i>	2	2	2	8
SC222	KARTHIK SHRINIKETAN	86	16 expt	<i>[Signature]</i>	2	2	2	8
SC223	KEJKAR SHANTANU RAJKUMAR	42	16 expt	<i>[Signature]</i>	2	2	1	7
SC224	KESHARWANI RITIK MANOJ	46	16 expt	<i>[Signature]</i>	2	2	2	8
SC225	KHESE SAKSHI AJIT	59	-	-	-	-	-	-
SC226	KULKARNI SAMRUDDHI C	63	16 expt	<i>[Signature]</i>	2	2	2	8
SC227	KULKARNI SHALAKA DEEPAK	80	16 expt	<i>[Signature]</i>	2	3	2	9
SC228	KULKARNI SHUBHANKAR S	48	16 expt	<i>[Signature]</i>	2	2	2	8

HOD

[Signature]
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	11	Class	SE-II	Date	28/2/19	Time	12.30 - 2.30
Department	COMPUTER	Sub	ADS Lab	Faculty	Anita S	Batch	A

Roll No.	Name of Student	Cumulative Marks () 120	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certificati on(2)	Total (10)
SC201	AGRAWAL RITESH RAKESH	78	7	<i>[Signature]</i>	2	2	2	8
SC203	BAHIRE DURVESH KISHOR	81	7	<i>[Signature]</i>	2	2	2	8
SC204	CHAUDHARI NISHANT PRAMOD	41	7	<i>[Signature]</i>	2	2	1	7
SC205	CHAVAN JYOTI RAM	68	7	<i>[Signature]</i>	2	2	1	7
SC207	DAPHAL ANAGHA DATTATRAYA	74	7	<i>[Signature]</i>	2	2	2	8
SC208	DEO SIDDHESH GUNJAN	70	7	<i>[Signature]</i>	2	2	2	8
SC209	DESHPANDE APURV SHRIKANT	90	7	<i>[Signature]</i>	2	3	2	9
SC210	DESHPANDE PRADYUMNA GIRISH	63	7	<i>[Signature]</i>	2	2	2	8
SC211	DHIVAR SANKET SUNIL	68	7	<i>[Signature]</i>	2	2	1	7
SC212	DIBYO	28	-	-	-	-	-	-
SC213	GADEKAR PRANAV VISHNU	64	7	<i>[Signature]</i>	2	2	2	8
SC215	GANDHE ARNAV SANTOSH	78	7	<i>[Signature]</i>	2	2	2	8
SC216	GAWHANE ATUL	19	7	<i>[Signature]</i>	2	2	1	7
SC217	GOLE VARUN MANOJ	53	7	<i>[Signature]</i>	2	2	2	8
SC219	JADHAV PRATIK UMESH	50	7	<i>[Signature]</i>	2	2	2	8
SC221	JAGTAP SURAJ BHANUDAS	62	7	<i>[Signature]</i>	2	2	2	8
SC222	KARTHIK SHRINIKETAN	94	-	-	-	-	-	-
SC223	KEJKAR SHANTANU RAJKUMAR	49	-	-	-	-	-	-
SC224	KESHARWANI RITIK MANOJ	54	7	<i>[Signature]</i>	2	2	2	8
SC225	KHESE SAKSHI AJIT	54	7	<i>[Signature]</i>	2	2	1	7
SC226	KULKARNI SAMRUDDHI C	71	7	<i>[Signature]</i>	2	2	2	8
SC227	KULKARNI SHALAKA DEEPAK	89	7	<i>[Signature]</i>	2	2	2	8
SC228	KULKARNI SHUBHANKAR S	56	-	-	-	-	-	-

HOD

[Signature]
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	14	Class	SE-II	Date	10/3/19	Time	12-30 2-30
Department	COMPUTER	Sub	ADS Lab	Faculty	Anita S	Batch	A

Roll No.	Name of Student	Cumulative Marks (1)	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certification(2)	Total (10)
SC201	AGRAWAL RITESH RAKESH	86	-	-	-	-	-	-
SC203	BAHIRE DURVESH KISHOR	89	9,16	<i>[Signature]</i>	2	2	2	8
SC204	CHAUDHARI NISHANT PRAMOD	48	-	-	-	-	-	-
SC205	CHAVAN JYOTI RAM	75	9,16	<i>[Signature]</i>	2	2	1	7
SC207	DAPHAL ANAGHA DATTATRAYA	82	9,16	<i>[Signature]</i>	2	2	1	7
SC208	DEO SIDDHESH GUNJAN	78	9,16	<i>[Signature]</i>	2	2	2	8
SC209	DESHPANDE APURV SHRIKANT	99	9,16	<i>[Signature]</i>	2	3	2	9
SC210	DESHPANDE PRADYUMNA GIRISH	71	9,16	<i>[Signature]</i>	2	2	2	8
SC211	DHIVAR SANKET SUNIL	75	9,16	<i>[Signature]</i>	2	2	1	7
SC212	DIBYO	28	9,16	<i>[Signature]</i>	2	2	1	7
SC213	GADEKAR PRANAV VISHNU	72	9,16	<i>[Signature]</i>	2	2	2	8
SC215	GANDHE ARNAV SANTOSH	86	9,16	<i>[Signature]</i>	2	2	2	8
SC216	GAWHANE ATUL	26	-	-	-	-	-	-
SC217	GOLE VARUN MANOJ	61	9,16	<i>[Signature]</i>	2	2	2	8
SC219	JADHAV PRATIK UMESH	58	9,16	<i>[Signature]</i>	2	2	2	8
SC221	JAGTAP SURAJ BHANUDAS	70	9,16	<i>[Signature]</i>	2	2	2	8
SC222	KARTHIK SHRINIKETAN	94	9,16	<i>[Signature]</i>	2	3	2	9
SC223	KEJKAR SHANTANU RAJKUMAR	49	9,16	<i>[Signature]</i>	2	2	1	7
SC224	KESHARWANI RITIK MANOJ	62	9,16	<i>[Signature]</i>	2	2	2	8
SC225	KHESE SAKSHI AJIT	61	9,16	<i>[Signature]</i>	2	2	1	7
SC226	KULKARNI SAMRUDDHI C	79	9,16	<i>[Signature]</i>	2	2	2	8
SC227	KULKARNI SHALAKA DEEPAK	97	9,16	<i>[Signature]</i>	2	3	2	9
SC228	KULKARNI SHUBHANKAR S	76	9,16	<i>[Signature]</i>	2	2	2	8

HOD

[Signature]
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	15	Class	SE-II	Date	25/3/19	Time	12.30-2.30
Department	COMPUTER	Sub	ADS Lab	Faculty	Anita S	Batch	A

Roll No.	Name of Student	Cumulative Marks () 140	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certificati on(2)	Total (10)
SC201	AGRAWAL RITESH RAKESH	86	10,12	<u>Agrawal</u>	2	2	2	8
SC203	BAHIRE DURVESH KISHOR	97	10,12	<u>Bahire</u>	2	2	2	8
SC204	CHAUDHARI NISHANT PRAMOD	42	-	-	-	-	-	-
SC205	CHAVAN JYOTI RAM	82	10,12	<u>Chavan</u>	2	2	1	7
SC207	DAPHALANAGHA DATTATRAYA	89	10,12	<u>Adap</u>	2	2	2	8
SC208	DEO SIDDHESH GUNJAN	86	10,12	<u>Deo</u>	2	2	2	8
SC209	DESHPANDE APURV SHRIKANT	108	10,12	<u>Deshpande</u>	2	3	2	9
SC210	DESHPANDE PRADYUMNA GIRISH	79	-	-	-	-	-	-
SC211	DHIVAR SANKET SUNIL	82	-	-	-	-	-	-
SC212	DIBYO	35	-	-	-	-	-	-
SC213	GADEKAR PRANAV VISHNU	79	10,12	<u>Gadekar</u>	2	3	2	9
SC215	GANDHE ARNAV SANTOSH	94	10,12	<u>Arnav Gandhe</u>	2	2	2	8
SC216	GAWHANE ATUL	26	-	-	-	-	-	-
SC217	GOLE VARUN MANOJ	69	-	-	-	-	-	-
SC219	JADHAV PRATIK UMESH	66	-	-	-	-	-	-
SC221	JAGTAP SURAJ BHANUDAS	78	-	-	-	-	-	-
SC222	KARTHIK SHRINIKETAN	103	-	-	-	-	-	-
SC223	KEJKAR SHANTANU RAJKUMAR	56	10,12	<u>Kejkar</u>	2	2	1	7
SC224	KESHARWANI RITIK MANOJ	70	10,12	<u>Kejkar</u>	2	2	2	8
SC225	KHESE SAKSHI AJIT	68	-	-	-	-	-	-
SC226	KULKARNI SAMRUDDHI C	87	10,12	<u>Kulkarni</u>	2	2	2	8
SC227	KULKARNI SHALAKA DEEPAK	106	10,12	<u>Kulkarni</u>	2	3	2	9
SC228	KULKARNI SHUBHANKAR S	64	10,12	<u>Kulkarni</u>	2	2	1	7

HOD

Ar
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19(Sem - II)

Week No.	15	Class	SE-II	Date	28/3/19	Time	2.45-7.45
Department	COMPUTER	Sub	ADS Lab	Faculty	Anita S	Batch	A

Roll No.	Name of Student	Cumulative Marks ()	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certification(2)	Total (10)
SC201	AGRAWAL RITESH RAKESH	94	14.13	<i>[Signature]</i>	2	2	2	8/102
SC203	BAHIRE DURVESH KISHOR	105	14.13	<i>[Signature]</i>	2	2	2	8/113
SC204	CHAUDHARI NISHANT PRAMOD	48	-	-	-	-	-	48
SC205	CHAVAN JYOTI RAM	89	14.13	<i>[Signature]</i>	2	2	1	7/96
SC207	DAPHAL ANAGHA DATTATRAYA	97	14.13	<i>[Signature]</i>	2	2	2	8/106
SC208	DEO SIDDHESH GUNJAN	94	-	-	-	-	-	94
SC209	DESHPANDE APURV SHRIKANT	117	14.13	<i>[Signature]</i>	2	3	2	9/122
SC210	DESHPANDE PRADYUMNA GIRISH	79	14.13	<i>[Signature]</i>	2	2	2	8/87
SC211	DHIVAR SANKET SUNIL	82	14.13	<i>[Signature]</i>	2	2	1	7/87
SC212	DIBYO	35	-	-	-	-	-	35
SC213	GADEKAR PRANAV VISHNU	88	14.13	<i>[Signature]</i>	2	2	2	8/96
SC215	GANDHE ARNAV SANTOSH	102	14.13	<i>[Signature]</i>	2	2	2	8/110
SC216	GAWHANE ATUL	26	-	-	-	-	-	26
SC217	GOLE VARUN MANOJ	69	14.13	<i>[Signature]</i>	2	2	1	7/76
SC219	JADHAV PRATIK UMESH	66	14.13	<i>[Signature]</i>	2	2	2	8/74
SC221	JAGTAP SURAJ BHANUDAS	78	14.13	<i>[Signature]</i>	2	2	2	8/86
SC222	KARTHIK SHRINIKETAN	103	-	-	-	-	-	103
SC223	KEJKAR SHANTANU RAJKUMAR	63	-	-	-	-	-	63
SC224	KESHARWANI RITIK MANOJ	78	14.13	<i>[Signature]</i>	2	2	2	8/86
SC225	KHESE SAKSHI AJIT	68	-	-	-	-	-	68
SC226	KULKARNI SAMRUDDHI C	95	14.13	<i>[Signature]</i>	2	2	2	8/103
SC227	KULKARNI SHALAKA DEEPAK	115	14.13	<i>[Signature]</i>	2	3	2	7/144
SC228	KULKARNI SHUBHANKAR S	71	14.13	<i>[Signature]</i>	2	2	1	7/78

HOD

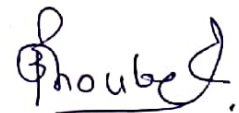
[Signature]
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	4	Class	TE	Date	11/1/19	Time	11:15-1:15
Department	Electrical	Sub	DEM	Faculty	PRC	Batch	A

Roll No.	Name of Student	Cumulative Marks (20)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE01	AAFAQ AHMAD BHAT	(8)	17/1/19	[Signature]	2	2	2	2	8
TE02	AMIT KUMAR GUPTA	(14)		[Signature]	5	3	3	3	14
TE03	ANMULWAD SHYAM SAMBHAJI	(13)		[Signature]	5	3	2	3	13
TE04	ARMAL VISHAL SUDHAKAR	(13)		[Signature]	5	3	2	3	13
TE05	AWASTHI AKSHAY DHANANJAY	(16)		[Signature]	5	4	3	4	16
TE06	BARI SHUBHAM VASUDEV	(9)		[Signature]	2	2	2	3	9
TE07	BHALKARE CHETAN NARAYAN	(16)		[Signature]	5	4	3	4	16
TE08	BODKE PRANAV SANJAY	(8)		[Signature]	2	2	2	2	8
TE09	BUDDAWAR VAIBHAV NARSIMLU	(17)	01	[Signature]	5	4	4	4	17
TE10	CHOUGULE KUNAL SUJEET	(15)		[Signature]	5	4	3	3	15
TE11	DAVANE MONIKA ANKUSH	(12)	3/1/19	[Signature]	3	3	3	3	12
TE12	DESHMANE MEGHA ABASO	(10)	18/1/19	[Signature]	2	3	3	2	10
TE13	GAME KARTIK RAJENDRA-	(13)	12/1/19	[Signature]	3	3	3	4	13
TE14	GAURI KULKARNI	(12)	3/1/19	[Signature]	3	3	3	3	12
TE15	GAVHANE SHUBHAM KISAN	(11)	3/1/19	[Signature]	3	3	3	2	11
TE16	HUKKERIKAR SIDDHI SANJEEV	(14)	3/1/19	[Signature]	3	4	4	3	14
TE17	JADHAV CHETAN NANASAHEB	(13)	3/1/19	[Signature]	3	3	3	4	13
TE18	JOSHI PRADNYA ANIL	(12)	13/1/19	[Signature]	3	3	3	3	12
TE19	KAGDE PALLAVI BHARAT	(13)	13-1-19	[Signature]	3	3	3	4	13

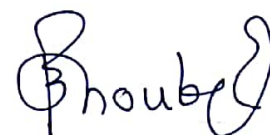

 Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	6	Class	TE	Date	25/1/19	Time	11:15 - 1:15
Department	Electrical Engg.	Sub	DEM	Faculty	PRC	Batch	A

Roll No.	Name of Student	Cumulative Marks (40)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE01	AAFAQ AHMAD BHAT	21	↑	[Signature]	5	3	2	3	13
TE02	AMIT KUMAR GUPTA	28		[Signature]	5	3	3	3	14
TE03	ANMULWAD SHYAM SAMBHAJI	30		[Signature]	5	4	4	4	17
TE04	ARMAL VISHAL SUDHAKAR	22	2/2/19	[Signature]	2	2	3	2	9
TE05	AWASTHI AKSHAY DHANANJAY	33	26	[Signature]	5	4	4	4	17
TE06	BARI SHUBHAM VASUDEV	18	1/3/19	[Signature]	2	2	3	2	9
TE07	BHALKARE CHETAN NARAYAN	33		[Signature]	5	4	4	4	17
TE08	BODKE PRANAV SANJAY	16	1/3/19	[Signature]	2	2	2	2	8
TE09	BUDDAWAR VAIBHAV NARSIMLU	32	1	[Signature]	5	4	3	3	15
TE10	CHOUGULE KUNAL SUJEET	31		[Signature]	5	4	4	3	16
TE11	DAVANE MONIKA ANKUSH	30		[Signature]	5	5	4	4	18
TE12	DESHMANE MEGHA ABASO	27		[Signature]	5	4	4	4	17
TE13	GAME KARTIK RAJENDRA	32		[Signature]	5	5	5	4	19
TE14	GAURI KULKARNI	30		[Signature]	5	5	4	4	18
TE15	GAVHANE SHUBHAM KISAN	29		[Signature]	5	5	5	3	18
TE16	HUKKERIKAR SIDDHI SANJEEV	33		[Signature]	5	5	5	4	19
TE17	JADHAV CHETAN NANASAHEB	22	1/3/19	[Signature]	2	2	2	3	9
TE18	JOSHI PRADNYA ANIL	30		[Signature]	5	5	4	4	18
TE19	KAGDE PALLAVI BHARAT	32	↓	[Signature]	5	5	5	4	19



Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	7	Class	TE	Date	01/2/19	Time	11:15-1:15
Department	Electrical Engg.	Sub	DEM	Faculty	PRC	Batch	A.

Roll No.	Name of Student	Cumulative Marks (60)	Expt No	Attd (sign)	Regularly & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE01	AAFAQ AHMAD BHAT	35	↑	<i>[Signature]</i>	5	4	3	2	14
TE02	AMIT KUMAR GUPTA	42		<i>[Signature]</i>	5	3	3	3	14
TE03	ANMULWAD SHYAM SAMBHAJI	46		<i>[Signature]</i>	5	4	4	3	16
TE04	ARMAL VISHAL SUDHAKAR	38		<i>[Signature]</i>	5	4	3	4	16
TE05	AWASTHI AKSHAY DHANANJAY 45	31/2/19		<i>[Signature]</i>	3	3	3	3	12
TE06	BARI SHUBHAM VASUDEV	35		<i>[Signature]</i>	5	4	4	4	17
TE07	BHALKARE CHETAN NARAYAN	49		<i>[Signature]</i>	5	3	5	3	16
TE08	BODKE PRANAV SANJAY	24		<i>[Signature]</i>	2	2	2	2	8
TE09	BUDDAWAR VAIBHAV NARSIMLU	48	2	<i>[Signature]</i>	5	3	4	4	16
TE10	CHOUGULE KUNAL SUJEET	48		<i>[Signature]</i>	5	4	4	4	17
TE11	DAVANE MONIKA ANKUSH 42	3/2/19		<i>[Signature]</i>	3	3	3	3	12
TE12	DESHMANE MEGHA ABASO	44		<i>[Signature]</i>	5	4	5	3	17
TE13	GAME KARTIK RAJENDRA	50		<i>[Signature]</i>	5	4	5	4	18
TE14	GAURI KULKARNI 40	3/2/19		<i>[Signature]</i>	2	3	3	2	10
TE15	GAVHANE SHUBHAM KISAN	47		<i>[Signature]</i>	5	4	5	4	18
TE16	HUKKERIKAR SIDDHI SANJEEV	52		<i>[Signature]</i>	5	5	5	4	19
TE17	JADHAV CHETAN NANASAHEB	39		<i>[Signature]</i>	5	4	5	3	17
TE18	JOSHI PRADNYA ANIL	47		<i>[Signature]</i>	5	4	4	4	17
TE19	KAGDE PALLAVI BHARAT	51	↓	<i>[Signature]</i>	5	5	5	4	19

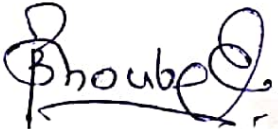
[Signature]
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	8	Class	TE	Date	08/2/19	Time	11:15-1:15
Department	Electrical	Sub	DEM	Faculty	PRC	Batch	A

Roll No.	Name of Student	Cumulative Marks (80)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE01	AAFAQ AHMAD BHAT	52	↑	[Signature]	5	4	4	4	17
TE02	AMIT KUMAR GUPTA	50		[Signature]	2	2	2	2	8
TE03	ANMULWAD SHYAM SAMBHAJI	63		[Signature]	5	5	4	3	17
TE04	ARMAL VISHAL SUDHAKAR	56		[Signature]	5	5	4	4	18
TE05	AWASTHI AKSHAY DHANANJAY	62		[Signature]	5	4	4	4	17
TE06	BARI SHUBHAM VASUDEV	52		[Signature]	5	4	4	4	17
TE07	BHALKARE CHETAN NARAYAN 58	13/2/19		[Signature]	2	2	3	2	9
TE08	BODKE PRANAV SANJAY	41		[Signature]	5	4	4	4	17
TE09	BUDDAWAR VAIBHAV NARSIMLU	63		[Signature]	5	4	3	3	15
TE10	CHOUGULE KUNAL SUJEET	65		[Signature]	5	4	5	3	17
TE11	DAVANE MONIKA ANKUSH 53	13/2/19	2	[Signature]	3	3	3	2	11
TE12	DESHMANE MEGHA ABASO	61		[Signature]	5	4	4	4	17
TE13	GAME KARTIK RAJENDRA	68		[Signature]	5	5	4	4	18
TE14	GAURI KULKARNI 50	13/2/19		[Signature]	3	2	3	2	10
TE15	GAVHANE SHUBHAM KISAN 56	13/2/19		[Signature]	2	3	2	2	9
TE16	HUKKERIKAR SIDDHI SANJEEV	71		[Signature]	5	5	4	5	19
TE17	JADHAV CHETAN NANASAHEB	57		[Signature]	5	5	4	4	18
TE18	JOSHI PRADNYA ANIL	65		[Signature]	5	4	4	5	18
TE19	KAGDE PALLAVI BHARAT	70	↓	[Signature]	5	5	5	4	19



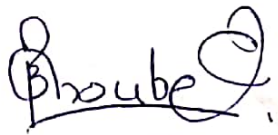
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	9	Class	TE	Date	15/2/19	Time	11.15-1.15
Department	Electrical	Sub	DEM	Faculty	PRC	Batch	A

Roll No.	Name of Student	Cumulative Marks (100)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE01	AAFAQ AHMAD BHAT	68	↑	A	5	4	4	3	16
TE02	AMIT KUMAR GUPTA	58	↑	Amit	2	2	2	2	8
TE03	ANMULWAD SHYAM SAMBHAJI	79	↑	Anmulwad	5	4	4	3	16
TE04	ARMAL VISHAL SUDHAKAR	71	↑	Armal	5	4	3	3	15
TE05	AWASTHI AKSHAY DHANANJAY	79	↑	Awasthi	5	5	4	3	17
TE06	BARI SHUBHAM VASUDEV	69	↑	Bari	5	5	4	3	17
TE07	BHALKARE CHETAN NARAYAN	76	↑	Bhalkare	5	5	4	4	18
TE08	BODKE PRANAV SANJAY	58	↑	Bodke	5	5	4	3	17
TE09	BUDDAWAR VAIBHAV NARSIMLU	80	↑	Buddawar	5	5	4	3	17
TE10	CHOUGULE KUNAL SUJEET	83	2	Chougule	5	5	4	4	18
TE11	DAVANE MONIKA ANKUSH	64	18/2/19	Davane	3	2	3	3	11
TE12	DESHMANE MEGHA ABASO	78	↑	Deshmane	5	5	3	4	17
TE13	GAME KARTIK RAJENDRA	88	↑	Game	5	5	4	4	18
TE14	GAURI KULKARNI	58	18/2	Gauri	2	2	2	2	8
TE15	GAVHANE SHUBHAM KISAN	72	↑	Gavhane	5	5	3	3	16
TE16	HUKKERIKAR SIDDHI SANJEEV	89	↑	Hukkerikar	5	5	4	4	18
TE17	JADHAV CHETAN NANASAHEB	75	↑	Jadhav	5	5	4	4	18
TE18	JOSHI PRADNYA ANIL	83	↑	Joshi	5	5	4	4	18
TE19	KAGDE PALLAVI BHARAT	89	↓	Kagde	5	5	5	4	19


Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	11	Class	TE	Date	01/3/19	Time	11-15-1.15
Department	Electrical Engg.	Sub	DEM	Faculty	PRC	Batch	A.

Roll No.	Name of Student	Cumulative Marks (120)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE01	AAFAQ AHMAD BHAT	82	↑	<i>[Signature]</i>	5	3	3	3	14
TE02	AMIT KUMAR GUPTA	71		<i>[Signature]</i>	5	3	3	2	13
TE03	ANMULWAD SHYAM SAMBHAJI 89	83		<i>[Signature]</i>	2	3	2	3	10
TE04	ARMAL VISHAL SUDHAKAR 87	87		<i>[Signature]</i>	5	4	4	3	16
TE05	AWASTHI AKSHAY DHANANJAY 91	63		<i>[Signature]</i>	3	3	3	3	12
TE06	BARI SHUBHAM VASUDEV	86		<i>[Signature]</i>	5	4	4	4	17
TE07	BHALKARE CHETAN NARAYAN	94		<i>[Signature]</i>	5	4	5	4	18
TE08	BODKE PRANAV SANJAY	75		<i>[Signature]</i>	5	4	5	3	17
TE09	BUDDAWAR VAIBHAV NARSIMLU	98		<i>[Signature]</i>	5	5	4	4	18
TE10	CHOUGULE KUNAL SUJEET	99		<i>[Signature]</i>	5	4	4	3	16
TE11	DAVANE MONIKA ANKUSH	80	3	<i>[Signature]</i>	5	4	4	3	16
TE12	DESHMANE MEGHA ABASO	93	1	<i>[Signature]</i>	5	3	4	3	15
TE13	GAME KARTIK RAJENDRA	106		<i>[Signature]</i>	5	5	5	3	18
TE14	GAURI KULKARNI	74		<i>[Signature]</i>	5	4	4	3	16
TE15	GAVHANE SHUBHAM KISAN 82	63		<i>[Signature]</i>	3	3	2	2	10
TE16	HUKKERIKAR SIDDHI SANJEEV 100	63		<i>[Signature]</i>	3	3	3	2	11
TE17	JADHAV CHETAN NANASAHEB 87	63		<i>[Signature]</i>	3	3	3	3	12
TE18	JOSHI PRADNYA ANIL	100		<i>[Signature]</i>	5	4	4	4	17
TE19	KAGDE PALLAVI BHARAT 101	83	↓	<i>[Signature]</i>	3	3	3	3	12

[Signature]
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	14	Class	TE	Date	22/3/19	Time	11.15 to 1.15
Department	Electrical Engg.	Sub	DEM	Faculty	PRC	Batch	A

Roll No.	Name of Student	Cumulative Marks (140)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE01	AAFAQ AHMAD BHAT	99		<i>[Signature]</i>	5	4	4	4	17
TE02	AMIT KUMAR GUPTA	88		<i>[Signature]</i>	5	4	4	4	17
TE03	ANMULWAD SHYAM SAMBHAJI	107		<i>[Signature]</i>	5	4	4	5	18
TE04	ARMAL VISHAL SUDHAKAR 96	28/3/19		<i>[Signature]</i>	2	2	3	2	9
TE05	AWASTHI AKSHAY DHANANJAY	109		<i>[Signature]</i>	5	4	5	4	18
TE06	BARI SHUBHAM VASUDEV	104		<i>[Signature]</i>	5	4	5	4	18
TE07	BHALKARE CHETAN NARAYAN	111		<i>[Signature]</i>	5	4	4	4	17
TE08	BODKE PRANAV SANJAY	84		<i>[Signature]</i>	2	3	2	2	9
TE09	BUDDAWAR VAIBHAV NARSIMLU 108	28/3/19	3	<i>[Signature]</i>	2	2	3	3	10
TE10	CHOUGULE KUNAL SUJEET	116		<i>[Signature]</i>	5	4	4	4	17
TE11	DAVANE MONIKA ANKUSH	99		<i>[Signature]</i>	5	5	4	5	19
TE12	DESHMANE MEGHA ABASO	111		<i>[Signature]</i>	5	5	4	4	18
TE13	GAME KARTIK RAJENDRA 25/3/19	118		<i>[Signature]</i>	3	3	3	3	12
TE14	GAURI KULKARNI	91		<i>[Signature]</i>	5	4	4	4	17
TE15	GAVHANE SHUBHAM KISAN 93	25/3/19		<i>[Signature]</i>	3	3	2	3	11
TE16	HUKKERIKAR SIDDHI SANJEEV 113	25/3/19		<i>[Signature]</i>	3	3	3	4	13
TE17	JADHAV CHETAN NANASAHEB 100	25/3/19		<i>[Signature]</i>	3	3	4	3	13
TE18	JOSHI PRADNYA ANIL 117			<i>[Signature]</i>	5	4	4	4	17
TE19	KAGDE PALLAVI BHARAT 120			<i>[Signature]</i>	5	5	5	4	19

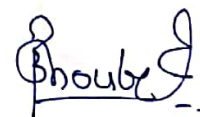
[Signature]
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	15	Class	TE	Date	29.3.19	Time	11.15-1.15
Department	Electrical Engg.	Sub	DEM	Faculty	PRC	Batch	A

Roll No.	Name of Student	Cumulative Marks (20)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE01	AAFAQ AHMAD BHAT	113	14	↑	5	3	3	3	14
TE02	AMIT KUMAR GUPTA	102	14	↑	5	3	3	3	14
TE03	ANMULWAD SHYAM SAMBHAJI	122	15	↑	5	3	4	3	15
TE04	ARMAL VISHAL SUDHAKAR	111	15	↑	5	3	4	3	15
TE05	AWASTHI AKSHAY DHANANJAY	126	17	↑	5	4	4	4	17
TE06	BARI SHUBHAM VASUDEV	120	16	↑	5	4	3	4	16
TE07	BHALKARE CHETAN NARAYAN	120	9	4/19	2	2	2	3	9
TE08	BODKE PRANAV SANJAY	100	16	↑	5	4	4	3	16
TE09	BUDDAWAR VAIBHAV NARSIMLU	124	4	↑	5	4	3	4	16
TE10	CHOUGULE KUNAL SUJEET	131	1	↑	5	4	3	3	15
TE11	DAVANE MONIKA ANKUSH	116	1	↑	5	4	4	4	17
TE12	DESHMANE MEGHA ABASO	128	1	↑	5	4	4	3	17
TE13	GAME KARTIK RAJENDRA	136	1	↑	5	4	5	4	18
TE14	GAURI KULKARNI	100	4/3/19	↑	2	2	2	3	9
TE15	GAVHANE SHUBHAM KISAN	✓	107	↑	5	3	3	3	14
TE16	HUKKERIKAR SIDDHI SANJEEV	130	1	↑	5	4	4	4	17
TE17	JADHAV CHETAN NANASAHEB	116	1	↑	5	4	4	3	16
TE18	JOSHI PRADNYA ANIL	128	4/4/19	↑	3	3	3	2	11
TE19	KAGDE PALLAVI BHARAT	137	137	↓	5	4	4	4	17



Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	4	Class	TE	Date	7/1/19	Time	11.15-1.15
Department	Electrical	Sub	DEM	Faculty	PRC	Batch	B

Roll No.	Name of Student	Cumulative Marks (20)	Expt No	Attd (sign)	Regularit y & Punctual ity (5)	Understand ing & Preparatio n for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE20	KAPADANE AASHISH MUKUNDRAO	18	↑	Aak	5	4	5	4	18
TE21	KAWALE CHHAYENDRA VISHNU	17		Chh	5	4	4	4	17
TE22	KULKARNI MRUNAL DATTATRAYA	17		Mrunal	5	4	4	4	17
TE23	MALI SAMEEKSHA UMESH	18		Smali	5	4	5	4	18
TE24	MARATHE YASH UDAY	16		Mar	5	4	3	4	16
TE25	MESHARAM RAHUL DAMODHAR	17		Rahul	5	4	4	4	17
TE26	MORKHANDE AVINASH SANGRAM	15	1	Avin	5	4	3	3	15
TE27	NAIKAWADI NIKHIL PRADIP	17		Nikhil	5	4	4	4	17
TE28	NANAWARE ASHUTOSH GOVIND	16		Ashu	5	4	4	3	16
TE29	NARWADE MANISHA DEVRAO	17		Manisha	5	4	4	4	17
TE30	NAYKAWDI YOGESH ASHOK	19		Yogesh	5	5	4	5	19
TE31	NEMADE RISHIKESH RAJENDRA	17		Rishi	5	4	4	4	17
TE32	PADOLE AISHWARYA SHIVANANDRAO	19		Aishwarya	5	4	5	5	19
TE33	PADOLE VAISHNAVI NILKANTH	18		Vaishna	5	4	5	4	18
TE34	PALASH SANJAY BOBADE	17		Palash	5	4	4	4	17
TE35	PATIL PRITI VIJAY	16		Patil	5	4	4	3	16
TE36	PATIL ROHAN GOPAL	16		Rohan	5	4	4	3	16
TE37	PATIL URVESH SUBHASH	17		Urvesh	5	4	4	4	17
TE38	PIMPARKAR POOJA HEMRAJ	16	↓	Pooja	5	4	4	3	16


Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	4	Class	TE	Date	10/01/19	Time	11:15 - 1:15
Department	Electrical Engineering	Sub	DEM	Faculty	PRC	Batch	8

Roll No.	Name of Student	Cumulative Marks (40)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE20	KAPADANE AASHISH MUKUNDRAO	36	↑	<i>Aashish</i>	5	5	5	3	18
TE21	KAWALE CHHAYENDRA VISHNU	28		<i>Chhayendra</i>	5	2	2	2	11
TE22	KULKARNI MRUNAL DATTATRAYA	35		<i>Mrunal</i>	5	4	5	4	18
TE23	MALI SAMEEKSHA UMESH	37		<i>Sameeksha</i>	5	4	5	5	19
TE24	MARATHE YASH UDAY	32		<i>Yash</i>	5	3	4	4	16
TE25	MESHARAM RAHUL DAMODHAR	33		<i>Rahul</i>	5	4	3	4	16
TE26	MORKHANDE AVINASH SANGRAM	23		<i>Avinash</i>	2	2	2	2	8
TE27	NAIKAWADI NIKHIL PRADIP	32		<i>Nikhil</i>	5	3	4	3	15
TE28	NANA WARE ASHUTOSH GOVIND	24		<i>Ashutosh</i>	3	2	2	2	9
TE29	NARWADE MANISHA DEVRAO	31	01	<i>Manisha</i>	5	3	3	3	14
TE30	NAYKAWDI YOGESH ASHOK	36		<i>Yogesh</i>	5	4	4	4	17
TE31	NEMADE RISHIKESH RAJENDRA	32		<i>Rishikesh</i>	5	4	4	2	15
TE32	PADOLE AISHWARYA SHIVANANDRAO	35		<i>Aishwarya</i>	5	4	4	3	16
TE33	PADOLE VAISHNAVI NILKANTH	35		<i>Vaishnavi</i>	5	4	4	4	17
TE34	PALASH SANJAY BOBADE	32		<i>Palash</i>	5	4	4	2	15
TE35	PATIL PRITI VIJAY	27		<i>Priti</i>	5	2	2	2	11
TE36	PATIL ROHAN GOPAL	29		<i>Rohan</i>	5	2	3	3	13
TE37	PATIL URVESH SUBHASH	31		<i>Urvesh</i>	5	3	3	3	14
TE38	PIMPARKAR POOJA HEMRAJ	27	↓	<i>Pooja</i>	5	2	2	2	11

Pranab
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	6	Class	TE	Date	24/1/19	Time	11:15 to 1:15
Department	Electrical Engg.	Sub	DEM	Faculty	PRC	Batch	B

Roll No.	Name of Student	Cumulative Marks (60)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE20	KAPADANE AASHISH MUKUNDRAO (48)	26-1-19	↑	<i>Ak</i>	3	3	3	3	12
TE21	KAWALE CHHAYENDRA VISHNU (39)	26/1/19		<i>Chh</i>	3	3	3	2	11
TE22	KULKARNI MRUNAL DATTATRAYA (47)	26/1/19		<i>Mr</i>	3	3	3	3	12
TE23	MALI SAMEEKSHA UMESH (49)	26-1-19		<i>Smali</i>	3	3	3	3	12
TE24	MARATHE YASH UDAY (44)	26/1/19		<i>Yash</i>	3	3	3	3	12
TE25	MESHRAM RAHUL DAMODHAR (44)	26-1-19		<i>Rahul</i>	3	3	3	2	11
TE26	MORKHANDE AVINASH SANGRAM (31)			<i>Avi</i>	2	2	2	2	8
TE27	NAIKAWADI NIKHIL PRADIP (44)			<i>Nikhil</i>	3	3	3	3	12
TE28	NANAWARE ASHUTOSH GOVIND (36)			<i>Govind</i>	3	3	3	3	12
TE29	NARWADE MANISHA DEVRAO (43)	26/1/19	02	<i>Manisha</i>	3	3	3	3	12
TE30	NAYKAWDI YOGESH ASHOK (54)			<i>Yash</i>	05	4	5	4	18
TE31	NEMADE RISHIKESH RAJENDRA (50)			<i>Rishi</i>	05	4	5	4	18
TE32	PADOLE AISHWARYA SHIVANANDRAO (52)			<i>Padole</i>	05	4	4	4	17
TE33	PADOLE VAISHNAVI NILKANTH (52)			<i>Padole</i>	05	4	4	4	17
TE34	PALASH SANJAY BOBADE (49)			<i>Palash</i>	05	4	4	4	17
TE35	PATIL PRITI VIJAY (43)			<i>Prati</i>	05	4	4	3	16
TE36	PATIL ROHAN GOPAL (37)	02/02/19		<i>Rohan</i>	2	2	2	2	8
TE37	PATIL URVESH SUBHASH (47)			<i>Urvesh</i>	05	4	4	3	16
TE38	PIMPARKAR POOJA HEMRAJ (36)	5/3/19	↓	<i>Pooja</i>	2	2	3	2	9

Pradip
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	7	Class	TE	Date	31/1/19	Time	11.15 to 1.15
Department	Electrical Engg.	Sub	DEM.	Faculty	PRC	Batch	B

Roll No.	Name of Student	Cumulative Marks (80)	Expt No	Attd (sign)	Regularit y & Punctual ity (5)	Understan ding & Preparatio n for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE20	KAPADANE AASHISH MUKUNDRAO	(66)	↑	Aash	5	4	5	4	18
TE21	KAWALE CHHAYENDRA VISHNU	(54)	↑	Chhay	5	4	3	3	15
TE22	KULKARNI MRUNAL DATTATRAYA	(64)	↑	Mrunal	5	4	4	4	17
TE23	MALI SAMEEKSHA UMESH	(67)	↑	Samali	5	5	4	4	18
TE24	MARATHE YASH UDAY	(61)	↑	Yash	5	5	3	4	17
TE25	MESHARAM RAHUL DAMODHAR	(61)	↑	Rahul	5	5	4	3	17
TE26	MORKHANDE AVINASH SANGRAM	(39)	2	Avin	2	2	2	2	8
TE27	NAIKAWADI NIKHIL PRADIP	(62)	2	Nikhil	5	5	4	4	18
TE28	NANAWARE ASHUTOSH GOVIND	(54)	1	Ashu	5	5	5	3	18
TE29	NARWADE MANISHA DEVRAO (55)	2/2/19		Manisha	3	3	3	3	12
TE30	NAYKAWDI YOGESH ASHOK (67)	2/2/19		Yogesh	3	3	4	3	13
TE31	NEMADE RISHIKESH RAJENDRA (63)	2-2-19		Rishikesh	3	3	4	3	13
TE32	PADOLE AISHWARYA SHIVANANDRAO (65)	2/2/19		Aishwarya	3	3	4	3	13
TE33	PADOLE VAISHNAVI NILKANTH (66)	2/2/19		Vaishnavi	3	3	4	4	14
TE34	PALASH SANJAY BOBADE (63)			Palash	3	3	4	4	14
TE35	PATIL PRITI VIJAY (57)	2/2/19		Priti	3	3	4	4	14
TE36	PATIL ROHAN GOPAL (46)	2/2/19		Rohan	3	2	2	2	9
TE37	PATIL URVESH SUBHASH (56)	2/2/19		Urvesh	3	2	2	2	9
TE38	PIMPARKAR POOJA HEMRAJ (47)	2/2/19	↓	Pooja	3	2	3	3	11


Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	9	Class	TE	Date	14/2/19	Time	11.15-1.15
Department	Electrical Engg.	Sub	DEM	Faculty	PRC	Batch	B

Roll No.	Name of Student	Cumulative Marks (100)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE20	KAPADANE AASHISH MUKUNDRAO	(84)	↑	<i>Ashish</i>	5	4	4	5	18
TE21	KAWALE CHHAYENDRA VISHNU	(73)	↑	<i>Chhayendra</i>	5	5	5	4	19
TE22	KULKARNI MRUNAL DATTATRAYA	(75) 22/2	↑	<i>Mrunal</i>	2	3	3	3	11
TE23	MALI SAMEEKSHA UMESH	(80) 22-2	↑	<i>Umesh</i>	3	3	3	4	13
TE24	MARATHE YASH UDAY	(78)	↑	<i>Yash</i>	5	4	4	4	17
TE25	MESHARAM RAHUL DAMODHAR	(78)	↑	<i>Rahul</i>	5	4	4	4	17
TE26	MORKHANDE AVINASH SANGRAM	(55)	↑	<i>Avinash</i>	5	4	4	3	16
TE27	NAIKAWADI NIKHIL PRADIP	(78)	↑	<i>Nikhil</i>	5	4	4	3	16
TE28	NANAWARE ASHUTOSH GOVIND	(70)	↑	<i>Ashutosh</i>	5	4	4	3	16
TE29	NARWADE MANISHA DEVRAO	(70)	2	<i>Manisha</i>	5	4	3	3	15
TE30	NAYKAWDI YOGESH ASHOK	(84)	↑	<i>Yogesh</i>	5	4	4	4	17
TE31	NEMADE RISHIKESH RAJENDRA	(80)	↑	<i>Rishikesh</i>	5	4	4	4	17
TE32	PADOLE AISHWARYA SHIVANANDRAO	(83)	↑	<i>Aishwarya</i>	5	4	4	5	18
TE33	PADOLE VAISHNAVI NILKANTH	(84)	↑	<i>Vaishnavi</i>	5	4	4	5	18
TE34	PALASH SANJAY BOBADE	(79)	↑	<i>Palash</i>	5	4	4	3	16
TE35	PATIL PRITI VIJAY	(76)	↑	<i>Priti</i>	5	5	5	4	19
TE36	PATIL ROHAN GOPAL	(54) 22/02/19	↑	<i>Rohan</i>	2	2	2	2	8
TE37	PATIL URVESH SUBHASH	(73)	↑	<i>Urvesh</i>	5	4	4	4	17
TE38	PIMPARKAR POOJA HEMRAJ	(65)	↓	<i>Pooja</i>	5	5	4	4	18

P. Phoube

Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	11	Class	TE	Date	28/2/19	Time	11.15-1.15
Department	Electrical Engg.	Sub	DEM	Faculty	PRC	Batch	B

Roll No.	Name of Student	Cumulative Marks (120)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE20	KAPADANE AASHISH MUKUNDRAO	(102)	↑	Asht	5	4	4	5	18
TE21	KAWALE CHHAYENDRA VISHNU	(89)		Vish	5	4	3	4	16
TE22	KULKARNI MRUNAL DATTATRAYA	(91)		Mrunal	5	4	4	3	16
TE23	MALI SAMEEKSHA UMESH	(97)		Samali	5	4	5	3	17
TE24	MARATHE YASH UDAY	(96)		Yash	5	4	5	4	18
TE25	MESHARAM RAHUL DAMODHAR	(96)		Rahul	5	5	4	4	18
TE26	MORKHANDE AVINASH SANGRAM	(63)			2	2	2	2	8
TE27	NAIKAWADI NIKHIL PRADIP	(95)		Nihal	5	4	5	3	17
TE28	NANAWARE ASHUTOSH GOVIND	(86)		Govind	5	4	4	3	16
TE29	NARWADE MANISHA DEVRAO (82)	110/19	3	Manisha	3	3	3	3	12
TE30	NAYKAWDI YOGESH ASHOK	(103)		Yogesh	5	5	5	4	19
TE31	NEMADE RISHIKESH RAJENDRA	(97)		Rishikesh	5	4	5	3	17
TE32	PADOLE AISHWARYA SHIVANANDRAO	(100)		Aishwarya	5	4	4	4	17
TE33	PADOLE VAISHNAVI NILKANTH	(102)		Vaishnavi	5	4	5	4	18
TE34	PALASH SANJAY BOBADE	(96)		Palash	5	4	5	3	17
TE35	PATIL PRITI VIJAY	(94)		Patil	5	4	5	4	18
TE36	PATIL ROHAN GOPAL	(70)		Rohan	5	3	5	3	16
TE37	PATIL URVESH SUBHASH	(89)		Urvesh	5	4	4	3	16
TE38	PIMPARKAR POOJA HEMRAJ	(82)	↓	Pooja	5	4	4	3	17


Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	15	Class	TE	Date	28.3.19	Time	11-15-1-15
Department	Electrical Engg.	Sub	DEM	Faculty	P.R.C.	Batch	B

Roll No.	Name of Student	Cumulative Marks (140)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE20	KAPADANE AASHISH MUKUNDRAO	118	↑	Aashish	5	4	4	3	16
TE21	KAWALE CHHAYENDRA VISHNU	106		Chhayendra	5	4	4	3	16
TE22	KULKARNI MRUNAL DATTATRAYA	106		Mrunal	5	4	4	3	16
TE23	MALI SAMEEKSHA UMESH	114		Samali	5	4	4	4	17
TE24	MARATHE YASH UDAY	113		Yash	5	4	4	4	17
TE25	MESHARAM RAHUL DAMODHAR	111		Rahul	5	4	4	2	15
TE26	MORKHANDE AVINASH SANGRAM	77	3	Avinash	5	4	3	2	14
TE27	NAIKAWADI NIKHIL PRADIP	112	↓	Nikhil	5	4	4	4	17
TE28	NANAWARE ASHUTOSH GOVIND	104		Ashutosh	5	4	5	4	18
TE29	NARWADE MANISHA DEVRAO	99		Manisha	5	4	5	3	17
TE30	NAYKAWDI YOGESH ASHOK	121		Yogesh	5	4	5	5	18
TE31	NEMADE RISHIKESH RAJENDRA	114		Rishikesh	5	4	5	3	17
TE32	PADOLE AISHWARYA SHIVANANDRAO	117		Aishwarya	5	4	4	4	17
TE33	PADOLE VAISHNAVI NILKANTH	119		Vaishnavi	5	4	5	3	17
TE34	PALASH SANJAY BOBADE	112		Palash	5	4	4	3	16
TE35	PATIL PRITI VIJAY	111		Patil	5	4	4	4	17
TE36	PATIL ROHAN GOPAL (78)	91/119		Rohan	2	2	2	2	8
TE37	PATIL URVESH SUBHASH	106		Urvesh	5	4	4	4	17
TE38	PIMPARKAR POOJA HEMRAJ	97	↓	Pooja	5	4	4	2	15


Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	16	Class	TE	Date	4/4/19	Time	11.15-1.15
Department	Electrical Engg.	Sub	DEM	Faculty	PRC	Batch	B

Roll No.	Name of Student	Cumulative Marks (160)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE20	KAPADANE AASHISH MUKUNDRAO	135	↑	Ash	5	4	4	4	17
TE21	KAWALE CHHAYENDRA VISHNU	122		Chh	5	4	4	3	16
TE22	KULKARNI MRUNAL DATTATRAYA	122		Mrunal	4	4	4	4	16
TE23	MALI SAMEEKSHA UMESH	132		Malik	5	5	4	4	18
TE24	MARATHE YASH UDAY	131		Yash	5	4	5	4	18
TE25	MESHARAM RAHUL DAMODHAR	128		Rahul	5	4	4	4	17
TE26	MORKHANDE AVINASH SANGRAM 10/4	91		Om	3	4	4	3	14
TE27	NAIKAWADI NIKHIL PRADIP 10/4/19	129		Nikhil	4	4	4	5	17
TE28	NANA WARE ASHUTOSH GOVIND	121	↑	Ash	5	4	4	4	17
TE29	NARWADE MANISHA DEVRAO	115		Manisha	5	4	4	3	16
TE30	NAYKA WDI YOGESH ASHOK	139		Yogesh	5	5	5	03	18
TE31	NEMADE RISHIKESH RAJENDRA	130		Rishi	5	4	4	3	16
TE32	PADOLE AISHWARYA SHIVANANDRAO	134		Padole	5	4	4	4	17
TE33	PADOLE VAISHNAVI NILKANTH	136		Padole	5	4	4	4	17
TE34	PALASH SANJAY BOBADE 10/4/19	129		Palash	5	4	4	4	17
TE35	PATIL PRITI VIJAY	129		Patil	5	5	4	4	18
TE36	PATIL ROHAN GOPAL	91		Rohan	4	3	3	3	13
TE37	PATIL URVESH SUBHASH	122		Urvesh	4	4	4	4	16
TE38	PIMPARKAR POOJA HEMRAJ	114	x	Pooja	5	4	4	4	17


Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	4	Class	TE	Date	09/01/19	Time	11:15-1:15
Department	Electrical	Sub	DEM	Faculty	PRC	Batch	C

Roll No.	Name of Student	Cumulative Marks (20)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE39	PRADEEP BABU KUTE	18	↑	<i>P. Kute</i>	5	5	4	4	18
TE40	PRIYA SANJAY MORE	18		<i>P. More</i>	5	5	4	4	18
TE41	RAIPATREWAR AKANKSHA NITINRAO	20		<i>A. N. Patre</i>	5	5	5	5	20
TE42	RAJE PRAJAKTA DHANANJAY	12		<i>R. D. Raj</i>	5	3	2	2	12
TE43	RAMOSHI JYOTI BHAGWAT	17		<i>R. B. Joshi</i>	5	5	4	3	17
TE44	RUTVIK CHINCHMALATPURE	16		<i>R. Chinchmalatpure</i>	5	5	3	3	16
TE45	SALUNKHE PRASAD BABASAHEB	18		<i>P. Salunkhe</i>	5	5	4	4	18
TE46	SANKPAL ROHAN UTTAM	16		<i>S. Rohan</i>	5	5	3	3	16
TE47	SANYOG CHAMLATE NISHA	16		<i>S. Chamlate</i>	5	5	3	3	16
TE48	SARWADE PRATIKSHA SHAHURAJ	20	01	<i>P. Sarwade</i>	5	5	5	5	20
TE49	SHAIKH SAMEER SHAHADAT	17		<i>S. Sameer</i>	5	5	3	4	17
TE50	SHINDE OMKAR ASHOK	17		<i>S. Omkar</i>	5	5	3	4	17
TE51	SHIRKE ASHISH GAJANAN	16		<i>S. Ashish</i>	5	5	3	3	16
TE52	SHIVAM R CHAUBEY	12		<i>S. Shivam</i>	5	3	2	2	12
TE53	SUTHAR DEEPAK JIVARAM	17		<i>S. Deepak</i>	5	5	3	4	17
TE54	THAKARE KANCHAN RAVINDRA	16		<i>T. Kanchan</i>	5	5	3	3	16
TE55	WAGHMARE MRUNALI BHAGVAN	16		<i>W. Mrunali</i>	5	5	3	3	16
TE56	WAGHMARE SHAKUNTALA SHIVAJIRAO	17	↓	<i>W. Shakuntala</i>	5	5	3	4	17

(Signature)

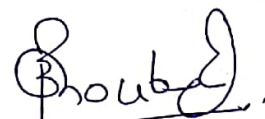
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	6	Class	TE	Date	23/1/19	Time	11:15-1:15
Department	Electrical Engg.	Sub	DEM	Faculty	PRC	Batch	C

Roll No.	Name of Student	Cumulative Marks (40)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE39	PRADEEP BABU KUTE (30)	28/1/19	↑	P. Kute	3	4	3	2	12
TE40	PRIYA SANJAY MORE (34)			P. More	5	3	4	4	16
TE41	RAIPATREWAR AKANKSHA NITINRAO (36)			A. Patre	5	4	3	4	16
TE42	RAJE PRAJAKTA DHANANJAY (26)			R. Rajee	5	3	3	3	14
TE43	RAMOSHI JYOTI BHAGWAT (27)			R. B. B.	3	3	2	2	10
TE44	RUTVIK CHINCHMALATPURE (29)			R. Chinchmalatpure	5	3	3	2	13
TE45	SALUNKHE PRASAD BABASAHEB (31)			P. Prasad	5	3	3	2	13
TE46	SANKPAL ROHAN UTTAM (32)		01	R. Uttam	5	4	4	3	16
TE47	SANYOG CHAMLATE NISHA (28)			S. Chamlate	3	3	3	3	12
TE48	SARWADE PRATIKSHA SHAHURAJ (37)			P. Shahuraj	5	4	4	4	17
TE49	SHAIKH SAMEER SHAHADAT (34)			S. Shahadat	5	4	4	4	17
TE50	SHINDE OMKAR ASHOK (33)			S. Ashok	5	3	4	4	16
TE51	SHIRKE ASHISH GAJANAN (31)			S. Ashish	5	4	4	2	15
TE52	SHIVAM R CHAUBEY (22)			S. Chaubey	3	3	2	2	10
TE53	SUTHAR DEEPAK JIVARAM (32)			S. Jivaram	5	4	3	3	15
TE54	THAKARE KANCHAN RAVINDRA (33)			T. Ravindra	5	4	4	4	17
TE55	WAGHMARE MRUNALI BHAGVAN (33)			W. Bhagvan	5	4	4	4	17
TE56	WAGHMARE SHAKUNTALA SHIVAJIRAO (35)		↓	W. Shaktantala	5	5	4	4	18



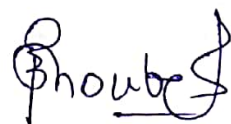
Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	7	Class	TE	Date	30/1/19	Time	11.15-1.15
Department	Electrical Engineering	Sub	DEM.	Faculty	PRC	Batch	C.

Roll No.	Name of Student	Cumulative Marks (60)	Expt No	Attd (sign)	Regularly & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE39	PRADEEP BABU KUTE	40	↑	Pkute	3	2	2	3	10
TE40	PRIYA SANJAY MORE	44		More	3	2	2	3	10
TE41	RAIPATREWAR AKANKSHA NITINRAO	53		Akanksha	5	4	4	4	17
TE42	RAJE PRAJAKTA DHANANJAY	40		Rajep	5	3	3	3	14
TE43	RAMOSHI JYOTI BHAGWAT	44		RBB	5	4	4	4	17
TE44	RUTVIK CHINCHMALATPURE	43		Rutvik	5	3	3	3	14
TE45	SALUNKHE PRASAD BABASAHEB	46	2	Prasad	5	3	3	4	15
TE46	SANKPAL ROHAN UTTAM	48		Sankpal	5	3	4	4	16
TE47	SANYOG CHAMLATE NISHA	44		Sanyog	5	3	4	4	16
TE48	SARWADE PRATIKSHA SHAHURAJ	53		Shahuraj	5	3	4	4	16
TE49	SHAIKH SAMEER SHAHADAT	51		Sameer	5	4	4	4	17
TE50	SHINDE OMKAR ASHOK	49		Shinde	5	4	4	3	16
TE51	SHIRKE ASHISH GAJANAN	47		Shirke	5	4	4	3	16
TE52	SHIVAM R CHAUBEY	36		Shivam	5	3	3	3	14
TE53	SUTHAR DEEPAK JIVARAM	48		Suthar	5	4	3	4	16
TE54	THAKARE KANCHAN RAVINDRA	48		Thakare	5	3	3	4	15
TE55	WAGHMARE MRUNALI BHAGVAN	44		Waghmare	3	3	3	2	11
TE56	WAGHMARE SHAKUNTALA SHIVAJIRAO	52	↓	Shakuntala	5	4	4	4	17

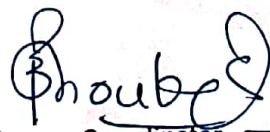

Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	8	Class	TE	Date	6/2/19	Time	11.15 to 1.15
Department	Electrical	Sub	DEM	Faculty	PRC	Batch	C

Roll No.	Name of Student	Cumulative Marks (80)	Expt No	Attd (sign)	Regularit y & Punctual ity (5)	Understan ding & Preparatio n for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE39	PRADEEP BABU KUTE	57	↑	Praadeep	5	5	4	3	17
TE40	PRIYA SANJAY MORE	62		Primoel	5	4	5	4	18
TE41	RAIPATREWAR AKANKSHA NITINRAO	70		Akanksha	5	4	5	3	17
TE42	RAJE PRAJAKTA DHANANJAY	58		Rajee	5	4	5	4	18
TE43	RAMOSHI JYOTI BHAGWAT	54		Ramoshi	3	3	2	2	10
TE44	RUTVIK CHINCHMALATPURE	53		Rutvik	3	3	2	2	10
TE45	SALUNKHE PRASAD BABASAHEB	62	2	Prasad	5	3	5	3	16
TE46	SANKPAL ROHAN UTTAM	65		Sankpal	5	5	4	3	17
TE47	SANYOG CHAMLATE NISHA	61		Nisha	5	4	5	3	17
TE48	SARWADE PRATIKSHA SHAHURAJ	72		Pratiksha	5	5	5	4	19
TE49	SHAIKH SAMEER SHAHADAT	69		Sameer	5	4	5	4	18
TE50	SHINDE OMKAR ASHOK	66		Omkar	5	4	4	4	17
TE51	SHIRKE ASHISH GAJANAN	64		Ashish	5	5	5	2	17
TE52	SHIVAM R CHAUBEY	52		Shivam	5	4	4	3	16
TE53	SUTHAR DEEPAK JIVARAM	65		Deepak	5	4	4	4	17
TE54	THAKARE KANCHAN RAVINDRA	65		Kanchan	5	5	4	3	17
TE55	WAGHMARE MRUNALI BHAGVAN	61		Waghmare	5	4	5	3	17
TE56	WAGHMARE SHAKUNTALA SHIVAJIRAO	70	↓	Shakuntala	5	4	5	4	18


 Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
 Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	11	Class	TE	Date	27/2/19	Time	11:15-1:15
Department	Electrical Engg.	Sub	DEM	Faculty	P.R.C.	Batch	C

Roll No.	Name of Student	Cumulative Marks (100)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE39	PRADEEP BABU KUTE	73	↑	<i>P. Kute</i>	5	4	4	3	16
TE40	PRIYA SANJAY MORE	79		<i>P. More</i>	5	4	5	3	17
TE41	RAIPATREWAR AKANKSHA NITINRAO	86		<i>A. Kanksha</i>	5	3	4	4	16
TE42	RAJE PRAJAKTA DHANANJAY	67		<i>R.D. Raj</i>	3	2	2	2	9
TE43	RAMOSHI JYOTI BHAGWAT	70		<i>R.B.</i>	5	4	4	3	16
TE44	RUTVIK CHINCHMALATPURE	70		<i>R. Chinchmalatpure</i>	5	4	5	3	17
TE45	SALUNKHE PRASAD BABASAHEB	79	2	<i>P. Prasad</i>	5	4	5	3	17
TE46	SANKPAL ROHAN UTTAM	83		<i>S. Rohan</i>	5	4	5	4	18
TE47	SANYOG CHAMLATE NISHA	78		<i>S. Nisha</i>	5	3	5	4	17
TE48	SARWADE PRATIKSHA SHAHURAJ	88		<i>S. Pratiksha</i>	5	4	4	3	16
TE49	SHAIKH SAMEER SHAHADAT	85		<i>S. Sameer</i>	5	4	4	3	16
TE50	SHINDE OMKAR ASHOK	81		<i>S. Omkar</i>	5	3	4	3	15
TE51	SHIRKE ASHISH GAJANAN	80		<i>S. Ashish</i>	5	4	4	3	16
TE52	SHIVAM R CHAUBEY	68		<i>S. Shivam</i>	5	3	4	4	16
TE53	SUTHAR DEEPAK JIVARAM	81		<i>S. Deepak</i>	5	4	4	3	16
TE54	THAKARE KANCHAN RAVINDRA	82		<i>T. Kanchan</i>	5	3	5	4	17
TE55	WAGHMARE MRUNALI BHAGVAN	78		<i>W. Mrunali</i>	5	4	5	3	17
TE56	WAGHMARE SHAKUNTALA SHIVAJIRAO	88	↓	<i>W. Shakuntala</i>	5	4	5	4	18

P. R. C.
 Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	14	Class	TE	Date	20/8/19	Time	11:15 to 1:15
Department	Electrical Engg	Sub	DEM	Faculty	PRC	Batch	C

Roll No.	Name of Student	Cumulative Marks (120)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE39	PRADEEP BABU KUTE	91	↑	<i>Pradeep</i>	5	5	4	4	18
TE40	PRIYA SANJAY MORE	96		<i>Priya</i>	5	4	5	3	17
TE41	RAIPATREWAR AKANKSHA NITINRAO	104		<i>Akanksha</i>	5	4	5	4	18
TE42	RAJE PRAJAKTA DHANANJAY	84		<i>Rajee</i>	5	4	4	4	17
TE43	RAMOSHI JYOTI BHAGWAT	86		<i>Jyoti</i>	5	4	4	3	16
TE44	RUTVIK CHINCHMALATPURE (79)	25/3/19		<i>Rutvik</i>	3	2	2	2	9
TE45	SALUNKHE PRASAD BABASAHEB	97		<i>Prasad</i>	5	4	5	4	18
TE46	SANKPAL ROHAN UTTAM	101	M	<i>Rohan</i>	5	4	5	4	18
TE47	SANYOG CHAMLATE NISHA	95		<i>Nisha</i>	5	4	5	3	17
TE48	SARWADE PRATIKSHA SHAHURAJ	108		<i>Pratiksha</i>	5	5	5	5	20
TE49	SHAIKH SAMEER SHAHADAT	104		<i>Sameer</i>	5	5	5	4	19
TE50	SHINDE OMKAR ASHOK	109		<i>Omkar</i>	5	4	5	4	18
TE51	SHIRKE ASHISH GAJANAN	98		<i>Ashish</i>	5	4	5	4	18
TE52	SHIVAM R CHAUBEY	86		<i>Shivam</i>	5	5	4	4	18
TE53	SUTHAR DEEPAK JIVARAM	99		<i>Deepak</i>	5	4	5	4	18
TE54	THAKARE KANCHAN RAVINDRA	100		<i>Kanchan</i>	5	4	5	4	18
TE55	WAGHMARE MRUNALI BHAGVAN	96		<i>Waghmare</i>	5	4	5	4	18
TE56	WAGHMARE SHAKUNTALA SHIVAJIRAO	107	↓	<i>Shakuntala</i>	5	5	5	4	19

Shoubh

Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	15	Class	TE	Date	27/3/19	Time	11.15 to 1.15
Department	Electrical Engg.	Sub	DEM	Faculty	PRC	Batch	C.

Roll No.	Name of Student	Cumulative Marks (140)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE39	PRADEEP BABU KUTE	108	↑	Praadeep	5	4	5	3	17
TE40	PRIYA SANJAY MORE	112		Priya	5	5	5	3	18
TE41	RAIPATREWAR AKANKSHA NITINRAO	122		Akanksha	5	5	5	3	18
TE42	RAJE PRAJAKTA DHANANJAY	100		Rajee	5	5	4	2	16
TE43	RAMOSHI JYOTI BHAGWAT	104		Ramoshi	5	5	5	3	18
TE44	RUTVIK CHINCHMALATPURE	92	3	Rutvik	5	3	3	2	13
TE45	SALUNKHE PRASAD BABASAHEB	113		Prasad	5	4	4	3	16
TE46	SANKPAL ROHAN UTTAM	117		Sankpal	5	4	4	3	16
TE47	SANYOG CHAMLATE NISHA	110		Sanyog	5	4	4	2	15
TE48	SARWADE PRATIKSHA SHAHURAJ	125		Pratiksha	5	4	4	4	17
TE49	SHAIKH SAMEER SHAHADAT	122		Sameer	5	5	4	4	18
TE50	SHINDE OMKAR ASHOK	125		Omkar	5	4	4	3	16
TE51	SHIRKE ASHISH GAJANAN	114		Ashish	5	4	4	3	16
TE52	SHIVAM R CHAUBEY	100		Shivam	5	3	3	3	14
TE53	SUTHAR DEEPAK JIVARAM	115		Deepak	5	4	4	3	16
TE54	THAKARE KANCHAN RAVINDRA	117		Kanchan	5	4	5	3	17
TE55	WAGHMARE MRUNALI BHAGVAN	112		Waghmare	5	4	4	3	16
TE56	WAGHMARE SHAKUNTALA SHIVAJIRAO	124	↓	Shakuntala	5	4	5	3	17


 Course Coordinator

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	16	Class	TE	Date	3/4/19	Time	11:15 to 1:15
Department	Electrical	Sub	DEM	Faculty	PRC	Batch	C

Roll No.	Name of Student	Cumulative Marks (160)	Expt No	Attd (sign)	Regularity & Punctuality (5)	Understanding & Preparation for Objective (5)	Participation in performance & conduction of Exp. (5)	Post expt Skills (5)	Total (20)
TE39	PRADEEP BABU KUTE	124	↑	<i>P. Kute</i>	5	4	4	3	16
TE40	PRIYA SANJAY MORE	129		<i>P. More</i>	5	4	4	4	17
TE41	RAIPATREWAR AKANKSHA NITINRAO	138		<i>A. Patre</i>	5	4	4	3	16
TE42	RAJE PRAJAKTA DHANANJAY	117		<i>R. D. Raj</i>	5	4	4	4	17
TE43	RAMOSHI JYOTI BHAGWAT	122		<i>R. B. B.</i>	5	4	5	4	18
TE44	RUTVIK CHINCHMALATPURE	107		<i>R. Chinchmalatpure</i>	5	3	3	4	15
TE45	SALUNKHE PRASAD BABASAHEB	129		<i>P. Prasad</i>	5	4	4	3	16
TE46	SANKPAL ROHAN UTTAM	134	↓	<i>S. Sankpal</i>	5	4	4	4	17
TE47	SANYOG CHAMLATE NISHA	126		<i>S. Chamlate</i>	5	4	4	3	16
TE48	SARWADE PRATIKSHA SHAHURAJ	142		<i>P. Shahuraj</i>	5	4	5	3	17
TE49	SHAIKH SAMEER SHAHADAT (133)	4/4/19		<i>S. Sameer</i>	3	3	3	2	11
TE50	SHINDE OMKAR ASHOK	141		<i>O. Ashok</i>	5	4	4	3	16
TE51	SHIRKE ASHISH GAJANAN	130		<i>A. Shirke</i>	5	4	4	3	16
TE52	SHIVAM R CHAUBEY	110		<i>S. Chaubey</i>	3	3	2	2	10
TE53	SUTHAR DEEPAK JIVARAM	132		<i>D. Jivaram</i>	5	4	4	4	17
TE54	THAKARE KANCHAN RAVINDRA	133		<i>K. Ravindra</i>	5	4	4	3	16
TE55	WAGHMARE MRUNALI BHAGVAN	128		<i>M. Bhagvan</i>	5	4	4	3	16
TE56	WAGHMARE SHAKUNTALA SHIVAJIRAO	140	↓	<i>S. Shaktantala</i>	5	4	4	3	16

Shouby
Course Coordinator

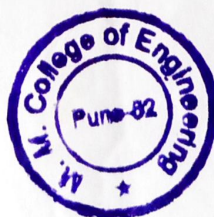
Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

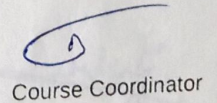
Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	08	Class	TE	Date	4/2/19	Time	11:15
Department	Information Technology	Sub	SL - VI	Faculty	NSD	Batch	A

Roll No.	Name of Student	Cumulative Marks ()	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certification(2)	Total (10)
		60						
TI01	Amrutkar Ashutosh Madhav	40	↑	Autody	2	4	2	10
TI02	Balsekar Raj Deepak	30	↓	SDB	2	4	2	10
TI03	Bhagwat Kruttika Rahul	30	↓	SDB	2	4	2	10
TI04	Biradar Sachin RamRao	40	↓	SDB	2	4	2	10
TI05	Bobde Sameer Dnyaneshwar	40	↓	SDB	2	4	2	10
TI07	Chincholikar Salil Dhananjay	20	↓	ASAT no.	2	4	2	10
TI08	Dasalkar Vinay Vishwanath	50	↓	SDB	2	4	2	10
TI09	Dawane Rushikesh Ganesh	50	↓	SDB	2	4	2	10
TI10	Desai Manasi Dattatray	50	↓	Mansari	2	4	2	10
TI11	Gadikar Akansha Uday	30	↓	Madhavi	2	4	2	10
TI12	Gautam Shivani P.	30	↓	SDB	2	4	2	10
TI13	Gokhale Omkar Subodh	40	↓	SDB	2	4	2	10
TI14	Gore Vrushi Chandrakant	50	↓	SDB	2	4	2	10
TI15	Gundapwar Rashi Nandkishor	50	↓	Rashi	2	4	2	10
TI16	Joglekar Harsh Bhalchandra	40	↓	AB	-	-	-	-
TI17	Joshi Anurag A	30	↓	AB	-	-	-	-
TI18	Karanjkar Ajinkya Santosh	50	↓	SDB	2	4	2	10
TI19	Karve Om Subhash	20	↓	SDB	2	4	2	10
TI20	Kirve Varsha Bholannath	50	↓	SDB	2	4	2	10
TI21	Kulkarni Tanmayee Vivek	40	↓	SDB	2	4	2	10
TI22	Kulkarni Tejas Milind	10	↓	AB	0	-	-	-
TI25	Mane Vaibhav Sanjay	50	↓	SDB	2	4	2	10
TI26	Morajkar Pratima Pravin	40	↓	SDB	2	4	2	10

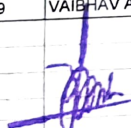

HOD





Course Coordinator

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	Class	TE (A)	Date	Time	1-3			
Department	MECHANICAL		Faculty	GR C	Batch			
					A 2			
Roll No.	Name of Student	Cumulative Marks ()	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certification(2)	Total (10)
1	TMA125	PRAVIN RAMCHANDRA GHODAKE		iron	2	2	2	8
2	TMA126	SAGAR BHAUSAHEB GHUTE		plate	2	1	2	7
3	TMA128	ROHIT HIMANSHU GUPTA		CP	2	2	2	6
4	TMA133	NUPOOR MANOJ INGOLIKAR	discussion	NUPOOR	2	2	2	9
5	TMA135	ATHARV SANJAY JAGTAP	on	sheet	2	1	2	5
6	TMA136	SANKET PRAKASH KADAM	2 stage	sheet	2	3	1	8
7	TMA138	INDRAJEET UDAY NIKAM	+	sheet	1	3	2	8
8	TMA139	ROHAN SANJAY KATORE	Single	stage	2	2	2	8
9	TMA141	CHINMAY MUKUND KULKARNI	Stage	sheet	2	1	2	7
10	TMA142	HARSHAL MANGESH KULKARNI	gear	sheet	2	1	2	7
11	TMA144	SHREYES PRASHANT MAMIDWAR	box.	sheet	2	1	2	7
12	TMA145	ADITYA MAHESH MANE		sheet	1	2	2	7
13	TMA146	AKSHAY SHIVAJI MANE		sheet	2	3	1	8
14	TMA147	SHRIDHAR KRISHNA MYAKAL		sheet	2	2	2	7
15	TMA151	AKASH MANOJ SHIRODKAR		sheet	1	2	2	7
16	TMA152	AMEY MILIND KULKARNI		sheet	2	1	2	7
17	TMA153	SHREYAS SUYOG NAIK		sheet	2	2	2	8
18	TMA154	AKSHAY RAHUL GADIA		sheet	2	3	1	8
19	TMA155	SANDESH RAMDAS GAJARE		sheet	1	2	2	7
20	TMA156	PRATIK ANIL DIXIT		sheet	2	2	2	8
21	TMA157	NEHA PRAKASH CHAVAN		sheet	2	2	2	8
22	TMA158	HIMANI MAHESH LIMAYE		sheet	1	2	2	7
23	TMA159	VAIBHAV ANIL KOKARE		sheet	2	1	2	7




HOD


Course Coordinator

Practical Continuous Assessment Sheet- 2018-19 (Sem - II)

Week No.	Class		TE (A)	Date	18/01/19	Time	1-3	
Department	MECHANICAL			Faculty	GRC	Batch	A2	
Roll No.	Name of Student	Cumulative Marks ()	Expt No	Attd (sign) (2)	Preparation (2)	Participation in Conduction of Lab (4)	Post expt Quiz/certification(2)	Total (10)
1	TMA125	PRAVIN RAMCHANDRA GHODAKE		Ponant	2	3	2	9
2	TMA126	SAGAR BHAUSAHEB GHUTE		Prub	2	2	2	6
3	TMA128	ROHIT HIMANSHU GUPTA		GR	2	2	2	6
4	TMA133	NUPOOR MANOJ INGOLIKAR		Nulood	2	1	2	5
5	TMA135	ATHARV SANJAY JAGTAP		Sanjay	2	1	2	5
6	TMA136	SANKET PRAKASH KADAM		Sanket	2	2	0	4
7	TMA138	INDRAJEET UDAY NIKAM		Indrajeet	2	2	2	6
8	TMA139	ROHAN SANJAY KATORE		Rohan	2	1	2	5
9	TMA141	CHINMAY MUKUND KULKARNI		Chinmay	2	2	1	5
10	TMA142	HARSHAL MANGESH KULKARNI		Harsh	2	2	2	6
11	TMA144	SHREYES PRASHANT MAMIDWAR		Shreyas	2	2	2	6
12	TMA145	ADITYA MAHESH MANE		Aditya	2	3	1	6
13	TMA146	AKSHAY SHIVAJI MANE		Akshay	2	2	2	6
14	TMA147	SHRIDHAR KRISHNA MYAKAL		Shridhar	2	2	2	6
15	TMA151	AKASH MANOJ SHIRODKAR		Akash	2	2	2	6
16	TMA152	AMEY MILIND KULKARNI		Ame	1	2	2	5
17	TMA153	SHREYAS SUYOG NAIK		Shreyas	2	3	2	7
18	TMA154	AKSHAY RAHUL GADIA		Akshay	2	2	1	5
19	TMA155	SANDESH RAMDAS GAJARE		Sandesh	2	2	2	6
20	TMA156	PRATIK ANIL DIXIT		Pratik	2	2	1	5
21	TMA157	NEHA PRAKASH CHAVAN		Neha	2	2	2	6
22	TMA158	HIMANI MAHESH LIMAYE		Himani	2	1	1	4
23	TMA159	VAMBHAV ANIL KOKARE		Vambhav	2	0	2	4


HOD


Course Coordinator



‘येथे बहुतांचे हित ।’

Marathwada Mitramandal's
COLLEGE OF ENGINEERING

S.No.18, Plot No.5/3, Karvenagar, Pune-411 052

Accredited with 'A' Grade by NAAC

Accredited by NBA (Electrical and Mechanical Engg. Department)

Recipient of 'Best College Award 2019' of SPPU

Recognized under section 2(f) and 12B of UGC Act 1956

Internal Assessment

MOCK Practical/Oral Time Table

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
 Accredited with 'A' Grade by NAAC
Mock Practical/Oral Time Table
 Academic Year 2018-19

Name of Subject	Date/Time	11/10/18	12/10/18	13/10/18
DEL	9 am to 12 pm		SE(B): DL	SE(B) : PL
	11 am to 2 pm			
	1 pm to 4 pm		SE(C): DL	SE(A) : DL
OOPL (online exam)	9 am to 12 pm	NA	NA	NA
	11 am to 2 pm	NA	NA	NA
	1 pm to 4 pm	SE(C): PL	SE(A): PL	
PL	9 am to 12 pm	BE(A): CL VII	TE(A): SL-I	TE(A): SL-II
	11 am to 2 pm			
	1 pm to 4 pm	BE(B): CL VII	TE(B): SL-I	TE(B): SL-II
RL	9 am to 12 pm			
	11 am to 2 pm	BE(C): CL VII	TE(C): SL-I	TE(C): SL-II
	1 pm to 4 pm			
Tut Room	9 am to 12 pm		BE (All batches) : CL VIII	
	11 am to 2 pm			
	1 pm to 4 pm			
DSBDA (online exam)	9 am to 12 pm	NA	NA	NA
	11 am to 2 pm	NA	NA	NA
	1 pm to 4 pm			
Lab 503	9 am to 12 pm	SE(A): OOPL		SE(C): OOPL
	11 am to 2 pm			
	1 pm to 4 pm	SE(B): OOPL		



[Handwritten Signature]

Dr. V. S. Bidve
HOD, IT



‘येथे बहुतांचे हित ।’

Marathwada Mitramandal's
COLLEGE OF ENGINEERING

S.No.18, Plot No.5/3, Karvenagar, Pune-411 052

Accredited with 'A' Grade by NAAC

Accredited by NBA (Electrical and Mechanical Engg. Department)

Recipient of 'Best College Award 2019' of SPPU

Recognized under section 2(f) and 12B of UGC Act 1956

Internal Assessment

Assignments

**Marathwada Mitra Mandal's
College of Engineering , Karvenagar,Pune
Department of Computer Engineering**

Assignment No. 4

Academic Year: 2018-19 (SEM I)

Subject &Class: DBMS, T.E. Comp

CO Attained: CO4

“Student will be able to explain transaction Management in relational database System”

Date: 22/8/18

Batch A

- Q 1) Explain the concept of transaction and its ACID properties.
- Q 2) Sketch the state diagram for transaction and describe in brief.
- Q 3) State two good reasons for allowing concurrency in transaction processing.
- Q4) Differentiate between serial schedule & conflict serializable schedule with example.
- Q 5) Illustrate with diagram how query processing is done for DBMS.

Batch B

- Q 1) Write a short note on precedence graph and topological sorting.
- Q 2) Explain two phase locking protocol.
- Q 3) Write the methods by which we can do performance tuning of SQL(** refer Ch 11, Peter Rob, Carlos coronel seventh edition, p.436)
- Q 4) Explain tree protocol in detail.
- Q 5) Justify why deadlocks should be prevented in DBMS by elaborating deadlock preventing algorithms.

Batch C

- Q 1) Write a short note on recoverable & cascadeless schedules.
- Q 2) Justify why deadlocks should be prevented in DBMS by elaborating deadlock preventing algorithms.
- Q 3) Write Thomas' Write rules & explain in detail.
- Q 4) Explain phantom phenomenon. (** refer 15.8.3 of Korth p. 699)
- Q 5) What could be the reason for cascaded abortions of the transactions, justify with suitable schedule

Batch D

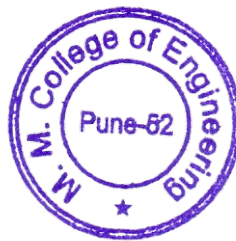
- Q 1) Explain snapshot isolation in detail.
- Q 2) Explain the concept of multiple granularity in detail.
- Q 3) Explain optimistic method(validation based protocol) in detail.
- Q 4) Explain with diagram the process for query processing
- Q 5) Justify the importance of indexes for tuning the performance of querying.

Reference: Korth & Sudarshan, 6th Edition, Peter Rob, Carlos coronel, 7th Edition

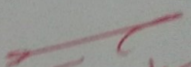
Course Coordinator

Prof. Pradnya Mehta

Date of submission: 29/8/18



Name	Purane Omkar Rajaram			
	Roll No			48
	Assignment No			4
Sub: Switchgear and Protection				
ACY - 2018-19 (BE-SEM-II)				
Dimension	Slight (Low-1)	Moderate (Medium-2)	Substantial (High-3)	Score
Regularity and punctuality	submitted one week late.	submitted later than scheduled date with permission.	submitted as per schedule.	2
Reasoning and Analysis	irrelevant and incomplete answers.	some answers correctly justified, an important reason(s) overlooked.	Clear and accurate answers; insightful and specific.	3
Focus on Topic	Very few of the answers relates to the assigned subject questions.	Answers are not as detailed and/or concise as needed; use limited course vocabulary.	Answers address the questions clearly and fully, showing higher uses of course vocabulary.	2
Organisation	Numerous errors, hard to read; questions are not stated before answers; format details are not adhered to.	Enough errors to distract the readers; organization problems; questions not stated before answers; and/or format difficult to navigate.	Use of correct grammar, spelling, and punctuation; well organised; one idea follows another in a logical sequence with clear transitions; questions stated before answers; format easy to navigate.	3
Total				10

Faculty: Dr.V.N.Gohokar	Signature with date:  10/6/19
-------------------------	--

* Assignment NO-4 *

Q.1 Differentiate between static and numerical relay.

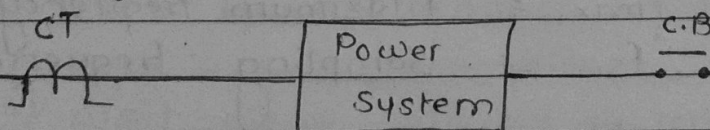
→

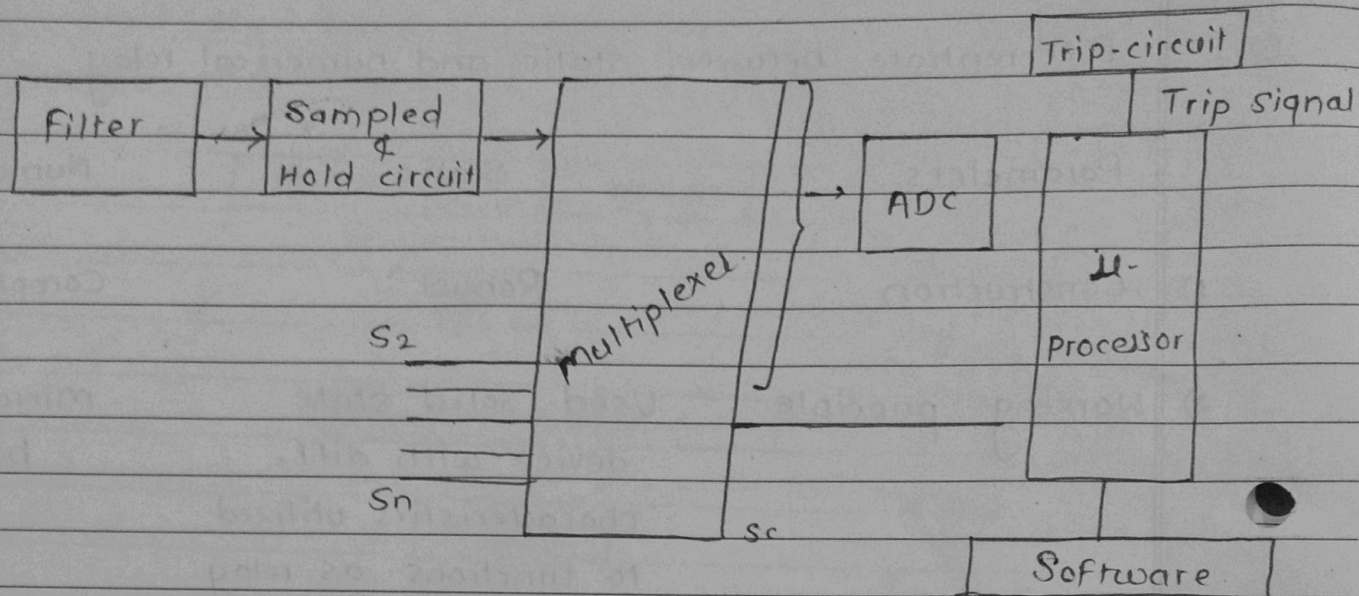
Parameters	Static	Numerical
1) Construction	Robust	Complicated
2) Working principle	Used solid state device with diff. characteristics utilized to functions as relay.	Microprocessor based.
3) Accuracy	Very good.	Excellent
4) Life	Short	Short
5) Reliability	No	Yes
6) Size	Small	Compact
7) Remote Separation	No	Possible

Q.2 Draw the block diagram of numerical relay and derive the sampling theorem.

→

Block diagram.





* Sampling theorem-

The sample and hold circuit is critical multiplexer and ADC operation.

The analog signal is to be sampled at regular intervals for satisfactory analog to digital conversion. The sampling frequency is important factor in this process.

The sampling theorem states that in order to preserve the information contained in a signal with frequency ω sampling frequency be equal to or greater than twice of the signal frequency

$$f_s \geq 2 f_{max}$$

where,

f_{max} = Maximum frequency.

f_s = Sampling frequency.

Q.3. Explain the components used in realization of characteristic of static differential relay.

→ A) Electronic Relay-

- 1) Developed in second decade of 19th century.
- 2) Electronic valves or thyatron were used.
- 3) Advantages - Less burden on C.T., fast operation, low maintenance.
- 4) Disadvantages - Shorter life, high cost, more power consumption.

B) Rectifier Relay-

- 1) It uses two rectifier bridge.
- 2) One bridge produced restraining torque effect.

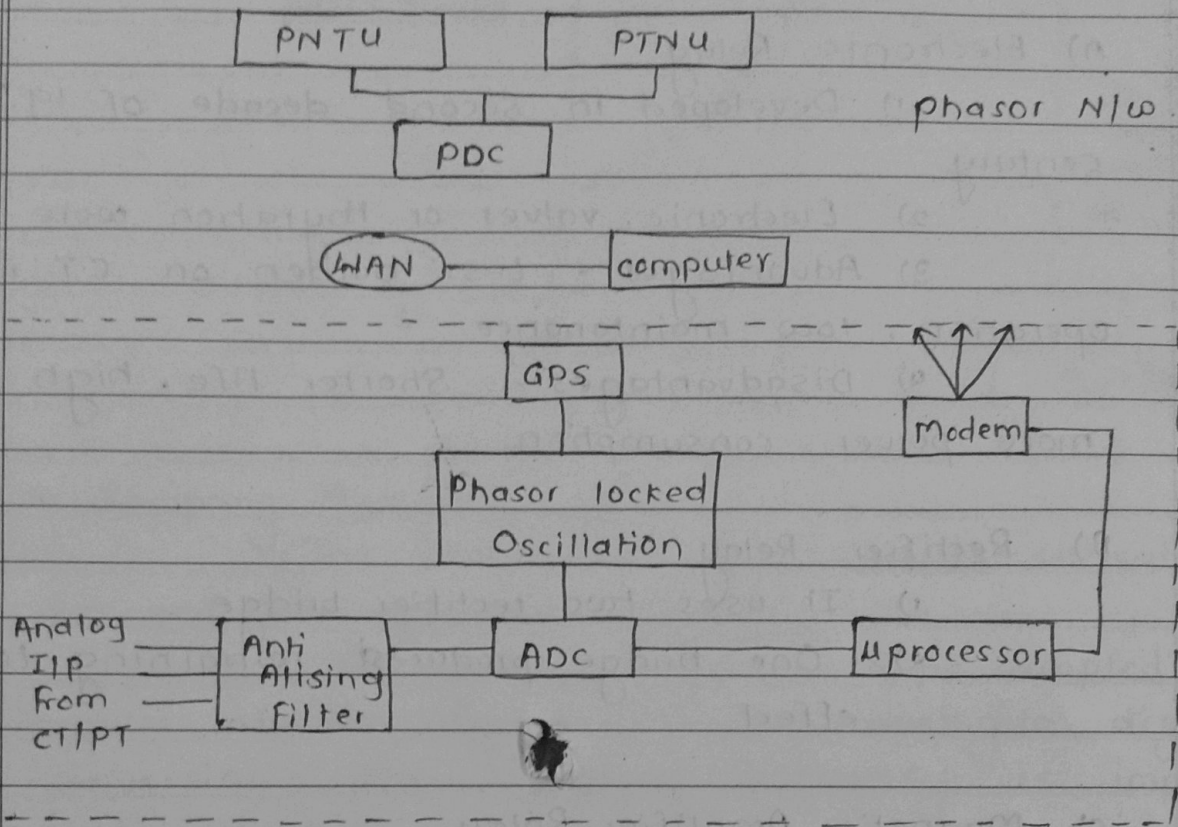
c) Magnetic Amplifier Relay-

- 1) Consist of single core and many winding.
- 2) Operating and controlling winding used.
- 3) Advantages - Easier to construct, low maintenance.

d) Transistorized Relay-

- 1) Widely used in protection system.
- 2) Use of thyristor.
- 3) Adv. Quick response, low power consumption.
- 4) disadvantage - affected by temp, Aliasing.

Q.4 Draw the block diagram of phasor measurement unit and explain its working.

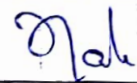


- Phasor monitoring is a sophisticated electronic device which can quantify voltage and current waveform at high sampling rate (about 2880 sample/sec)
- The c/n voltage signal from CT, PT i.e analog signal are given to anti aliasing filter.
- PTNU can measure data upto 10 phase and frequency of each phase. The data placed on computer screen. The data management controlled the computer at respective substains.

Name		Sarwade Pratiksha Shahuraj		
Roll No				TE48
Assignment No				05
Sub: Utilization of Electrical Energy ACY - 2018-19 (TE-SEM-II)				
Dimension	Slight (Low-1)	Moderate (Medium-2)	Substantial (High-3)	Score
Regularity and punctuality	Submitted one week late.	Submitted later than scheduled date with permission.	Submitted as per schedule.	3
Reasoning and Analysis	Irrelevant and incomplete answers.	Some answers correctly justified, an important reason(s) overlooked.	Clear and accurate answers; insightful and specific.	3
Focus on Topic	Very few of the answers relates to the assigned subject questions.	Answers are not as detailed and/or concise as needed; use limited course vocabulary.	Answers address the questions clearly and fully, showing higher uses of course vocabulary.	3
Organisation	Numerous errors, hard to read; questions are not stated before answers; format details are not adhered to.	Enough errors to distract the readers; organisation problems; questions not stated before answers; and/or format difficult to navigate.	Use of correct grammar, spelling, and punctuation; well organised; one idea follows another in a logical sequence with clear transitions; questions stated before answers; format easy to navigate.	3
Total				12

Faculty: Mr. S. M. Harite

Signature with date:



24/19

Assignment - 5

M.M.C.O.E.

Page No. : 11

Date :

Q. An electric train has quadrilateral speed time curve as follows:

i) Uniform acceleration from rest at 2 kmph/s for 30 seconds

ii) coasting for 50 sec.

iii) uniform braking to rest for 20 sec.

If the train is moving up gradient of $10/1000$ train resistance is 40 N/tonne , rotational inertia is 10% of dead weight and duration of stop is 30 sec. Find the schedule speed?

Given :

$$\alpha = 2 \text{ kmph/s}$$

$$t_1 = 30 \text{ sec}$$

$$t_2 = 50 \text{ sec}$$

$$t_3 = 20 \text{ sec}$$

$$G = 1 \quad \left\{ \frac{10}{1000} = 0.01 = 1\% \right\}$$

$$r = 40 \text{ N/tonne}$$

$$F_T = 277.8 W_e \alpha \pm 98.1 W G + W r$$

For coasting $F_T = 0$

$$W_e = 1.1 \times W (-\beta_c)$$

$$\therefore 0 = 277.8 \times 1.1 \times W (-\beta_c) + 98.1 W + W \times 1 + W(40)$$

$$277.8 \beta_c = 98.1 + 40$$

$$\therefore \beta_c = 0.452 \text{ kmph/s}$$

$$t_2 = \frac{V_1 - V_2}{\beta_c}$$

$$t_1 = \frac{V_1}{\alpha}$$

$$50 = \frac{60 - V_2}{0.452}$$

$$\therefore V_1 = 30 \times 2$$

$$V_1 = 60 \text{ km/hr}$$

$$\therefore v_2 = 37.4 \text{ km/hr}$$

$$S = \frac{1}{2} \times v_1 \times \frac{t_1}{3600} + \left[\frac{v_1 + v_2}{2} \right] \times \frac{t_2}{3600} + \frac{1}{2} \times v_2 \times \frac{t_3}{3600}$$

$$= \frac{1}{2} \times 60 \times \frac{30}{3600} + \left[\frac{60 + 37.4}{2} \right] \times \frac{50}{3600} + \frac{1}{2} \times 37.4 \times \frac{20}{3600}$$

$$S = 1.03 \text{ km}$$

$$T = t_1 + t_2 + t_3 = 100 \text{ sec}$$

$$\therefore \text{Schedule speed } v_s = \frac{S \times 3600}{T + \text{Stop time}}$$

$$= \frac{1.03 \times 3600}{100 + 30}$$

$$v_s = 28.52 \text{ km/hr}$$

Q. Define the term coefficient of adhesion and specific energy consumption.

⇒ The tractive effort can be increased by increasing the torque of motor. However, there is limit upto which the tractive effort can be increased. After that limit even if torque of motor is increased, the tractive effort does not increase but causes slipping of driving wheel on track.

• It has been found that the maximum value of tractive effort F_t at which driving wheels will not slip depends upon the dead weight W over the driving axle.

The relationship between tractive effort and dead weight is given by,

$$\frac{F_t}{9.81 W_a} = 1000 W$$

$$W_a = \frac{F_t}{9.81 (1000 W)}$$

= Maximum tractive effort that can be applied without slipping of wheels
Adhesive weight.

where,

F_t = Total tractive effort in newton

W = Dead weight on axles in tonne

(1 tonne = 1000 kg)

W_a = coefficient of adhesion ($W_a < 1$)

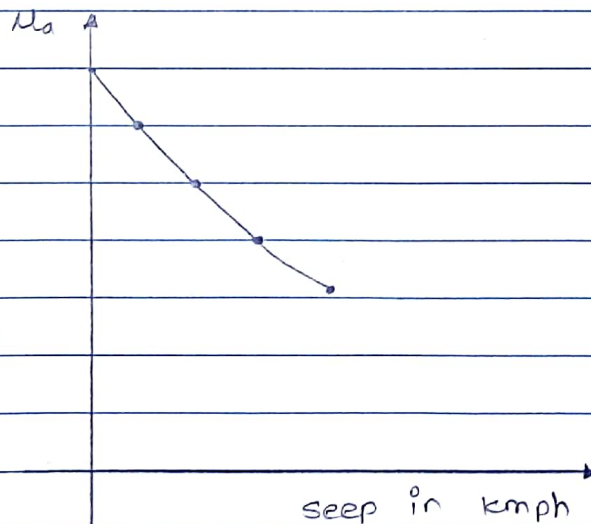
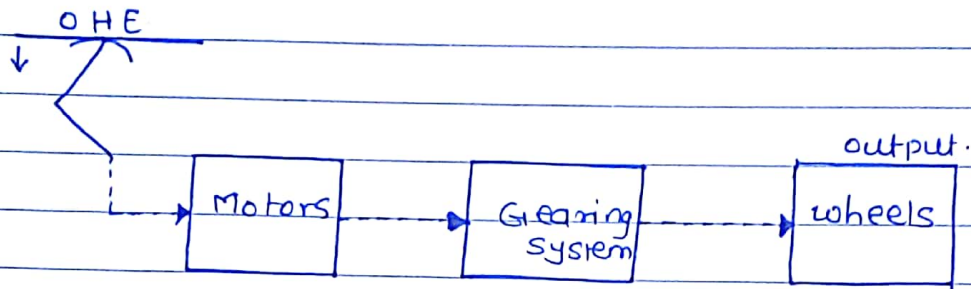


Fig: Variation of co-efficient of adhesion with speed.

Thus in order to increase tractive effort it is just not sufficient to increase the torque or HP of traction motor alone but at the same time weight on driving axle has to be increased. W_a decreases with increase in speed.

ii) Specific energy consumption :-

In case of electric traction, the tractive power is obtained from electric motors.



The output available at the wheels is evaluated by considering following factors.

- i) Power/energy required for overcoming gravity component
- ii) energy required for acceleration
- iii) energy required for train resistance

once the output is known, the input can be obtained by considering efficiency of motor and gearing system. If this efficiency is known we can find input power or energy

$$\text{i.e. } \frac{\text{output}}{\eta} = \text{Input.}$$

This input is known as specific energy consumption / specific input power.

$$\text{specific energy output} = \frac{\text{Energy output in watt-hrs}}{(\text{weight of train in tonne}) \times (\text{distance of run in km})}$$

and

$$\text{specific energy consumption} = \frac{\text{specific energy output at driving axles}}{\text{overall efficiency of motors and gearing.}}$$

Q. An electric train weighing 450 tonnes has to maintain an average speed of 40 kmph between two stations 3 km apart on an incline of 1 in 200. The train accelerates at 2 kmph/s and retards at 3 kmph/s. The tractive ef resistance is 5 kg per tonne and allowance for rotational inertia is 10%. Assuming a trapezoidal speed time curve. Find the energy consumption for the run while going up the incline. The overall efficiency may be take as 65%.

→ Given :

$$W = 450 \text{ tonne}$$

$$V_a = 40 \text{ kmph}$$

$$S = 3 \text{ km}$$

$$G = \frac{1}{200} \times 100 = 0.5\%$$

$$\alpha = 2 \text{ kmph/s}$$

$$\beta = 3 \text{ kmph/s}$$

$$r = 5 \text{ kg / tonne} = 49.05 \text{ N / tonne}$$

$$\eta = 65\%$$

$$\text{Duration of Run} = \frac{3600 \times S}{V_a}$$

$$= \frac{3600 \times 3}{40}$$

$$= 270 \text{ second.}$$

$$K = \frac{1}{2\alpha} + \frac{1}{2\beta}$$

M.M.C.O.E.

Page No. : 16 Date :

$$= \frac{1}{2 \times 2} + \frac{1}{2 \times 3}$$

$$k = 0.42$$

$$\begin{aligned} \text{Maximum speed} = V_m &= \frac{T}{2k} - \sqrt{\left(\frac{T}{2k}\right)^2 - \frac{3600S}{k}} \\ &= \frac{270}{2 \times 0.42} - \sqrt{\left(\frac{270}{2 \times 0.42}\right)^2 - \frac{3600 \times 3}{0.42}} \\ &= 42.857 \text{ kmph} \end{aligned}$$

$$t_1 = \frac{V_m}{\alpha} = \frac{42.857}{2} = 21.42 \text{ sec}$$

$$t_3 = \frac{V_m}{\beta} = \frac{42.857}{3} = 14.2856 \text{ sec.}$$

$$\begin{aligned} t_2 &= T - t_1 - t_3 \\ &= 270 - 21.42 - 14.2856 \end{aligned}$$

$$t_2 = 234.294 \text{ sec}$$

$$\begin{aligned} F_t &= 277.8 W_e \alpha + 98.1 W_G + W_r \\ &= 277.8 \times 1.1 \times 450 \times 2 + 98.1 \times 450 \times 0.5 + 450 \times 49.05 \\ &= 275022 + 22072.5 + 22072.5 \end{aligned}$$

$$F_t = 319167 \text{ N} \quad \checkmark$$

Maximum Total energy output =

$$\frac{1}{2} F_t \times \frac{V_m}{3600} \times \frac{t_1}{3600} + F_t' \frac{V_m}{3600} \times \frac{t_2}{3600}$$

where,

$$\begin{aligned} F_t' &= 98.1 W_G + W_r \\ &= 98.1 \times 450 \times 0.5 + 450 \times 49.05 \\ &= 44145 \text{ N.} \end{aligned}$$

Now
Specific energy consumption =

$$\frac{0.01072 \text{ Wh } V_m^2}{W \times S \times m} + \frac{0.2778 [98.1G + \sigma] S_1}{S \times m}$$

$$= \frac{0.01072 \times 1.1 \times V_m^2}{W \times S \times m} + \frac{0.2778 [98.1G + \sigma] S_1}{S \times m}$$

$$S_1 = S' + S''$$

$$= \frac{V_m \cdot t_2}{3600} + \frac{V_m^2}{2 \times 3600 + \alpha}$$

$$= \frac{43 \times 234.294}{3600} + \frac{43^2}{2 \times 3600 \times 2}$$

$$= 2.927.$$

$$\therefore \text{S.E.C.} = \frac{0.01072 \times 1.1 \times 43^2}{3 \times 0.65} + \frac{0.2778 \times 2.927 [98.1 \times 0.5 + 49.05]}{3 \times 0.650}$$

S.E.C. = 52.087 wh/tonnel km

∴ total energy output =

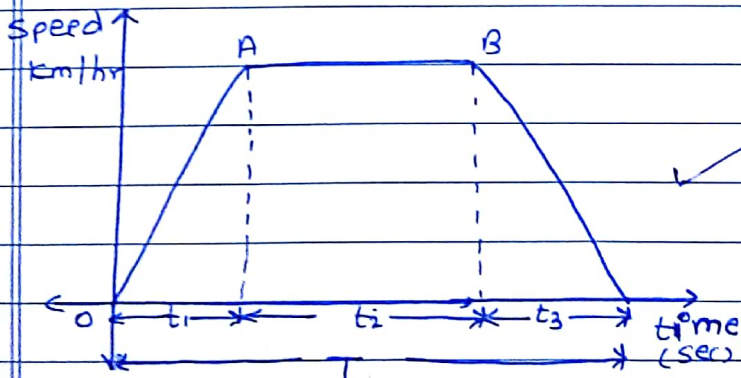
$$\frac{1}{2} \times 18 \times 319167 \times \frac{42.857}{3600} + \frac{21.42}{3600} + \frac{44145 \times 42.857}{3600} \times \frac{234.294}{3600}$$

$$= 1934 \text{ kWh}$$

$$\text{Total energy consumption} = \frac{1934}{0.65} = 2975.38 \text{ kWh}$$

$$\begin{aligned} \text{Specific energy consumption} &= \frac{\text{Total energy consumption in watt per}}{\text{weight of train} \times \text{distance of run in km}} \\ &= \frac{2975.38 \times 10^3}{450 \times 3} \\ &= 2203.98 \text{ Wh/tonne-km} \end{aligned}$$

Q. Derive the expression for specific energy output on level track using simplified speed time curve.



Assumptions =

Train is upgradient

Consider trapezoidal speed time curve.

$$\text{Total energy o/p} = \text{Energy required during Run} + \text{energy required during acceleration} + \text{energy required during free run}$$

M.M.C.O.E.

Page No. : 20 Date :

= Average power req^d during accelⁿ × accelⁿ period +
Avg power req^d during free run × duration
of free run

$$\text{Total energy o/p req^d} = \frac{1}{2} \left[\frac{F_t \times V_m}{3600} \frac{t_1}{3600} + \left[\frac{F_t' \times V_m}{3600} \frac{t_2}{3600} \right] \text{ kWh}$$

F_t' = tractive effort req^d during free run

F_t = tractive effort.

$$t_1 = \frac{V_m}{\alpha} \quad \text{and} \quad \frac{V_m}{3600} \cdot t_2 = \text{distance by the train during free run} = S'$$

$$= \frac{1}{2} \left[\frac{F_t \times V_m}{3600} \right] \times \frac{V_m}{3600 \alpha} + \frac{F_t' \times S'}{3600} \text{ kWh}$$

$$= \frac{1}{2} \frac{V_m^2}{3600^2 \alpha} [277.8 W_e \alpha + 98.1 W_a + W_r] + \frac{S'}{3600} [98.1 W_G + W_r] \text{ kWh}$$

$$= \frac{1}{2} \frac{V_m^2 \times 1000}{(3600)^2 \alpha} [277.8 W_e \alpha + 98.1 W_a + W_r] + \frac{S' \times 1000}{3600} [98.1 W_G + W_r] \text{ kWh}$$

$$= \frac{V_m^2 \times 1000 \times 277.8 W_e \alpha}{2 (3600)^2 \alpha} + 98.1 W_a + W_r \left[\frac{V_m^2 \times 1000}{2 (3600)^2 \alpha} + \frac{S' \times 1000}{3600} \right] \text{ kWh}$$

$$= 0.01072 V_m^2 W_e + 98.1 W_a + W_r \left[\frac{S'' \times 1000}{3600} + \frac{S' \times 1000}{3600} \right] \text{ kWh}$$

$$\frac{V_m^2}{2(3600)^2 \alpha} = \text{distance travelled by train during acceleration} = S''$$

$$S'' = \frac{1}{2} \times V_m \times \frac{V_m}{3600 \alpha} = \frac{1}{2} \frac{V_m^2}{(3600)^2 \alpha}$$

$$\text{Total energy o/p req^d} = 0.01072 V_m^2 W_e + 0.2778 [98.1 W_G + W_r] (S'' + S') \text{ wh}$$

$$S'' + S' = S_1$$

$$\text{Specific energy o/p} = \frac{\text{Total energy o/p req^d wh/ton}}{W \times S} \text{ 1 km.}$$

∴ Specific Energy $\rho_{hp} =$

$$\frac{0.01072 W_e v_m^2}{W \times S} + \frac{0.2778 [98.1 W_G + W_r] S_1}{W \times S} \quad \text{wh/tonne/km}$$

Now,

$$\text{Specific energy consumption} = \frac{\text{Specific energy of } \rho_{hp}}{\eta}$$

$$= \text{wh/tonne/km.}$$

$\eta =$ efficiency of motors & gears.

$$\text{S.E.C.} = \frac{0.01072 W_e v_m^2}{W \times S \times \eta} + \frac{0.2778 [98.1 W_G + W_r] S_1}{W \times S \times \eta}$$

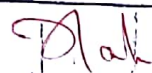
$$\boxed{\text{S.E.C.} = \frac{0.01072 W_e v_m^2}{W \times S \times \eta} + \frac{0.2778 [98.1 W_G + W_r] S_1}{S \times \eta}}$$

Done
2/11/19

Name		Siddhi . S. Huickesikar		Roll No	16
				Assignment No	05
Sub: Utilization of Electrical Energy ACY - 2018-19 (TE-SEM-II)					
Dimension	Slight (Low-1)	Moderate (Medium-2)	Substantial (High-3)	Score	
Regularity and punctuality	Submitted one week late.	Submitted later than scheduled date with permission.	Submitted as per schedule.	3	
Reasoning and Analysis	Irrelevant and incomplete answers.	Some answers correctly justified, an important reason(s) overlooked.	Clear and accurate answers; insightful and specific.	3	
Focus on Topic	Very few of the answers relates to the assigned subject questions.	Answers are not as detailed and/or concise as needed; use limited course vocabulary.	Answers address the questions clearly and fully, showing higher uses of course vocabulary.	3	
Organisation	Numerous errors, hard to read; questions are not stated before answers; format details are not adhered to.	Enough errors to distract the readers; organisation problems; questions not stated before answers; and/or format difficult to navigate.	Use of correct grammar, spelling, and punctuation; well organised; one idea follows another in a logical sequence with clear transitions; questions stated before answers; format easy to navigate.	2	
				Total	11

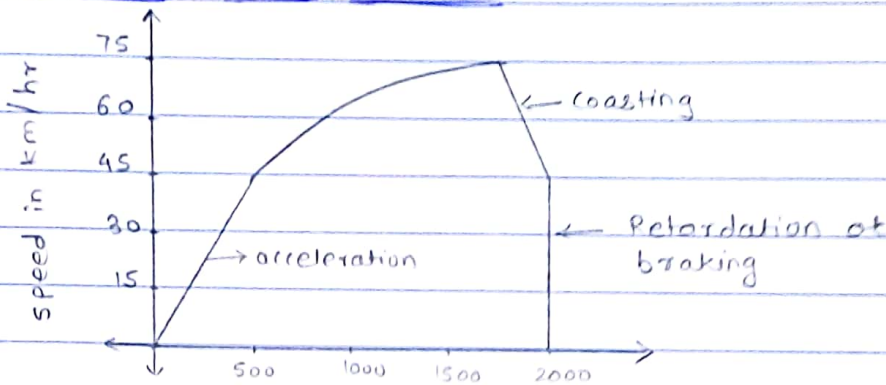
Faculty: Mr. S. M. Harite

Signature with date:


 16/4/19

Q.1 Draw the speed time curve for (1) Main line service (2) Suburban service. Explain their characteristics.

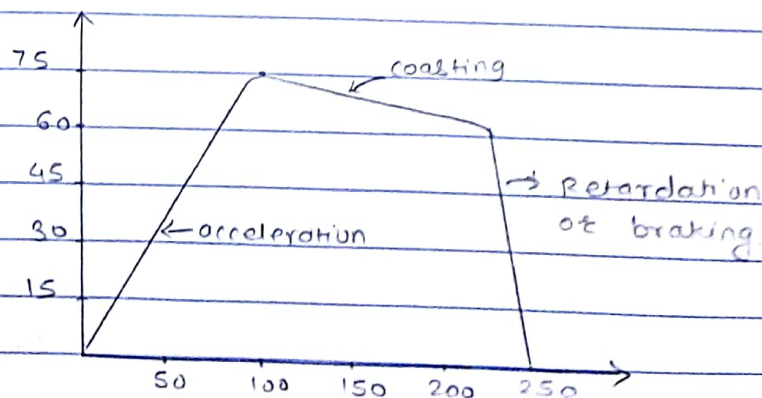
→ (A) Main line service.



• Characteristics -

- 1) The distance between station is more than 10 km
- 2) Acceleration of main line service is 0.6 to 0.2 kmphps.
- 3) Retardation is 1.5 kmphps.
- 4) It has long free running & coasting period and acceleration and braking.
- 5) The type of train using main line service are long run trains, express train & sleeper train.

(B) Suburban service -



Characteristics :-

- 1) Distance between Station 1 to 8 km.
- 2) Acceleration for Suburban Service is 1.5 to 4 kmphs.
- 3) Retardation for Suburban Service is 3 to 4 kmphs.
- 4) There is no free running, period, coasting is long.
- 5) Types of trains in Suburban Service are local train by short distance shuffle train.

Q.2 what is meant by scheduled speed of train and what are factors that affect the schedule speed of train?

→ Schedule Speed :

It is ratio of distance between the stops and the total time taken including time for stops to cover the distance.

$$\text{Schedule Speed} = \frac{\text{Distance between the stops}}{(\text{Actual time of run}) + (\text{stop time})}$$

The factors affecting schedule speed are,

① Crest Speed -

It is ratio of distance between the stops & the total time including time for stop to cover the distance, High crest speed results into increase in schedule speed. As acceleration and retardation are fixed,

then the for Constant distance. If actual run time decreases then Schedule Speed increases.

② Acceleration -

If distance between the two station and Crest Speed are constant then increase in acceleration will reduce the running time of train. Thus increase in acceleration will increase Schedule Speed. This is considerable if distance between station is small.

③ Braking Retardation -

Similar to acceleration, effect of braking retardation is to increase Schedule Speed. This is considerable if distance between station is small.

④ Duration of stop -

If duration of stop is more total running time will be more and Schedule Speed is low. For a given average speed the speed will duration. Variation in duration of stop will affect Schedule Speed more in case of urban and suburban service. Which have shorter distance run duration of stops is also very small.

Q.3 A suburban electric train has max. speed of 72 kmph. The Schedule speed including stop of 25 seconds is 46 kmph. If acceleration is

1.8 kmphs. Find the value of retardation when average distance between stop in 2.5 km.

→ Given :

$V_m = 72$ kmph, Schedule speed = 45 kmph,
 $\alpha = 1.8$ kmphs, $s = 2.5$ km, stop time = 25 sec.

Soln -

$$\text{Schedule time} = \frac{3600 s}{\text{Schedule speed}}$$

$$= \frac{3600 \times 2.5}{45} = 200 \text{ seconds.}$$

$$\text{Actual time of run} = T = (\text{Schedule time}) - (\text{Stop time})$$

$$= 200 - 25$$

$$T = 175 \text{ sec.}$$

We know that,

$$V_m^2 \left[\frac{1}{2\alpha} + \frac{1}{2\beta} \right] - V_m T + 3600 s = 0$$

$$72^2 \left[\frac{1}{(2 \times 1.8)} + \frac{1}{2\beta} \right] - (72 \times 175) + (3600 \times 2.5) = 0$$

$$\frac{1}{2 \times 1.8} + \frac{1}{\beta} = 4.166$$

$$\frac{\beta + 3.6}{3.6\beta} = 4.166$$

$$\beta + 3.6 = 15\beta$$

$$3.6 = 14\beta$$

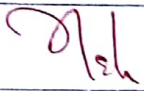
$$\beta = 0.257 \text{ kmphs.}$$

~~Ans~~

Name		Pooja Hemraj Pimporkar		
		Roll No	38	
		Assignment No	5	
Sub: Utilization of Electrical Energy ACY - 2018-19 (TE-SEM-I)				
Dimension	Slight (Low-1)	Moderate (Medium-2)	Substantial (High-3)	Score
Regularity and punctuality	Submitted one week late.	Submitted later than scheduled date with permission.	Submitted as per schedule.	3
Reasoning and Analysis	Irrelevant and incomplete answers.	Some answers correctly justified, an important reason(s) overlooked.	Clear and accurate answers; insightful and specific.	2
Focus on Topic	Very few of the answers relates to the assigned subject questions.	Answers are not as detailed and/or concise as needed; use limited course vocabulary.	Answers address the questions clearly and fully, showing higher uses of course vocabulary.	3
Organisation	Numerous errors, hard to read; questions are not stated before answers; format details are not adhered to.	Enough errors to distract the readers; organisation problems; questions not stated before answers; and/or format difficult to navigate.	Use of correct grammar, spelling, and punctuation; well organised; one idea follows another in a logical sequence with clear transitions; questions stated before answers; format easy to navigate.	2
Total				10

Faculty: Mr. S. M. Harite

Signature with date:


20/11/19

10. An electric train is to have acceleration and braking retardation of 0.8 km/ph/s and 3.2 km/h/s respectively. If the ratio of maximum to average speed is 1.3 and time for stops 25 seconds, find schedule speed for a of 1.5 km . Assume simplified trapezoidal speed time curve.

Ans:-

Let the actual time of run be T seconds,

$$\alpha = 0.8 \text{ km/h/s}$$

$$\beta = 3.2 \text{ km/ph/s}$$

$$\frac{V_m}{V_o} = 1.3$$

$$S = 1.5 \text{ km}$$

$$V_s = ?$$

$$\text{Avg. speed } (V_o) = \frac{3600S}{T} = \frac{3600 \times 1.5}{T} = \frac{5400}{T} \text{ kmph}$$

$$\text{max. speed } V_m = 1.3V_o = \frac{3 \times 5400}{T} = \frac{7020}{T} \text{ kmph}$$

$$V_m^2 \left(\frac{1}{2\alpha} + \frac{1}{2\beta} \right) - V_m T + 3600S = 0$$

$$\therefore V_m^2 = \frac{V_m \cdot T - 3600S}{\frac{1}{2\alpha} + \frac{1}{2\beta}} = \frac{7020 \times T - 3600 \times 1.5}{\frac{1}{2 \times 0.8} + \frac{1}{2 \times 3.2}}$$

$$= \frac{7020 - 5400}{5/6.4}$$

$$V_m = \sqrt{\frac{1620 \times 6.4}{5}} = 45.33 \text{ kmph}$$

$$V_a = \frac{V_m}{1.3} = \frac{45.53}{1.3} = 35.028 \text{ kmph}$$

$$\text{Actual time of run } T = \frac{3600}{V_a}$$

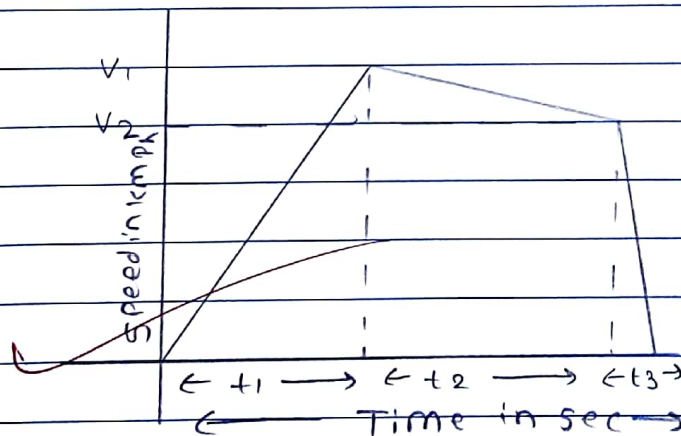
$$= \frac{3600 \times 1.5}{35.028} = 154 \text{ seconds.}$$

$$\text{Schedule time, } T_s = \text{Actual time of run} + \text{time of stop} = 154 + 26 = 180 \text{ sec.}$$

$$\begin{aligned} \text{Schedule speed } (V_s) &= \frac{5 \times 3600}{T_s} = \frac{1.5 \times 3600}{180} \\ &= 30 \text{ kmph.} \end{aligned}$$

2. Derive the expression for Simplified quadrilateral speed time curve.

Ans:-



Let,

α = Acceleration in kmph/s

β_c = coasting retardation in kmph/s.

β = Braking retardation in kmph/s.

V_1 = Max. speed at the end of acceleration in kmph

v_2 = speed the end of coasting in kmph.

T = total time of run in seconds.

Time of acceleration in seconds, $t_1 = \frac{v_1}{\alpha}$

Time of coasting in seconds, $t_2 = \frac{v_1 - v_2}{\beta_c}$

Time of braking in seconds $t_3 = \frac{v_2}{\beta}$

Total distance travelled in km

S = distance travelled during acceleration + distance travelled during coasting + distance travelled during retardation.

$$= \frac{1}{2} \frac{v_1 \times t_1}{3600} + \frac{v_1 + v_2}{2} \times \frac{t_2}{3600} + \frac{1}{2} \frac{v_2 \times t_3}{3600}$$

$$= \frac{v_1 t_1}{7200} + \frac{v_1 t_2}{7200} + \frac{v_2 t_2}{7200} (t_2 + t_3)$$

$$= \frac{v_1}{7200} (t_1 + t_2) + \frac{v_2}{7200} (t_2 + t_3)$$

$$\therefore S = \frac{v_1}{7200} (T - t_3) + \frac{v_2}{7200} (T - t_1)$$

$$= \frac{T}{7200} (v_1 + v_2) - \frac{v_1 t_3}{7200} - \frac{v_2 t_1}{7200}$$

$$= \frac{T}{7200} (v_1 + v_2) - \frac{v_1}{7200} \times \frac{v_2}{\beta} - \frac{v_2}{7200} \times \frac{v_1}{\alpha}$$

$$7200S = T(v_1 + v_2) - v_1 v_2 \left(\frac{1}{\alpha} + \frac{1}{\beta} \right)$$

we have,

$$v_2 = v_1 - \beta_c t_2 = v_1 - \beta (T - t_1 - t_3)$$

$$= v_1 - \beta_c \left(T - \frac{v_1}{\alpha} - \frac{v_2}{\beta} \right)$$

$$v_2 = v_1 - \beta_c T + \frac{\beta_c \alpha v_1}{\alpha}$$

$$1 - \frac{\beta_c}{\beta}$$

3. A train is required to run between two stations 1.6 km apart at an average speed of 40 kmph. The run is to be made to a simplified quadrilateral speed-time curve. If the maximum speed is to be limited to 64 kmph, acceleration is 2 kmph/s and coasting and braking retardation is 0.16 kmph/s and 3.2 kmph/s respectively. Determine the duration of acceleration, coasting and braking period.

Ans:-

Given: $s = 1.6 \text{ km}$

$v_0 = 40 \text{ kmph}$

$v_1 = 64 \text{ kmph}$

$\alpha = 2 \text{ kmph/s}$

$\beta_c = 0.16 \text{ kmph/s}$

$\beta = 3.2 \text{ kmph/s}$

Duration of acceleration $t_1 = \frac{v_1}{\alpha} = \frac{64}{2} = 32 \text{ Sec}$

Actual time of run, $T = \frac{3600s}{v_0} = \frac{3600 \times 1.6}{40} = 144 \text{ Sec}$

$$\text{duration of coasting, } t_2 = \frac{V_1 - V_2}{\beta_c} = \frac{64 - V_2}{0.16} \text{ sec}$$

$$\text{duration of braking, } t_3 = \frac{V_2}{\beta} = \frac{V_2}{3.2} \text{ sec}$$

$$\text{actual time run, } T = t_1 + t_3 + t_2$$

$$\therefore 144 = 32 + \frac{64 - V_2}{0.16} + \frac{V_2}{3.2}$$

$$V_2 \left[\left(\frac{1}{0.16} \right) - \left(\frac{1}{3.2} \right) \right] = 32 + 400 - 144$$

$$\therefore V_2 = \frac{288}{6.25 - 0.3125}$$

$$\therefore V_2 = 48.5 \text{ kmph}$$

$$\text{Duration of coasting, } t_3 = \frac{V_m - V_2}{\beta_c}$$

$$= \frac{64 - 48.5}{0.16} = 96.85 \text{ sec}$$

Duration of braking,

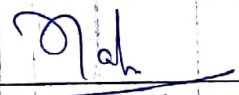
$$t_2 = \frac{V_2}{\beta} = \frac{48.5}{3.2} = 15.15 \text{ sec.}$$

Moh

Name		Saroode Pratiksha Shahura		Roll No	TE48
				Assignment No	06
Sub: Utilization of Electrical Energy ACY - 2018-19 (TE-SEM-II)					
Dimension	Slight (Low-1)	Moderate (Medium-2)	Substantial (High-3)	Score	
Regularity and punctuality	Submitted one week late.	Submitted later than scheduled date with permission.	Submitted as per schedule.	3	
Reasoning and Analysis	Irrelevant and incomplete answers.	Some answers correctly justified, an important reason(s) overlooked.	Clear and accurate answers; insightful and specific.	3	
Focus on Topic	Very few of the answers relates to the assigned subject questions.	Answers are not as detailed and/or concise as needed; use limited course vocabulary.	Answers address the questions clearly and fully, showing higher uses of course vocabulary.	3	
Organisation	Numerous errors, hard to read; questions are not stated before answers; format details are not adhered to.	Enough errors to distract the readers; organisation problems; questions not stated before answers; and/or format difficult to navigate.	Use of correct grammar, spelling, and punctuation; well organised; one idea follows another in a logical sequence with clear transitions; questions stated before answers; format easy to navigate.	3	
				Total	12

Faculty: Mr. S. M. Harite

Signature with date:


 21/4/19

Assignment - 6

M.M.C.O.E.

Page No. : 24 Date :

Q. Describe with neat diagram principle of operation of a Rosenberg generator.

⇒ It was originally used as a train lighting generator. Its distinctive properties are:

- 1) It develops an emf, the direction of which is independent of the direction of rotation.
- 2) It produces a current which beyond a particular speed, remains practically constant.

Components :-

- A battery V which must be used in connection with the generator if the latter is to function properly. It supplies current to the lamps when the train is at rest and also to the shunt field winding.
- To the battery terminals are connected the main brushes through a rectifier element which blocks the flow of current from the battery to the armature but which blocks the offers zero resistance to current in the other direction.
- In addition to the main brushes there is a pair short circuited auxiliary brushes placed at right angles to the polar axis

Working :-

When the armature rotates through the magnetic field set up by FF, a current is produced which flows through the short circuited armature along axis LL and creates a powerful cross field

The lines of force of this field find a path of low reluctance through the pole shoes.

- The clockwise rotation results in a cross field directed from left to right. The motion of armature conductors through this cross field generates an emf and current along the MM axis in such a direction that the armature mmf represented by the arrow MM opposes the excitation due to the field winding FF.
- The no load component of armature current can flow until a certain speed is obtained.
- Rosenberg generator may be driven either by belt from the car axle or by mounting the armature directly on the axle shaft.
- It is obvious that there is definite limit beyond which the main current delivered by the brushes MM cannot increase. This limit being reached when armature mmf neutralizes the field excitation due to FF. For in that case there would be no emf and current in the LL axis and hence no emf in the main brush. It follows therefore that beyond a certain speed the m/c will deliver a practically constant sp current. Any desired limit to the current may be set by adjusting the rheostat in the field circuit FF.

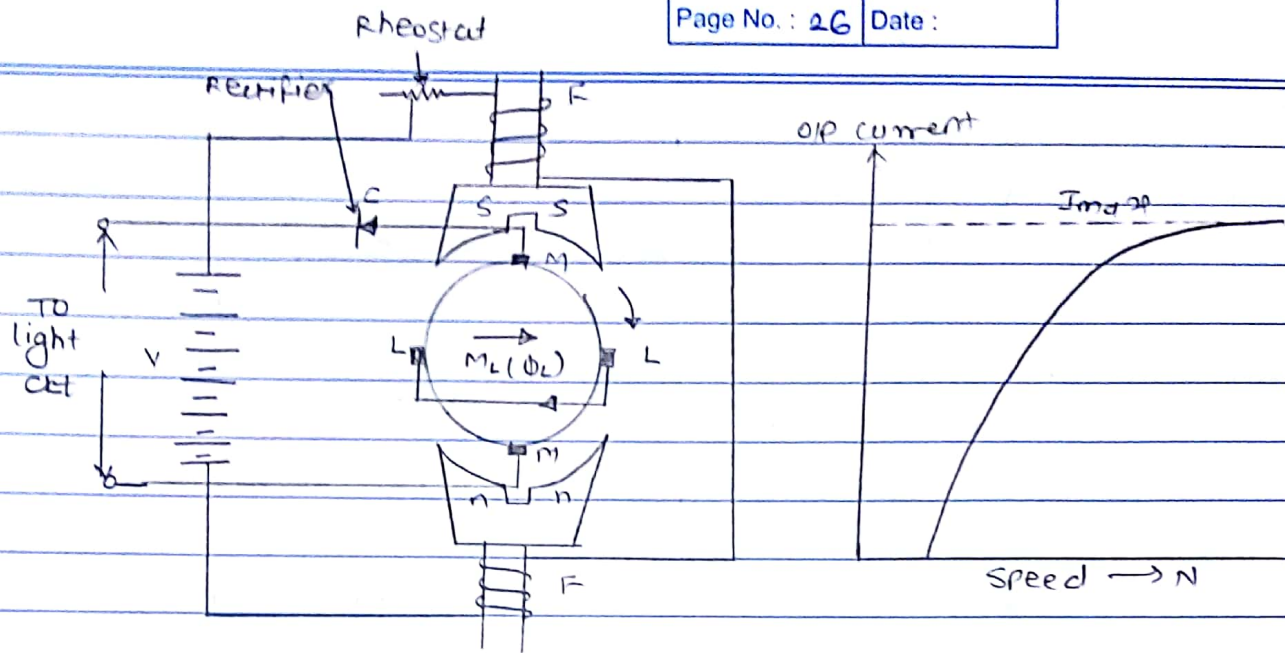


Fig: Rosenberg Alternator

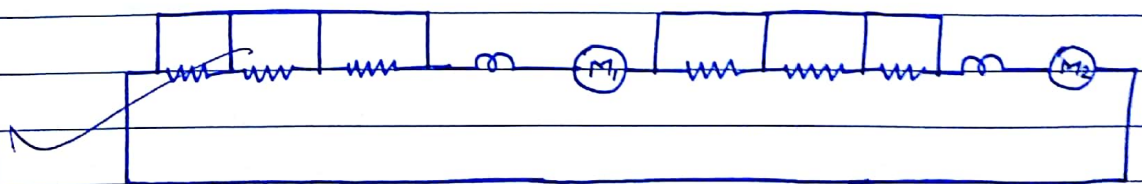
Fig: O/P current, speed characteristics.

Q. Explain series parallel control of traction motors.

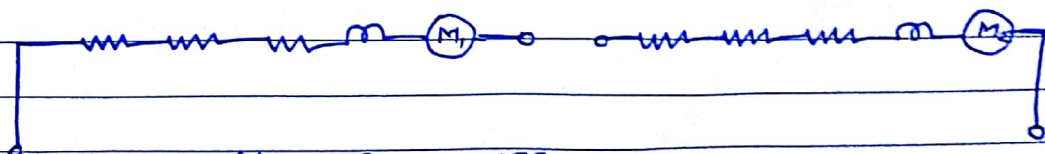
⇒ In traction more than one motor operates at a time and these are connected in series or parallel (depending upon the requirement)

1) open circuit transition :-

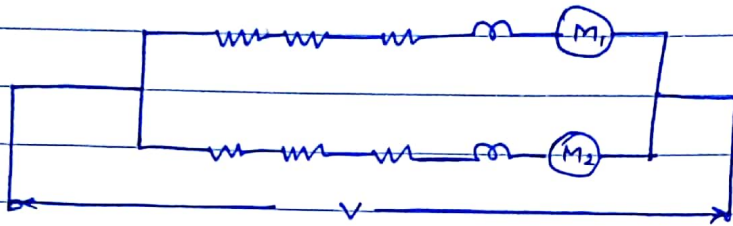
In this method, the two motors are initially in series. This series connection is disconnected and power is switched OFF.



(a) Motor in series



(b) Power OFF.

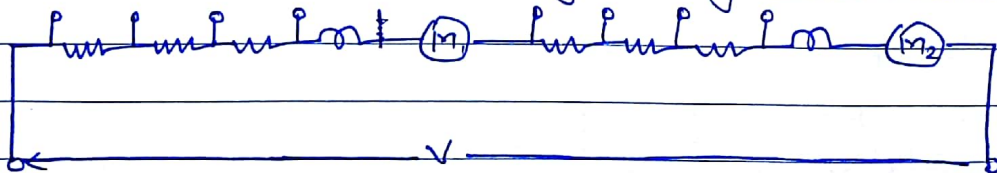


(c) motors in parallel.

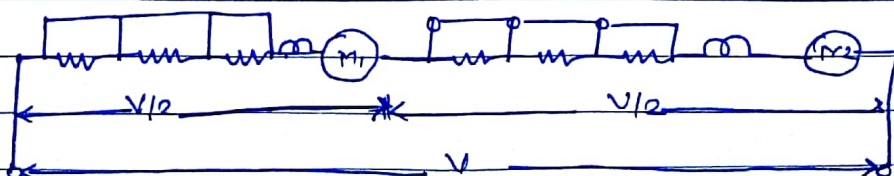
Then starting resistance is reinserted in the circuit, the two motors are connected in parallel and supply is restored. There is loss of tractive effort when motors are disconnected from supply and there is inrush of current when motors are connected in parallel.

2) Shunt transition :

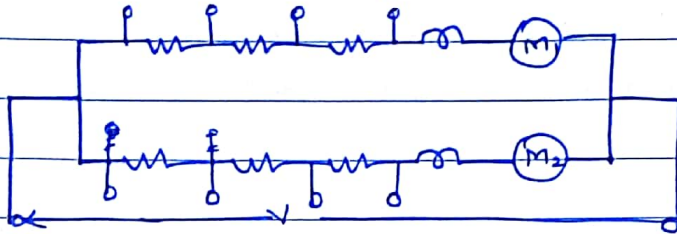
The supply is given through starting resistance and this resistance is gradually cut down and motors are connected in series. The voltage across each motor is $V/2$ and they are run at half rated speed. Now to run the motors at rated speed, the motors are disconnected and then reconnected in parallel, again supplied through starting resistance. The resistance is gradually cut down.



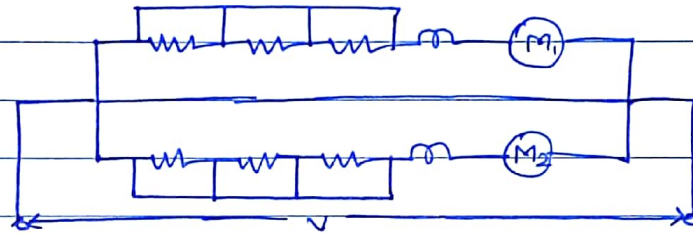
(a) Both motors connected in series with full starting resistance.



(b) starting resistance is gradually cut down and both motors get connected across supply.



(c) Both motors are put in parallel along with their respective external resistance across supply.



(d) External resistances is gradually cut down and both motors get connected across supply.

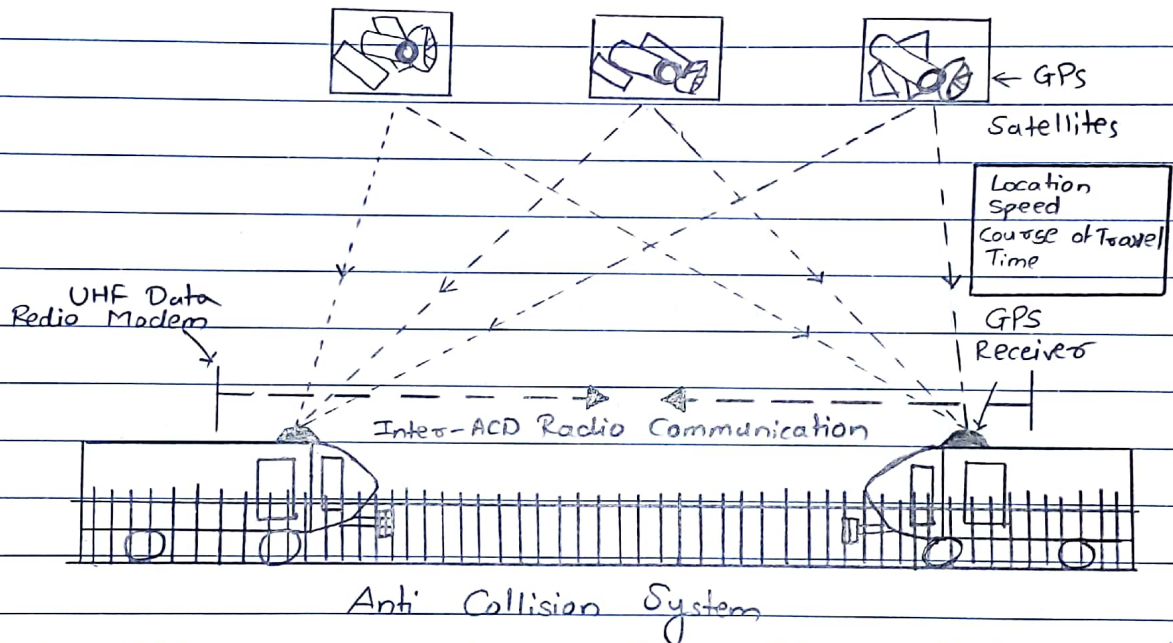
Limitations of series parallel control :-

- 1) One motor is short circuited and only other motor is in operation during transition.
- 2) Loss of tractive effort during transition
- 3) Noticeable jerk in motion is experienced during transition period.

Q. Write a short note on :
Anti collision system.

⇒ To add safety, anti-collision systems are also used along with existing system. It does not cause any interference with the existing system. The anti collision system makes use

of - Anti collision device (ACD) It makes use of microprocessors smart sensors and global positioning system. This has been implemented for Konkan Railways. Suppose there are two trains running in opposite direction on a track. The ACD is installed on both trains.



- ACD network consist of mobile ACDs and trackside ACDs.
- Mobile ACDs take input from GPS satellite system for position updates.
- mobile ACDs network with track side ACDs located within a radius of three kms. to activate brakes with the help of on board loco ACDs through their automatic Braking units. whenever a collision-like situation is mid sections, perceived
- ACD Network is likely to prevent 'head on' and 'rear end' collisions in mid sections, collisions at 'high speed' in 'station area', 'side collisions' with derailed vehicles obstructing adjacent line.

The location of train on the track is continuously traced by GPS system. The GPS device on train passes this information to other train and control room.

The ACP's of both the train can communicate with each other in the range of 3km. When one of the train is approaching near a station.

ACP gives warning indication to driver. The driver reduces speed of train. If driver overlooks the warning the ABU operates and brakes applied gradually.

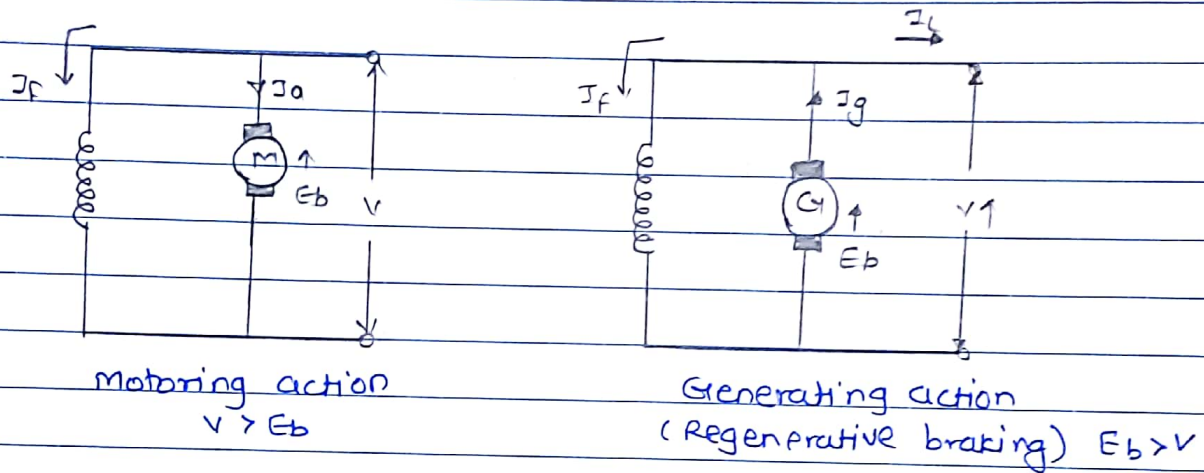
Q. Discuss the suitability of dc shunt motor, series m. and 3-phase induction motor for electric regenerative braking.

→ In case of regenerative braking, the motor is made to run as generator and it remains connected to the line. Thus the kinetic energy is converted into electrical energy which is feedback to the line.

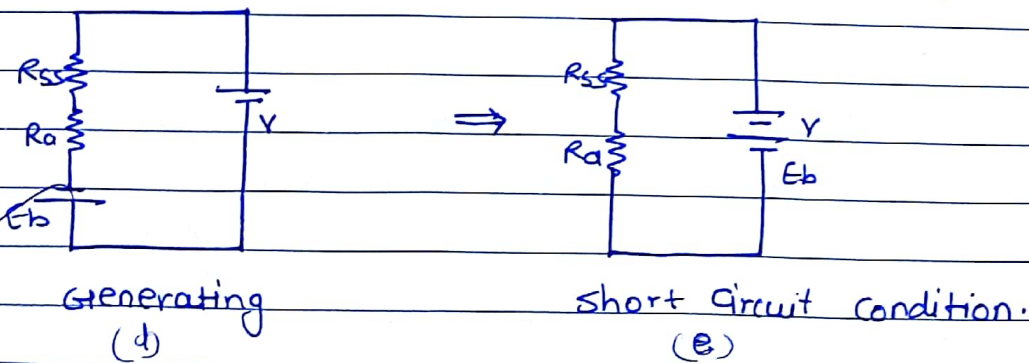
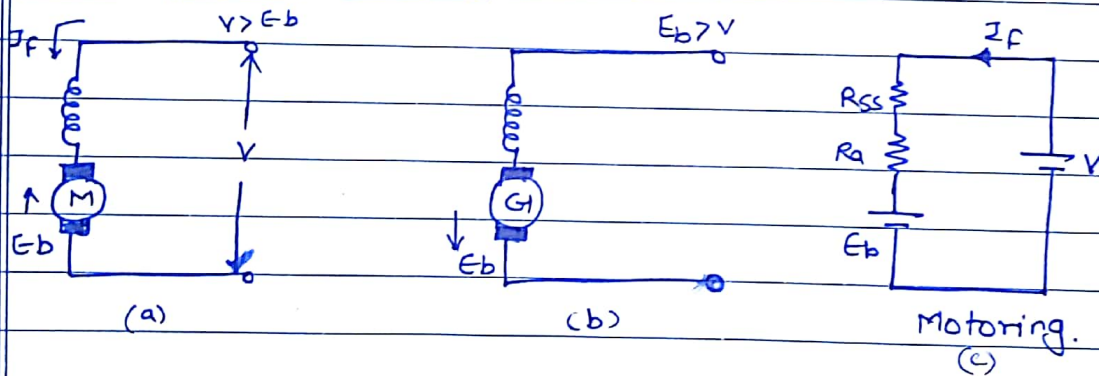
i) Dc Shunt Motor :-

Suppose decrease in load on motor causes increase in speed above normal with field current remaining the same. Thus the back emf will increase and it may exceed supply voltage. When this happens the power is feedback to the line and kinetic energy decreases gradually. thereby decreasing the speed and thus braking is achieved.

Alternatively the field current can be increased and same effect can be achieved. Regenerative braking can thus easily be applied with shunt motor.



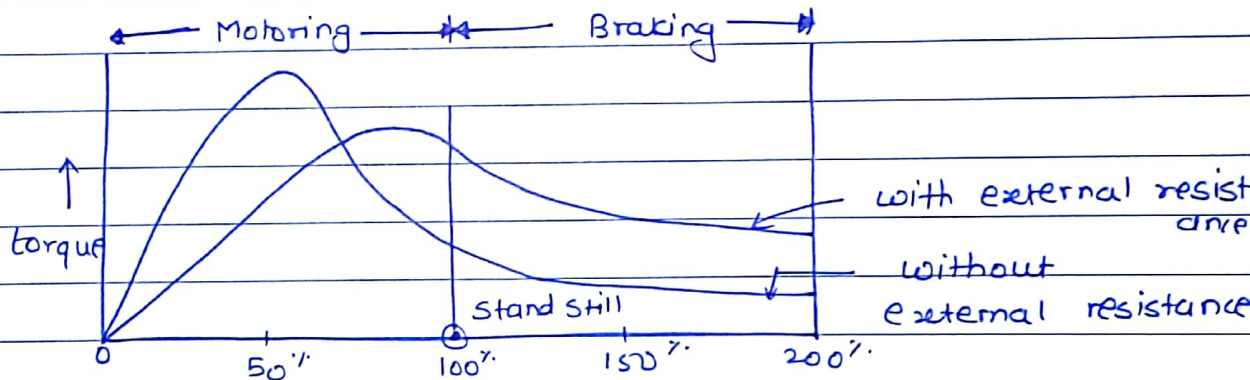
DC series motor 8-



The conditions with a series motor for regenerative braking are not so simple, since the armature current necessary to produce regeneration also flows

through field winding. Therefore field current reverse causing direction of E_b in (d) Thus E_b and v are added and the resistance of circuit is $(R_a + R_{ss})$ which is very low. This causes short circuit condition.

iii) Regenerative Braking with ^{three}J.M. 3 -



It is achieved automatically when the motor runs a speed slightly above the synchronous speed. The motor starts working as an induction generator. The Induction generator however is not self exciting and must be connected to a system supplied from synchronous sp. generator i.e. its field winding/rotor coinciding will be supplied with D.C. by an exciter of some other synchronous generator system.

Mal
11/11/19

Name	Siddhi . S . Hukkerikar			Roll No	16
				Assignment No	06
Sub: Utilization of Electrical Energy ACY - 2018-19 (TE-SEM-III)					
Dimension	Slight (Low-1)	Moderate (Medium-2)	Substantial (High-3)	Score	
Regularity and punctuality	Submitted one week late.	Submitted later than scheduled date with permission.	Submitted as per schedule.	3	
Reasoning and Analysis	Irrelevant and incomplete answers.	Some answers correctly justified, an important reason(s) overlooked.	Clear and accurate answers; insightful and specific.	3	
Focus on Topic	Very few of the answers relates to the assigned subject questions.	Answers are not as detailed and/or concise as needed; use limited course vocabulary.	Answers address the questions clearly and fully, showing higher uses of course vocabulary.	2	
Organisation	Numerous errors, hard to read; questions are not stated before answers; format details are not adhered to.	Enough errors to distract the readers; organisation problems; questions not stated before answers; and/or format difficult to navigate.	Use of correct grammar, spelling, and punctuation; well organised; one idea follows another in a logical sequence with clear transitions; questions stated before answers; format easy to navigate.	2	
				Total	10

Faculty: Mr. S. M. Harite	Signature with date: 
---------------------------	--

16/4/19

Assignment No. 06

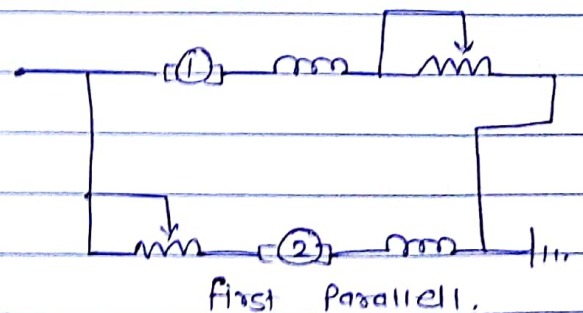
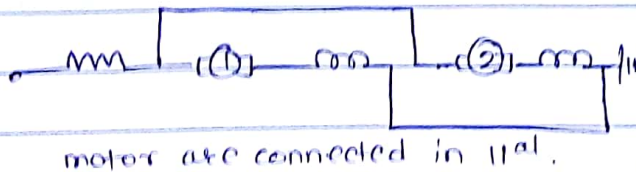
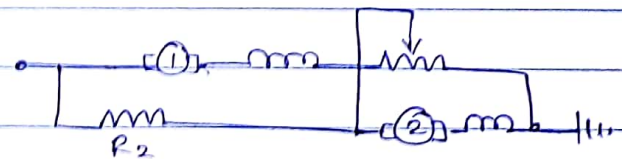
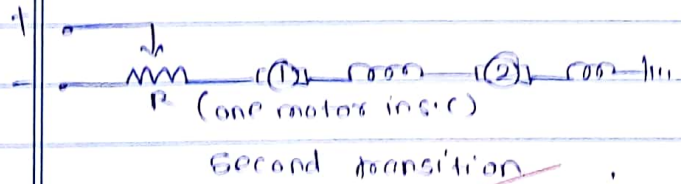
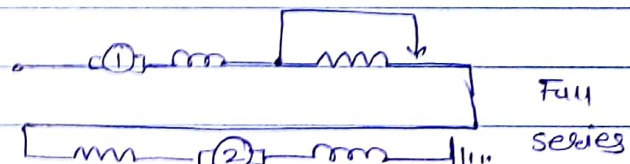
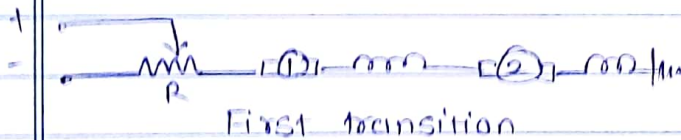
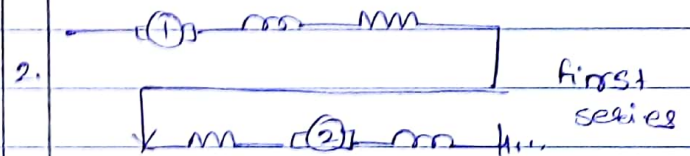
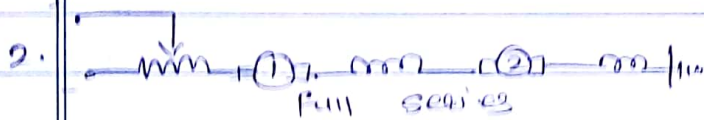
Q.1 Compare Shunt transition & bridge transition,

Shunt Transition

Bridge Transition,

1. In this method first the motors are run up to and brought to full series position by emitting out external resistance gradually.

1. In this method stationary resistance is split into two equal parts. The starting resistance are gradually sent out & motor come in series.



Shunt Transition**Bridge Transition**

3. There is a jerk in this type of system when one motor is shorted & causes to act on there to tractive less similarly there in jerk, when reinserted.

3. As no motor shorted there is no tractive effect loss there is no jerk experienced.

4. Since jerk is experienced it is inconvenient for passengers.

4. No jerk. It is convenient for passengers.

5. This method is employed in trainways, industrial locomotive & main line locomotive.

5. This method is used for railways traction.

6. Its preferred Vtg is above 600V.

6. Its preferred Vtg is above 600V.

Q. 2 Give essential electrical & mechanical characteristics of traction motor.

→ Electrical characteristics -

① High starting torque - The traction motor must be capable of developing high starting torque specially when the train is to be accelerated at a reasonably high rate as in case of urban or suburban services.

- ② Simple Speed Control methods necessary since an electric train has to be started & stopped.
- ③ Self relieving property. In case motor has speed torque characteristics such that torque is inversely proportional to speed. Their product will always be constant. Therefore horse power of motor will also remain constant - This gives motor a self protective property against overload. Simple & easy methods of rheostatic & regenerative braking.
- ⑤ In traction work, an account of heavy current inrush at starting, considerable voltage fluctuation of supply voltage occurs. The traction motors should be capable of withstanding such voltage without undue effect on their performance.

• Mechanical characteristics -

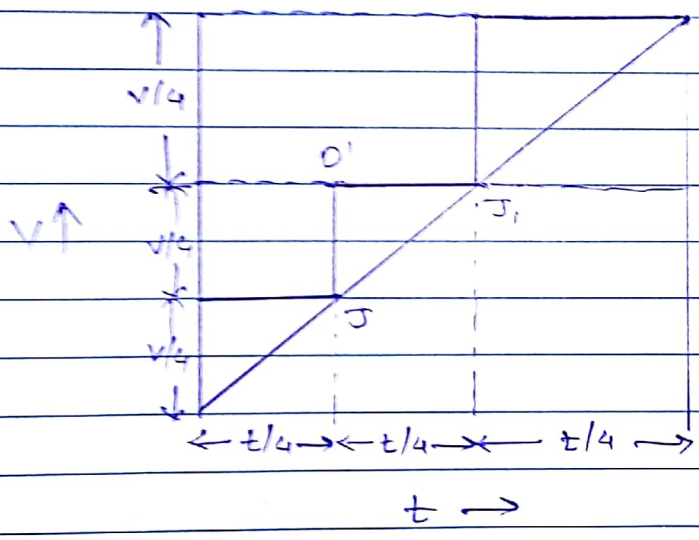
- ① Traction should be robust as they are subjected to continuous vibrations. They must withstand such extremely severe conditions.
- ② A high power/weight ratio is aimed at in design of traction motor. Therefore weight of traction motor is kept minimum. This is achieved by high speed motor upper limit being fixed by centrifugal stress.
- ③ Traction motor must be small in size. Since the space a motor can occupy is limited for given hp of motor its physical size depends upon type of insulation employed. Traction motors are now wound with class H insulation.
- ④ Traction motor should be totally enclosed type to

Page No. : Date :

protect it against dirt, dust, water. if its mounted beneath.

② T motor should have high electrical & mechanical efficiency.

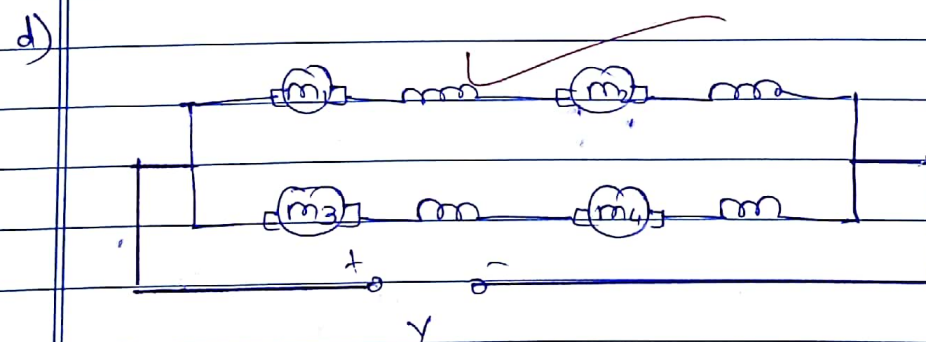
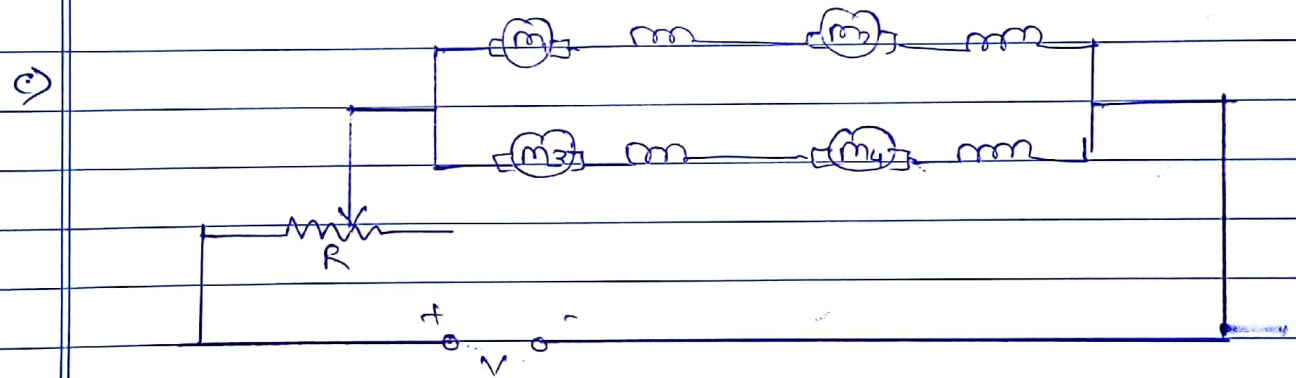
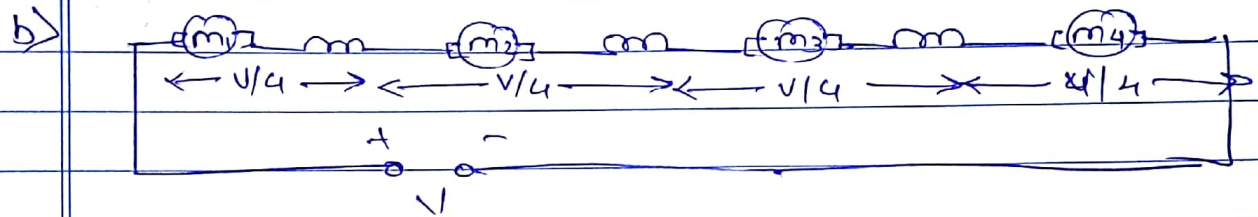
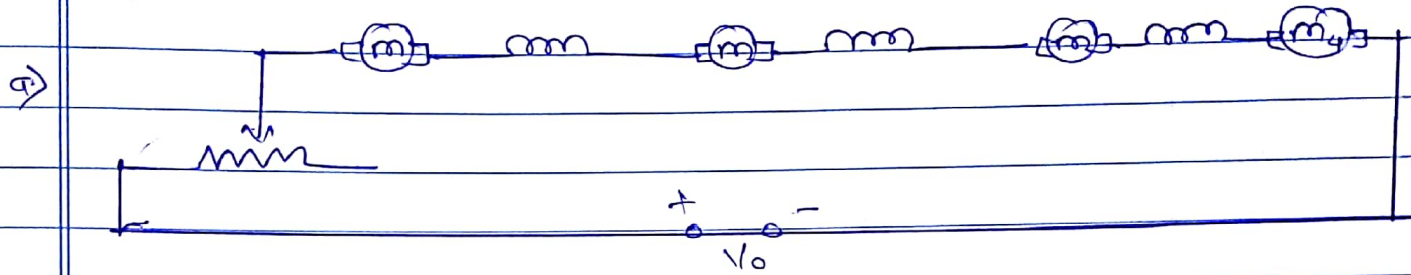
Q.3 Explain the energy diagram, how energy is saved with series parallel starting in case of locomotive engine with four motor in operation.

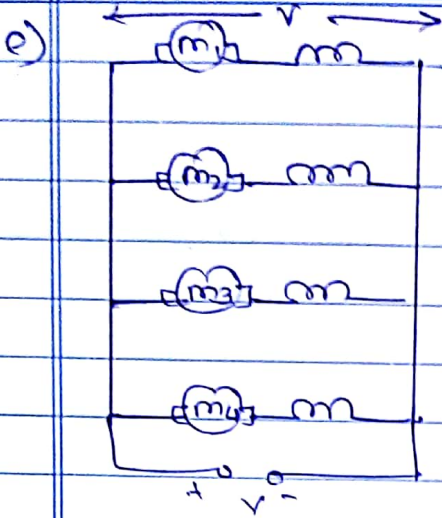


① All the motors are first connected in series, along with starting rheostat. Assuming uniform acceleration the back emf in armature will rise linearly so that after a period of $t/4$, the voltage across each motor will be $V/4$ & all the starting rheostat resistance would have been sent down.

② The series combination is converted into series parallel combination with series resistance inserted.

③ Finally all motor are put in parallel with resistance Vt_g across each motor rises to 'V' during $V/2$.



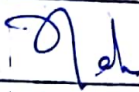


Q. 14



~~Ans~~

Name	shubham v. Bari			Roll No	TE06
Assignment No				6	
Sub: Utilization of Electrical Energy ACY - 2018-19 (TE-SEM-II)					
Dimension	Slight (Low-1)	Moderate (Medium-2)	Substantial (High-3)	Score	
Regularity and punctuality	Submitted one week late.	Submitted later than scheduled date with permission.	Submitted as per schedule.	3	
Reasoning and Analysis	Irrelevant and incomplete answers.	Some answers correctly justified, an important reason(s) overlooked.	Clear and accurate answers; insightful and specific.	2	
Focus on Topic	Very few of the answers relates to the assigned subject questions.	Answers are not as detailed and/or concise as needed; use limited course vocabulary.	Answers address the questions clearly and fully, showing higher uses of course vocabulary.	2	
Organisation	Numerous errors, hard to read; questions are not stated before answers; format details are not adhered to.	Enough errors to distract the readers; organisation problems; questions not stated before answers; and/or format difficult to navigate.	Use of correct grammar, spelling, and punctuation; well organised; one idea follows another in a logical sequence with clear transitions; questions stated before answers; format easy to navigate.	2	
				Total	9

Faculty: Mr. S. M. Harite	Signature with date: 
---------------------------	--

22/11/19

Assignment - 6

Q-1 Compare shunt transition and bridge transition :-

Point of comparison	shunt Transition	Bridge Transition
---------------------	------------------	-------------------

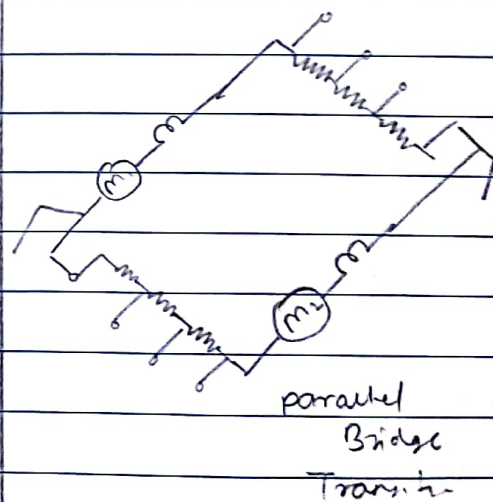
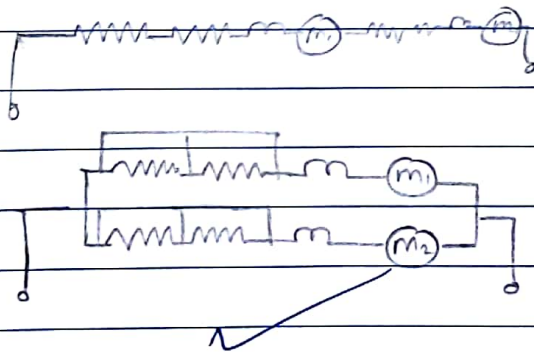
1. Inrush current during transition.	moderate	No inrush current
--------------------------------------	----------	-------------------

2. Loss of tractive effort	50%	No
----------------------------	-----	----

3. Jerk during transition	Less	No jerk
---------------------------	------	---------

4. Complexity of operation	More	Less
----------------------------	------	------

5. Diagram



6. Acceleration achieved	Not as smooth as bridge acceleration	smooth,
--------------------------	--------------------------------------	---------

Q-2 Explain how regenerative braking is obtained in DC locomotive. What are its advantages?

→

The necessary conditions for regenerative braking are :-

- motor is made to run as a generator and it remains connected to the line. Thus kinetic energy is converted into electrical energy which is fed back to the line.
- Back emf must exceed the V_s .
- The braking should have mechanical stability i.e. braking system should be in a position to apply more & more braking torque in case of powerful over hauling.
- Braking system should have electrical stability i.e. braking torque applied should be independent of supply voltage fluctuations.
- If the energy feedback to line surplus is supply i.e. supply greater than demand then the generating station should be able to consume the energy otherwise regenerative braking isn't effective.

* Advantages of regenerative braking :-

- 1] stability of control.
- 2] No losses or less losses
- 3] effective braking than mechanical braking system.
- 4] No requirement of additional equipment
- 5] more effective, efficient.

Q-3 Give essential electrical and mechanical characteristics of traction motor :-

⇒

1] suitable speed torque characteristic :-

The torque required at start at start is high or maximum. This is because heavy mass is to be accelerated

2] Parallel running :-

In traction works, usually more than one motor operate at a time. Hence these motors should be capable of operating in parallel. Then occur a small difference in rotational speed of various motors because of uneven wear and tear of wheels.

3] Voltage fluctuations :-

In traction work, on account of heavy current inrush at starting considerable voltage fluctuation of supply line is e

normal features . motor should be able to withstand voltage fluctuations

2] Temporary voltage interruption:-
This occurs when section insulators & cross over are crossed with the controller. ON . motor should withstand these fluctuations without heavy inrush of current.

5] overload capacity,

6] self relieving capacity.

7] ~~amend~~

7] amenability to speed control :

8] Limitation to electric braking,

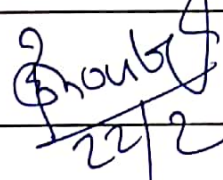
9] limitation of weight size.

10] Robustness.

11] High efficiency ;

Deh

Name Priya Sanjay More		Roll No TE 40		
		Assignment No 3		
Sub: Design of Electrical Machines (303149) ACY - 2018-19 (TE-SEM-II)				
Dimension	Slight (Low-1)	Moderate (Medium-2)	Substantial (High-3)	Score
Regularity and punctuality	submitted one week late.	submitted later than scheduled date with permission.	submitted as per schedule.	2
Reasoning and Analysis	irrelevant and incomplete answers.	some answers correctly justified, an important reason(s) overlooked.	Clear and accurate answers; insightful and specific.	3
Focus on Topic	Very few of the answers relates to the assigned subject questions.	Answer are not as detailed and/or concise as needed; use limited course vocabulary.	Answers address the questions clearly and fully, showing higher uses of course vocabulary.	3
Organisation	Numerous errors, hard to read; questions are not stated before answers; format details are not adhered to.	Enough errors to distract the readers; organisation problems; questions not stated before answers; and/or format difficult to navigate.	Use of correct grammar, spelling, and punctuation; well organised; one idea follows another in a logical sequence with clear transitions; questions stated before answers; format easy to navigate.	3
Total				11

Faculty: P.R.Choube	Signature with date:  22/2
---------------------	---

ASSIGNMENT : 03

7/10

Q.1 Estimate the various losses in a 3 ϕ I.M.

→ There are five losses in 3 ϕ I.M.

- i) Stator Copper losses (I^2R losses)
- ii) Rotor Copper losses (I^2R losses)
- iii) Stator Core losses (Iron losses)
- iv) Friction & Winding losses
- v) Additional losses.

i) Stator Copper losses . :

- These are the losses taking place stator conduction. The copper losses are due to the power wasted in the conductor due to resistance of stator winding.

- These losses depends on the magnitude of current flowing in the winding as well as resistance of stator winding.

$$\text{stator copper losses} = 3 I_s^2 r_s \text{ watts.}$$

where,

I_s = stator current per phase

r_s = Resistance of stator wings.
per phase.

ii) Rotor Copper losses : (I^2R losses)

These are the losses taking place in rotor bars and rotor end rings. The copper losses are due to the power wasted in the bars and in the end rings due to resistance of bars and end rings.

where, I_b = Rotor bar current.

r_b = Resistance of rotor bars.

Similarly C_u losses in end rings = $2 \times I_c^2 \times r_c$ watts.

Total rotor C_u losses = C_u losses in rotor bars + C_u losses in end rings.

iii) Stator Core losses :

These are the losses taking place in stator core & stator teeth.

- Core losses in stator core.

Volume of stator is known. then weigh of stator core is.

= Volume of stator core \times density of iron (kg).

~~Den~~

Density of Iron = 7.6×10^3 kg m^{-3} ,

~~Core~~

- Core loss in stator teeth.

Volume of stator teeth is known then,

$$\text{Weigh of stator teeth} = \frac{\text{Volume of stator teeth}}{\text{teeth}} \times \text{Density of iron (kg)}$$

∴ Density of iron is $7.6 \times 10^3 \text{ kg/m}^3$

$$\text{Core losses in stator teeth} = \frac{\text{weigh of stator teeth}}{\text{teeth}} \times \text{specific iron loss (W/kg)}$$

$$\text{Total core loss in stator} = \text{core losses in stator core} + \text{core losses in stator teeth}$$

iv) Frictional & Windage Losses:

As discussed earlier

these losses vary as per the rating of the machine & the following standard table gives approximate values of friction & windage loss in terms of o/p.

O/P in kW	Friction Windage loss (%)
0.75	→ 5.5
3.7	→ 3.5
7.5	→ 2.7
37	→ 1.5
75	→ 1.2
150	→ 1.0

v) Additional losses :

Cu losses due to harmonics and due to skin effect of iron losses in the form of pulsating losses & structure losses. ~~total loss~~

Total loss = stator Cu loss + rotor Cu loss + stator core loss + friction and windage loss + Additional loss

7

Q.2 Explain the procedure to estimate the no load current of an Induction motor.

→ The no. load current of an I.M contains

- i) Magnetizing current (I_m).
- ii) loss component current (I_L)

No load current is measured from no load test and two components I_m & I_L are determined as.

$$I_0 = \sqrt{(I_m)^2 + (I_L)^2}$$

Magnetizing current is the minimum current required to set up the flux.

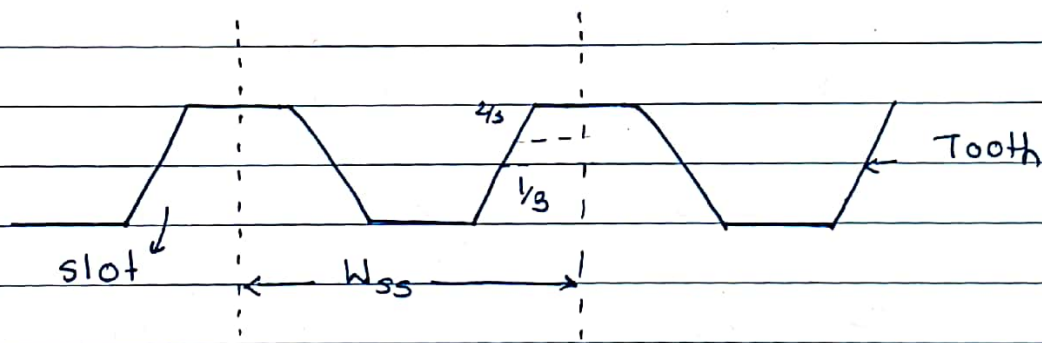
mmf in air gap (AT_g) :

$$B_{g60} = 1.36 B_{avg}$$

$$\& \quad AT_g = 800000 B_{g60} k_g l_g$$

where, $k_g \rightarrow$ gap contraction factor.
 $l_g \rightarrow$ length of air gap.

mmf of stator Teeth (AT_{ts}) :



$$B_{ts} (1/3) = \frac{\phi_m}{(Ss/p) \times L_i \times W_{ts} (1/3)}$$

$$\therefore W_{ts} (1/3) = \frac{\pi [D + 2 (\frac{d_{ss}}{3})]}{Ss} - W_{ss}$$

&

$$B_{ts60} = 1.30 B_{ts} (1/3)$$

$$AT_{ts} = at_{ts} \times d_{ss}$$

- mmf of rotor teeth (AT_{tr}).

$$B_{tr} \left(\frac{1}{3} \right) = \frac{\phi_m}{(\text{strip}) \times L_i \times w_{tr} \left(\frac{1}{3} \right)}$$

$$w_{tr} \left(\frac{1}{3} \right) = \frac{\pi \left[D_r - 2 \times \frac{2d_{sr}}{3} \right]}{S_r} - w_{sr}.$$

Where,

d_{sr} = depth of rotor slot.

w_{sr} = width of rotor slot.

$$B_{tr60} = 1.36 B_{tr} \left(\frac{1}{3} \right)$$

$$AT_{tr} = a_{tr} \times d_{sr}.$$

- mmf of stator core. (AT_{cs}).

length of path through stator core.

$$l_{cs} = \frac{1}{3} \left[\frac{\pi (D + 2d_{ss} + d_{cs})}{P} \right]$$

$$AT_{cs} = a_{cs} \times l_{cs}.$$

Total mmf per pole for B_{60} is.

$$AT_{60} = AT_g = AT_{ts} + AT_{tr} + AT_{cs} + AT_{cr}.$$

$$I_m = \frac{0.427 P AT_{60}}{k_{ws} T_s}$$


where,

$P \rightarrow$ No. of poles.

$k_{ws} \rightarrow$ winding factor.

$T_s \rightarrow$ stator turns per phase

Name Vaibhav Narsimlu Buddawar				
		Roll No		09
		Assignment No		06
Sub: Design of Electrical Machines (303149) ACY - 2018-19 (TE-SEM-II)				
Dimension	Slight (Low-1)	Moderate (Medium-2)	Substantial (High-3)	Score
Regularity and punctuality	submitted one week late.	submitted later than scheduled date with permission.	submitted as per schedule.	1
Reasoning and Analysis	irrelevant and incomplete answers.	some answers correctly justified, an important reason(s) overlooked.	Clear and accurate answers; insightful and specific.	3
Focus on Topic	Very few of the answers relates to the assigned subject questions.	Answer are not as detailed and/or concise as needed; use limited course vocabulary.	Answers address the questions clearly and fully, showing higher uses of course vocabulary.	2
Organisation	Numerous errors, hard to read; questions are not stated before answers; format details are not adhered to.	Enough errors to distract the readers; organisation problems; questions not stated before answers; and/or format difficult to navigate.	Use of correct grammar, spelling, and punctuation; well organised; one idea follows another in a logical sequence with clear transitions; questions stated before answers; format easy to navigate.	3
Total				9

Faculty: P.R.Choube	Signature with date:  31/3
---------------------	---

Q.1) Estimate the various losses in a 3- ϕ I.M.

These are given five type of losses in a 3- ϕ I.M.

- 1) Stator Copper losses (I^2R losses)
- 2) Rotor Copper losses (I^2R losses)
- 3) Stator Core losses (Iron losses)
- 4) Friction and windage losses
- 5) Additional losses.

i) Stator Copper losses:-

These losses are take place in stator conductor. The copper losses are due to the power wasted in the cond^r due to resistance of stator winding. These losses depends on the magnitude of current flowing in the winding. as well as resistance of stator wdg.

$$\text{Stator Copper losses} = 3I_s^2 r_s \text{ watts}$$

where I_s = Stator current / phase

r_s = Resistance of stator wdg / phase.

ii) Rotor Copper losses:-

These are the losses taking place in rotor end rings. The copper losses are done due to the power wasted in the bars & in the end rings due to resistance of bars & end rings.

$$\text{Cu losses in rotor base} = \text{No. of rotor base} \times I_b^2 r_b \text{ watts}$$

I_b = rotor bar current

r_b = resistance of rotor bar

Total rotor Cu losses = Cu losses rotor bar + Cu losses in end rings

3) Stator Core losses :-

These are the losses takes place in stator core & stator teeth.

Core loss in stator core :-

Volume of stator core is known then weight of stator core. weight = Volume of stator core X

Density of iron (kg)

Density of iron = 7.6×10^3 kg/m³

Core losses in stator core = weight of stator core X specific iron loss (wt/kg)

★ Core losses in stator teeth :-

Volume of stator teeth is known then weight of stator teeth weight = Volume of stator teeth X

Density of iron (kg)

Density of iron is 7.6×10^3 kg/m³

Core losses in stator teeth = wt of stator teeth X specific iron loss

Total Core losses in stator =

Core losses in stator core + Core losses in stator teeth.

4) Friction and windage losses :-

As discussed earlier these losses vary as per the rating of the machine & the following std. Table gives approx. value of friction & windage losses in terms of o/p.

olp in kw	Friction of wdg losses (% of olp)
0.75	5.5
3.7	3.5
7.5	2.7
37	1.5
75	1.2
150	1.0

Additional losses :- Cu losses due to harmonics & due to skin & iron losses in the form of pulsation losses & surface losses.

Total losses = Stator Cu loss + Rotor Cu loss + Stator Core loss + Friction & windage loss + Additional loss

Q.2) Explain the procedure to estimate the no load current of an I.M.

⇒ This is an important parameter of an I.M

The no load current of an I.M contains

- 1) Magnetizing current (I_m)
- 2) Core loss Component (I_c)

No load current is measured from no load test & two components I_m & I_c are determined.

$$I_0 = \sqrt{I_m^2 + I_c^2}$$

magnetizing current is the minimum current required to set up the flux.

mmf in air gap (AT_g)

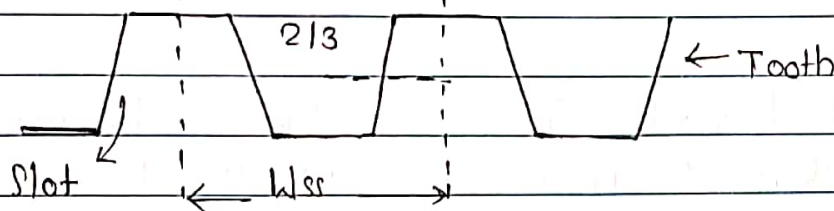
$$F_g = 60 = 1.36 B_{avg}$$

$$\& A_{Tg} = 800000 B_{g60} k_g l_g$$

where

$k_g =$ Gap contraction factor
 $l_g =$ length of air gap.

mmf of stator teeth (ΔT_{ts}):



$$B_{ts} (1/3) = \frac{\phi_m}{(s_s/p) \times L_i \times w_{ts} (1/3)}$$

$$w_{ts} (1/3) = \frac{T_i \left[D_t + 2 \left(d_{ss}/3 \right) \right]}{s_s} - w_{ss}$$

$$B_{ts60} = 1.30 B_{ts} (1/3)$$

$$\Delta T_s = \alpha_{ts} \times d_{ss}$$

mmf of rotor teeth (ΔT_{tr})

$$B_{tr} (1/3) = \frac{\phi_m}{(s_r/p) \times L_i \times w_{tr} (1/3)}$$

$$w_{tr} (1/3) = \frac{T_i \left[D_r - 2 \times \left(d_{sr}/3 \right) \right]}{s_r} - w_{sr}$$

where

$d_{sr} =$ depth of rotor slot

$w_{sr} =$ width of rotor slot

$$B_{tr60} = 1.36 B_{tr} (1/3)$$

$$\Delta T_{tr} = \alpha_{tr} \times d_{sr}$$

mmf of stator core (ΔT_{sc})

length of path through stator core

$$l_{es} = \frac{1}{3} \left[\frac{\pi (D + 2r_{ess} + d_{es})}{p} \right]$$

$$A_{Tcs} = a_{Tcs} \times l_{es}$$

mmF of rotor core (A_{Tor})

$$l_{er} = \frac{\pi [D - 2d_{sr} - d_{er}]}{3p}$$

$$A_{Tor} = a_{Ter} \times l_{er}$$

Total mmF per pole for 360 is

$$A_{T60} = A_{Tg} + A_{Tgs} + A_{Ter} + A_{Tcl} + A_{Tor}$$

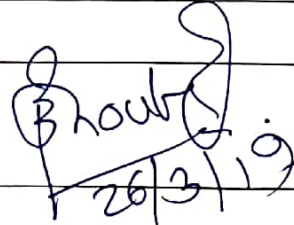
$$I_m = \frac{0.42 T p A_{T60}}{k_{ws} T_s}$$

p = No. of poles

k_{ws} = winding factor

T_s = Stator turns / phase

Name		Siddhi . S . Hukkenikar		
Roll No				16
Assignment No				06
Sub: Design of Electrical Machines (303149) ACY - 2018-19 (TE-SEM-II)				
Dimension	Slight (Low-1)	Moderate (Medium-2)	Substantial (High-3)	Score
Regularity and punctuality	submitted one week late.	submitted later than scheduled date with permission.	submitted as per schedule.	2
Reasoning and Analysis	irrelevant and incomplete answers.	some answers correctly justified, an important reason(s) overlooked.	Clear and accurate answers; insightful and specific.	3
Focus on Topic	Very few of the answers relates to the assigned subject questions.	Answer are not as detailed and/or concise as needed; use limited course vocabulary.	Answers address the questions clearly and fully, showing higher uses of course vocabulary.	3
Organisation	Numerous errors, hard to read; questions are not stated before answers; format details are not adhered to.	Enough errors to distract the readers; organisation problems; questions not stated before answers; and/or format difficult to navigate.	Use of correct grammar, spelling, and punctuation; well organised; one idea follows another in a logical sequence with clear transitions; questions stated before answers; format easy to navigate.	2
Total				10

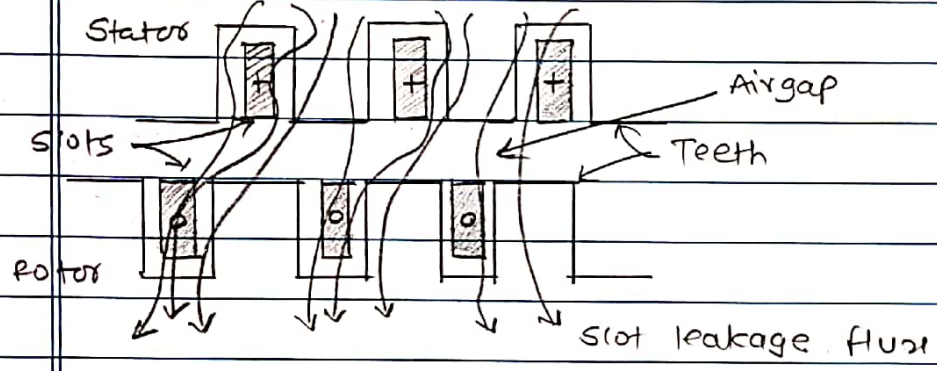
Faculty: P.R.Choube	Signature with date:  26/3/19
----------------------------	---

Assignment no. 06

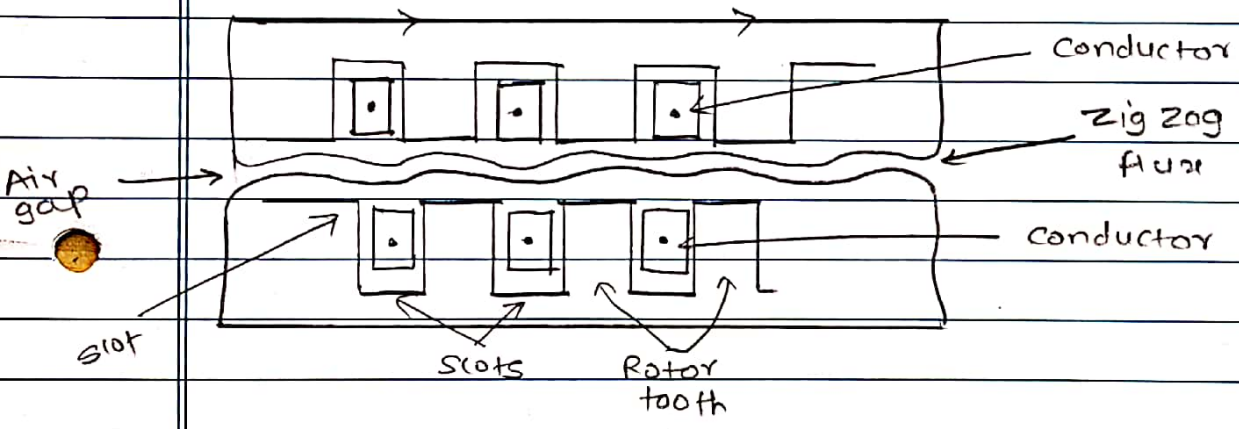
Q. 1 Sketch the paths of the following leakage flux of 3- ϕ IM :

- (i) slot leakage flux (ii) zig-zag leakage flux,
- (iii) Tooth top leakage flux. (iv) overhang leakage flux.

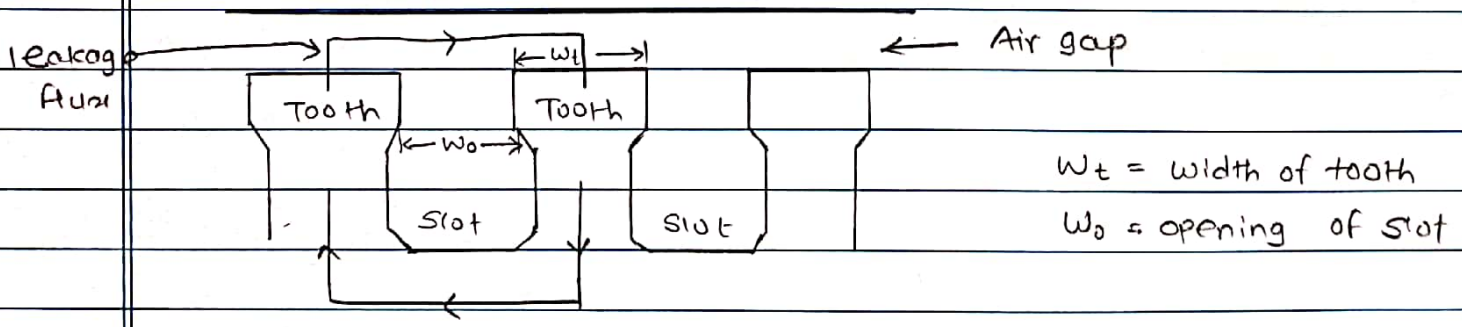
→ (i) slot leakage flux :-



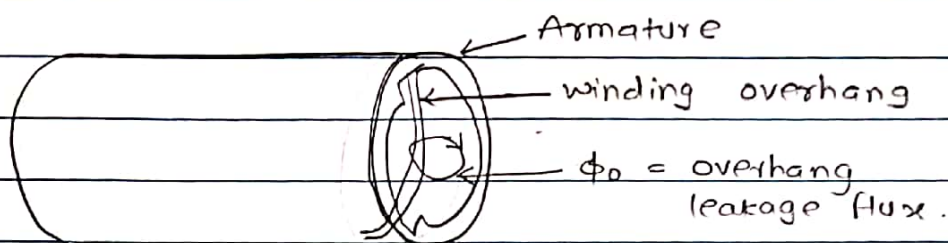
(ii) zig-zag leakage flux :-



(iii) Tooth top leakage flux :-

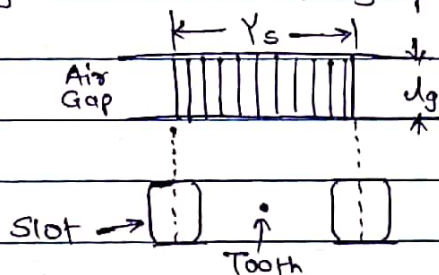


(iv) overhang leakage flux :-



Q.2 Explain the effect of ducts on the calculation of magnetizing current of 3- ϕ TM.

→ mmf for air gap : For closed slots, iron surfaces on the two sides of air gap are smooth, so the flux is uniformly spread over the entire slot pitch & goes straight across air gap as shown.



Considering only one slot pitch reluctance of air gap.

$$S_g = \frac{l}{\mu_0 A} = \frac{l_g}{\mu_0 L y_s}$$

However, when armature is slotted effective area of flux path is substantially decreased, which increases reluctance of air gap. Effective or concentrated slot pitch.

$$y_s' = w_t = y_s - w_s$$

$$S_g = \frac{l_g}{\mu_0 y_s' L} = \frac{l_g}{\mu_0 L (y_s - w_s)}$$

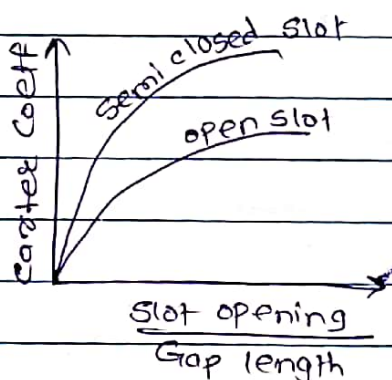
∴ Effective or Contracted slot Pitch.

$$y_a' = w_t + s w_g = w_t + w_g + s w_g - w_g$$

$$= y_g (1 - s) w_s$$

$$y_a' = y_g - k_{cs} \cdot w_g$$

Here, k_{cs} is the Carter's gap coefficient & it depends on ratio slot width / gap length, & is taken from graph shown.



∴ Reluctance of air gap with slotted armature,

$$S_g = \frac{l_g}{\mu_0 y_a' L}$$

$$S_g = \frac{l_g}{\mu_0 L (y_s - k_{cs} w_s)}$$

$$k_{gs} = \frac{y_g}{y_s - k_{cs} \cdot w_s}$$

Similarly, radial ventilating due to result in contraction flux in axial direction,

- Carter's coefficient is based upon = $\frac{\text{Duct width}}{1/2 \text{ Gap length}}$

k_{gss} = Gap Contraction factor for stator slot.

k_{ggr} = Gap Contraction factor for rotor slot.

k_{gs} = Total gap contraction factor for slot.

$$\therefore k_{gs} = k_{gss} \times k_{ggr}$$

Course: Data Science & Big Data Analytics

Class: TE IT

CO Covered: CO5.

BATCH - A

- Q1. Explain the challenges in Big Data Visualization (L2)
Q2. Write a note on Gephi. (L1)
Q3. List and discuss various types of data visualizations (L1)
Q4. Write a note on Tableau products (L1)
Q5. List the open source tool used in data visualization (L1)

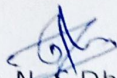
BATCH - B

- Q1. 'Visualization is an excellent medium to analyze, comprehend and share information': justify this statement (L5)
Q2. State the technique used to analyze multivariate sets. (L1)
Q3. Name a few visualization tools and explain any 1 of them (L1)
Q4. Which visualization is recommended for percentage data sets (L1)
Q5. What aggregate operations on data can be performed in Tableau (L1)

BATCH - C

- Q1. List and discuss various types of data visualizations (L1)
Q2. What is a tableau server? (L1)
Q3. Discuss applications of Data Visualization (L5)
Q4. Explain the difference between infographics and visualization (L2)
Q5. List the open source tool used in data visualization (L1)




Mr. N. S. Dhavase
Course Coordinator

Unit - 5
Assignment - 2

1. Explain challenges in Big Data visualization.

- 1. Diversity and heterogeneity in big data creates a big problem while visualizing the data.
2. Analysis speed is the most preferred factor in big data analysis.
3. Usually big data is in unstructured format and to visualize unstructured data, tables graphs and other metadata is used.
4. As size of big table is vast, providing huge parallelization is a challenge in big data visualization.
5. Other challenges of big data visualization are Perceptive and Interactive scalability.
6. As size of big data is vast, visualizing every data point leads to overplotting and disruption.
7. The problems like high latency and disruption in interaction are resulted by querying large data sets.
8. Due to large size and dimensions of big data the visualization becomes more challenging.

2. Write note on Gephi.

- 1. Gephi is one of the open-source tools written in Java and openGL which has Java-Script based visualization platform.
2. It is used to manipulate very large and complex data sets.

3. Gephi is designed to use by scientists and by business analysts.
It is data explorer.
4. Gephi is graph based visualization tool which not only separate large data sets and generate attractive visualization but also provides ability to clean and sort data.
5. It is used to.
 1. Represent relationship between data and its evolution grouping sets.
 2. Exporting and importing tables, among other functions.
6. Gephi is best for only graph visualization it is not made for other types of visualization.
7. It can't be used as visual analytics platform for all purpose.

3. List and discuss various types of data visualization

→ Types of data visualization.

1. Table
2. Histogram
3. Scatter plot
4. Various charts.
5. Timeline
6. Various diagrams.

1. Table

Collection of rows and columns together referred as table. Rows are known as tuples, records etc. Columns known as fields, attributes etc.

It offers simultaneous measurement/correlation, of two values; where one value resides in column and other in rows.

2. Histogram. -

It is used to graphically represent huge amount of data/measurement/dimensions contained by table.

3. Scatterplot -

It is helpful to represent relationship among 2 different variable where one maybe or not correlate to another.

4. Write a note on Tableau products.

→ 1. Tableau is BI (Business intelligence) software tool.

2. Tableau has three main products to process large scale dataset as given below.

1. Tableau Desktop.
2. Tableau Server.
3. Tableau Public.

3. Tableau Public :-

For desktop clients, Tableau offers free version known as ~~Tableau~~ Tableau Public also referred as Desktop Application which uses windows and JavaScript.

It allows us to connect with files like Excel or C.S.V spreadsheets, etc.

Tableau Public provides some feature like robust data preparation and visualization.

Tableau data is good for visual analytics.

If we emphasize on flat files like Excel workbooks. Tableau Public main feature is its user interface.

5. List open source tool used in data visualization.

→ Open source tools used in data visualization are :-

1. Datawrapper.
2. Chart JS
3. Raw
4. Charted
5. Timeline
6. Leaflet.

1. Datawrapper -

It is fully open source data visualization tool designed to create visualization for new institutes.

2. Chart JS -

It is open-source, a clean charting library. It is good selection for users who want their self to control over look and feel of their chart.

3. Raw -

Raw is also open source, web based tool which is built on D3.js library.

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
 Accredited with 'A' Grade by NAAC

Department of Mechanical Engineering

Rubrics for Assignments

Name	shreyas Naik			
Roll No	TMA 153			
Assignment No	04			
Subject: DME - II A.Y. 2018-19 (Sem. II)				
Dimension	Slight (Low-1)	Moderate (Medium-2)	Substantial (High-3)	Score
Regularity and punctuality	Submitted one week late.	Submitted later than scheduled date with permission.	Submitted as per schedule.	02
Reasoning and Analysis	Irrelevant and incomplete answers.	Some answers correctly justified, an important reason(s) overlooked.	Clear and accurate answers; insightful and specific.	02
Focus on Topic	Very few of the answers relates to the assigned subject questions.	Answer are not as detailed and/or concise as needed; use limited course vocabulary.	Answers address the questions clearly and fully, showing higher uses of course vocabulary.	02
Organization	Numerous errors, hard to read; questions are not stated before answers; format details are not adhered to.	Enough errors to distract the readers; organization problems; questions not stated before answers; and/or format difficult to navigate.	Use of correct grammar, spelling, and punctuation; well organized; one idea follows another in a logical sequence with clear transitions; questions stated before answers; format easy to navigate.	03
				Total
Faculty: <i>pen</i>				09
			Sign with date:	

1) Obtain an expression for the efficiency of worm gear drive.

Efficiency of worm & worm gear drive is defined as ratio of o/p power to input power.

$$\text{Efficiency} = \frac{\text{o/p power}}{\text{I/p power}}$$

$$\eta = \frac{P_o}{P_i}$$

$$= \frac{(f_g)_r \cdot V_a}{(f_w)_t \cdot V_w}$$

$$= \frac{(f_g)_t (N_d g n_g / 60 \times 1000)}{(f_w)_t (N_d w n_w / 60 \times 1000)}$$

$$= \frac{(f_g)_t}{(f_w)_t} \times \frac{Z_g}{Z_w} \times \frac{Z_w}{G} \times \frac{1}{G}$$

$$= \frac{(f_g)_t}{(f_w)_t} \times G \times \tan \lambda \times \frac{1}{G}$$

$$= \frac{(f_g)_t \times \tan \lambda}{(f_w)_t}$$

$$\eta = \frac{(f_w)_G \cdot \tan t}{(f_w)_t} \dots$$

(a)

Put the value of $(f_w)_a$ from eqⁿ in eqⁿ (a)

$$\eta = \frac{(f_w)_t}{\tan(\phi_v + \lambda)} \times \frac{\tan \lambda}{(f_w)_t}$$

OR

$$\eta = \frac{\tan \lambda}{\tan(\phi_v + \lambda)}$$

2) Spiral gears are advantageous compared with straight bevel gear, why?

- Spiral gear are compact compared with straight bevel gears for some reduction ratio.
- Spiral gear can be used for high reduction ratio as high as 70:1.
- Operation is smooth & silent.
- Spiral gear drive can be designed for self locking.

3) A double start worm made of case hardened alloy steel 16Ni80Cr is to mesh with worm gear to be made of phosphorus. The gear is required to transmit 5 kW. Power from an electric motor running at 1500 rpm. to machining at 75 rpm. The service factor is 1.25 while factor of safety required 2.0.

The facewidth of worm gear factor is 0.685 N/mm while dimerterical quotient is 10. The normal angle is 14.5° . If coeff. of friction between worm gear teeth is 0.03 design. The gear pair & find the power least would vary recommended a for gearbox, assume permissible temp. rise is 50°C .

Use following data

$$\text{Lewis form factor } y = 0.34 - \frac{2.15}{z_g}$$

$$\text{Velocity factor } C_v = \frac{6}{6 + V_g}$$

$$\text{Area of housing } - A = 1.14 \times 10^{-4} \times (C_a)^{1.7} \text{ m}^2$$

where $a =$ Centre distance.

$$Z_w = 2 \quad (S_{ut})_w = 700 \text{ N/mm}^2 \quad (S_{ut})_g = 240 \text{ N/mm}^2$$

$$P_i = 5 \text{ kW} = 5 \times 10^3 \text{ W} \quad \eta_w = 1500 \text{ rpm}$$

$$n_g = 75 \text{ rpm} \quad K_a = 1.25 \quad \text{FOS} = 2$$

$$b = 0.73 d_w \quad k = 0.685 \text{ N/mm}^2$$

$$a = 10 \quad \phi_n = 14.5^\circ \quad \mu = 0.03 \quad \Delta T = 50^\circ\text{C}$$

To find

- 1) Design gear pair
- 2) Power lost
- 3) Necessity

Calculate beam strength of worm gear :-

$$F_b = G b q = b \cdot m \times \cos \lambda$$

$$G b q = (S_{ut})_a = 240 = 80 \text{ N/mm}^2$$

$$b = 0.73 d_w = 0.73 \times m \times q = 0.73 \times m \times 10 = 7.3 \text{ mm.}$$

$$G = \frac{n_w}{n_g} = \frac{Z_g}{Z_w} = \frac{1500}{75} = \frac{Z_g}{2}$$

$$Z_g = 40$$

$$y = 0.39 - \frac{2.15}{Z_g} = 0.39 - \frac{2.15}{40} = 0.3362$$

$$\tan \lambda = \frac{Z_w}{g} = \frac{2}{10}$$

$$\lambda = 11.31^\circ$$

Put all 3 values

$$F_b = 80 \times 7.3 \times m \times m \times 0.3362 \times \cos(11.31)$$

$$F_b = 192.5279 \text{ m}^2 \text{ (N)}$$

Calculate wear strength of worm gear

$$F_w = d_g \cdot b \cdot k$$

$$d_g = m \cdot Z_g = 40m$$

$$F_w = 40m \times 7.3m \times 0.685$$

$$F_w = 200.02 \text{ m}^2 \text{ (N)}$$

As $F_b \propto F_w$ gear pair is weaker in bending. Hence gear pair should be designed for safety against bending failure.

Calculate effective load on worm gear :-

$$F_{eff} = \frac{K_a \cdot F \cdot G \cdot t}{K_v}$$

$$V_g = \frac{\pi d_g n_g}{60} = \frac{\pi \times 40 \text{ m} \times 75}{60}$$

$$V_g = 0.157 \text{ m} \times 10^3 \text{ mm/sec} = 157 \text{ mm/sec}$$

$$K_v = \frac{G}{G + V_g} = \frac{G}{G + 0.157 \text{ m}}$$

$$\tan \phi_v = u_v = \frac{u}{\cos \phi_2} = \frac{0.03}{\cos(14.5^\circ)}$$

$$\phi_v = 1.7748^\circ$$

$$\eta = \frac{\tan \lambda}{\tan(\phi_v + \lambda)} = \frac{\tan(11.31^\circ)}{\tan(1.7748^\circ + 11.31^\circ)}$$

$$\eta = 0.86604 = 86.04\%$$

$$\eta = \frac{P_o}{P_i} ; 0.86604 = \frac{P_o}{5 \times 10^3}$$

$$P_o = 4302 \text{ W}$$

$$P_0 = F_{gt} \times V_g$$

$$4302 = F_{gt} \times 0.157 \text{ m}$$

$$F_{gt} = \frac{27.4012 \times 10^3}{m}, \text{ N.}$$

Put all these values in eqⁿ

$$F_{eff} = \frac{1.25}{\left(\frac{G}{G+0.157m}\right)} \times \frac{27.4012 \times 10^3}{m}$$

$$F_{eff} = \frac{5780}{m} \times 5708.5 (G+0.157m)$$

Calculate the value of module ~~of~~ & other dimensions

For safety against bending failure

$$F_b = FOS \times F_{eff}$$

$$192.5279 \text{ m}^2 = 2 \left[\frac{34.2515 \times 10^3 + 896.2475 \text{ m}}{m} \right]$$

$$96.2639 \text{ m}^2 = 34.2515 \times 10^3 + 896.2475 \text{ m}$$

$$\therefore m = 7.5235 \text{ mm.}$$

Selecting standard module

$$m = 8 \text{ mm.}$$

$$d_w = m \cdot q = 8 \times 10 = 80 \text{ mm}$$

$$d_g = m \cdot z_p = 8 \times 40 = 320 \text{ mm.}$$

$$P_d = \pi \cdot m = \pi \times 8 = 25.1327 \text{ mm.}$$

$$b = 0.73 d_w = 0.73 \times 80 = 58.4 \text{ mm.}$$

$$L = P_d z_w = 25.1312 \times 2 = 50.2654 \text{ mm.}$$

$$L_w = \pi m \left[4.5 + \frac{z_p}{50} \right] = \pi \times B \left[4.5 + \frac{40}{50} \right]$$

$$L_w = 133.2033 \text{ mm.}$$

$$h_a = 1m = 1 \times 8 = 8 \text{ mm.}$$

$$h_v = 1.25m = 1.25 \times 8 = 10 \text{ mm.}$$

$$CD = \frac{d_w + d_g}{2} = \frac{80 + 320}{2} = 200 \text{ mm.}$$

Cal. power lost in friction

$$P_F = P_i - P_o = P_i - P_i \times n = P_i (1 - n)$$

$$P_F = 5 \times 10^3 (1 - 0.86)$$

$$P_F = 698 \text{ W} = 0.698 \text{ kW}$$

To check whether FOS is required for gearbox

$$\begin{aligned} A &= 1.14 \times 10^{-4} \times a^{1.7} \\ &= 1.14 \times 10^{-4} \times (2w)^{1.7} \\ &= 0.9303 \text{ m}^2 \end{aligned}$$

$$H_g = H_d$$

$$P_i (1 - n) = h_d A T$$

$$5 \times 10^3 (1 - 0.8604) = h(0.9303 \times 50)$$

$$h = 15 \text{ W/m}^2\text{C}.$$

As required connection heat transfer coefficient less than $18 \text{ W/m}^2\text{C}$ it means natural air is sufficient hence for it is not required.

09

Q2



‘येथे बहुतांचे हित ।’

Marathwada Mitramandal's
COLLEGE OF ENGINEERING

S.No.18, Plot No.5/3, Karvenagar, Pune-411 052

Accredited with 'A' Grade by NAAC

Accredited by NBA (Electrical and Mechanical Engg. Department)

Recipient of 'Best College Award 2019' of SPPU

Recognized under section 2(f) and 12B of UGC Act 1956

Internal Assessment

Seminar-Project Review Sheet

Logbook BE projects 2018-19

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING, PUNE
Accredited with 'A' Grade by NAAC

DEPARTMENT OF COMPUTER ENGINEERING

Group ID : 1B17

Name of Project: Smart Healthcare system - Disease
Prediction

Team Members

Roll No.	Exam No.	Name of Student	TE Result	Mobile Number
168	B150454315	Adwait B. Tapale	6.74	7507450973
116	B150454224	Mayur R. Dhage	6.9	9503338207
159	B150454303	Shahid Sayyed	6.76	9595262578
123	B150454232	Khandu Ghuge	7.1	9049730723

Guide Details

Guide / Mentor	Name	Organization & Address	Email ID	Mobile Number
Internal	Mrs. Asma Shaikh	MMCOE	asmamokashi@mmcoe.edu.in.	9579489592
External	Jacob Joseph.	Bel-Air (Red Cross)		9420464737
Alumni				

Project Review – I

Date: (4th week of June) :

Time (From-To):

The group members are expected to work on the synopsis of the project in Project Review-I. *The review is be taken by the guide once in a week and remark to be given for further improvements till the Project Review – I (Evaluation).* Project Review-I is a Synopsis review, it is based on Problem Statement, Motivation, Goals & Objectives and Literature survey. Following are set of questions for Review – I.

Sr. No.	Question	Remark by Guide
1	Have students identified research gap to find motivation of the project? If not then give suggestions.	Very Good.
2	Is problem statement concise and give clear identification about what the project will accomplish? If not then give suggestions.	Very Good
3	Have students done sufficient literature survey taking into consideration of latest papers and available software or system? If not then give suggestions.	Very Good
4	Are project goals and objectives clearly defined? Do the objectives defined will achieve the goal? If not then give suggestions.	Very Good
5	Is scope of the project sufficient as BE project for the given number of students? Support Yes/No with why?	Yes
6	Does the project contribute to solve real life problems, social problems or any research problems? If not then give suggestions to make such contribution.	Yes

Project Review – I

Date: (1st week of July) :

Time (From-To):

The group members are expected to improve on the remarks given in the previous review. *The review is to be taken by the guide once in a week and remark to be given for further improvements till the Project Review – I (Evaluation).* Project Review-I is a Synopsis review, it is based on Problem Statement, Motivation, Goals & Objectives and Literature survey. Following are set of questions for Review – I.

Sr. No.	Question	Remark by Guide
1	Have students identified research gap to find motivation of the project? If not then give suggestions.	Yes
2	Is problem statement concise and give clear identification about what the project will accomplish? If not then give suggestions.	Yes
3	Have students done sufficient literature survey taking into consideration of latest papers and available software or system? If not then give suggestions.	Yes
4	Are project goals and objectives clearly defined? Do the objectives defined will achieve the goal? If not then give suggestions.	Yes
5	Is scope of the project sufficient as BE project for the given number of students? Support Yes/No with why?	Yes
6	Does the project contribute to solve real life problems, social problems or any research problems? If not then give suggestions to make such contribution.	Yes


Project Review – I (Evaluation)

Date: (3rd week of July) :

Students are expected to deliver presentation covering Problem Statement, Motivation, Goals & Objectives and Literature Review. Project evaluation panel members should assess based on following points and assign relevant grades.

Parameter	Marks			Marks
	9-10	5-8	0-4	
Problem Statement	Ok, Clearly Defined	Not clearly defined, need to update with minor changes	Not clearly defined, need to update with major changes	9
Motivation	Identified research gap to find motivation	Identified motivation for the project	Not identified motivation for the project	8
Goals of the project	Goals are clearly defined and it justifies the scope of the project	Goals identified needs minor changes or updations	Goals are not clearly identified. It needs major changes	8
Objectives of the project	Objectives are clearly defined and it justifies the project goal and scope	Objectives need minor updations to meet the stated goals and scope	Objectives are not clearly identified. It needs major changes	8
Literature survey	Sufficient Literature survey is done	Need to do some more literature survey	Literature survey need to be done with major changes	7
Project Schedule	Project schedule consisting of all the phases, competitions, publication etc. is clearly defined	Project schedule consisting of all the phases etc. is not clearly defined, need minor changes	Project schedule consisting of all the phases is not clearly defined, need major changes.	9
Average Marks				

Note: Marks '0' to be given, if student has done nothing or absent

Name of Reviewer	Remark	Sign
Asma Shaikh	Good	

Project Review – II

Date: (2nd week of July) :

Time (From-To):

The group members are expected to work on the SRS of the project in Project Review-II. *The review is be taken by the guide once in a week and remark to be given for further improvements till the Project Review – II (Evaluation).* Project Review-II is SRS review, it is based on identification of data and their relationships, functional and non-functional requirements, use cases, feasibility study, identifying hardware and software requirement and constraints of the project and cost estimates. Following are set of questions for Review – II.

Sr. No.	Question	Remark by Guide
1	Have students identified in detail the functional and non functional requirements? Do they completely justify the scope of the project? If not then give suggestions for improvements.	Done as per the requirement
2	Does the project requirements feasible to implement in the given duration? If not then give suggestions for improvements?	Yes
3	Have students identified use cases of the project in detail? If not then give suggestions for improvements.	Yes
4	Have students identified in detail the relevant data and their relationships? Have they represented data relationship using DFD? If not then give suggestions for improvements?	Yes
5	Have students identified in detail cost estimates using Function point analysis or COCOMO model or other? If not then give suggestions	Yes
6	Have students identified constraints of the project? Have they performed in detail risk analysis, management and mitigation?	Yes
7	Have students identified hardware and software requirement? Have they worked on deployment of the project?	Yes

Project Review – II

Date: (3rd week of July) :

Time (From-To):

The group members are expected to work on the suggestions given in previous review. *The review is be taken by the guide once in a week and remark to be given for further improvements till the Project Review – II (Evaluation)*. Project Review-II is SRS review, it is based on identification of data and their relationships, functional and non-functional requirements, use cases, feasibility study, identifying hardware and software requirement and constraints of the project and cost estimates. Following are set of questions for Review – II.

Sr. No.	Question	Remark by Guide
1	Have students identified in detail the functional and non functional requirements? Do they completely justify the scope of the project? If not then give suggestions for improvements.	Yes
2	Does the project requirements feasible to implement in the given duration? If not then give suggestions for improvements?	Yes
3	Have students identified use cases of the project in detail? If not then give suggestions for improvements.	Yes
4	Have students identified in detail the relevant data and their relationships? Have they represented data relationship using DFD? If not then give suggestions for improvements?	Yes
5	Have students identified in detail cost estimates using Function point analysis or COCOMO model or other? If not then give suggestions	Yes
6	Have students identified constraints of the project? Have they performed in detail risk analysis, management and mitigation?	Yes
7	Have students identified hardware and software requirement? Have they worked on deployment of the project?	Yes

Project Review – II

Date: (3rd week of August) :

Time (From-To):

The group members are expected to work on the suggestions given in previous review. *The review is be taken by the guide once in a week and remark to be given for further improvements till the Project Review – II (Evaluation).* Project Review-II is SRS review, it is based on identification of data and their relationships, functional and non-functional requirements, use cases, feasibility study, identifying hardware and software requirement and constraints of the project and cost estimates. Following are set of questions for Review – II.

Sr. No.	Question	Remark by Guide
1	Have students identified in detail the functional and non functional requirements? Do they completely justify the scope of the project? If not then give suggestions for improvements.	Good
2	Does the project requirements feasible to implement in the given duration? If not then give suggestions for improvements?	Yes
3	Have students identified use cases of the project in detail? If not then give suggestions for improvements.	Very Good
4	Have students identified in detail the relevant data and their relationships? Have they represented data relationship using DFD? If not then give suggestions for improvements?	yes
5	Have students identified in detail cost estimates using Function point analysis or COCOMO model or other? If not then give suggestions	yes
6	Have students identified constraints of the project? Have they performed in detail risk analysis, management and mitigation?	Very Good
7	Have students identified hardware and software requirement? Have they worked on deployment of the project?	Good

Project Review – III

Date: (1st week of Sept) :

Time (From-To):

The group members are expected to work on Project design. *The review is to be taken by the guide once in a week and remark to be given for further improvements till the Project Review – III (Evaluation).* Project Review-III is Software Design review, it is based on identification of architectural/system diagram, relevant data structures and algorithm and UML diagrams. Following are set of questions for Review – II.

Sr. No.	Question	Remark by Guide
1	Have students identified system architecture in detail? Which justifies the scope and use cases of the project? If not give suggestions for improvements.	Very Good
2	Have students identified relevant data structures/databases/ER Diagram in detail to implement the system specified in SRS document? If not give suggestions for improvements	Good
3	Have students designed the system using relevant UML diagrams (Class, Component, Activity etc.? Is it correctly identified as per the standards? If not give suggestions for improvements	Good
4	Have students designed relevant algorithms to implement the system specified in SRS document? If not give suggestions for improvements	Very Good
5	Have students performed detailed analysis of the designed algorithm as per Asymptotic notations/frequency count / recurrence relations? If not give suggestions for improvements.	Yes
6	Have students correctly identified and used SDLC for the implementation of the project? If not give suggestions for improvements.	Yes

Project Review – III

Date: (2nd week of Sept) :

Time (From-To):

The group members are expected to work on the suggestion given in previous review. *The review is be taken by the guide once in a week and remark to be given for further improvements till the Project Review – III (Evaluation).* Project Review-III is Software Design review, it is based on identification of architectural/system diagram, relevant data structures and algorithm and UML digrams. Following are set of questions for Review – II.

Sr. No.	Question	Remark by Guide
1	Have students identified system architecture in detail? Which justifies the scope and use cases of the project? If not give suggestions for improvements.	Yes
2	Have students identified relevant data structures/databases/ER Diagram in detail to implement the system specified in SRS document? If not give suggestions for improvements	Good
3	Have students designed the system using relevant UML diagrams (Class, Component, Activity etc.? Is it correctly identified as per the standards? If not give suggestions for improvements	Yes
4	Have students designed relevant algorithms to implement the system specified in SRS document? If not give suggestions for improvements	Yes
5	Have students performed detailed analysis of the designed algorithm as per Asymptotic notations/frequency count / recurrence relations? If not give suggestions for improvements.	Yes
6	Have students correctly identified and used SDLC for the implementation of the project? If not give suggestions for improvements.	Good

Project Review – III

Date: (3rd week of Sept) :

Time (From-To):


The group members are expected to work on the suggestion given in previous review. *The review is taken by the guide once in a week and remark to be given for further improvements till the Project Review – III (Evaluation)*. Project Review-III is Software Design review, it is based on identification of architectural/system diagram, relevant data structures and algorithm and UML diagrams. Following are set of questions for Review – II.

Sr. No.	Question	Remark by Guide
1	Have students identified system architecture in detail? Which justifies the scope and use cases of the project? If not give suggestions for improvements.	Very Good
2	Have students identified/designed relevant data structures/databases/ER Diagram in detail to implement the system specified in SRS document? If not give suggestions for improvements	Yes
3	Have students designed the system using relevant UML diagrams (Class, Component, Activity etc.? Is it correctly identified as per the standards? If not give suggestions for improvements	Yes
4	Have students used algorithmic strategy and designed relevant algorithms to implement the system specified in SRS document? If not give suggestions for improvements	Good
5	Have students performed detailed analysis of the designed algorithm as per Asymptotic notations/frequency count / recurrence relations? If not give suggestions for improvements.	Yes
6	Have students correctly identified and used SDLC for the implementation of the project? If not give suggestions for improvements.	Yes

Project Review – III (Evaluation) Date: 4th week of September

Parameter	Marks			Grade
	9-10	5-8	0-4	
System Architecture	Clearly designed and justifies the scope of the project	Not clearly designed, need to update with minor changes	Not clearly designed, need to update with major changes	9
Data structures / Databases / ER Diagram	Clearly designed and justifies the scope of the project	Not clearly designed, need to update with minor changes	Not clearly designed, need to update with major changes	9
UML diagrams (Class, Component, Activity etc.)	UML diagrams are designed in detail as per standards	UML diagrams are not designed in detail as per standards, need minor changes	UML diagrams are not designed in detail as per standards, need major changes	9
Algorithmic strategy & Design of Algorithms	Algorithms are designed in detail and clearly specifies, input, output and algorithmic steps	Algorithms are not designed in detail and clearly specifies, input, output, need minor changes	Algorithms are not designed in detail and clearly specifies, input, output, need major changes	8
Algorithmic Analysis	Algorithm analysis is done in detail using frequency count / recurrence	Algorithm analysis is not done in detail etc. Need minor changes	Algorithm analysis is not done in detail etc. Need major changes	7
Software Development Life Cycle	Correctly identified and applied the SDLC, it justifies type of project.	Correctly identified but not correctly applied the SDLC. Need minor changes in applying SDLC	Not correctly identified the SDLC. Need major changes in applying SDLC	7
Average Marks				

Note: Marks '0' to be given, if student has done nothing or absent


Name of Reviewer	Remark	Sign
Asma Sheikh	Good, need improvement	

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING

Karvenagar, Pune- 52
 Accredited with 'A Grade' by NAAC

Department of Mechanical Engineering
 TE Mechanical Seminar First Review 2018-19 Sem II

Sr. No	Roll No	Name of the Student	Seminar Topic	Sign of Student	Marks out of 10	Remark
1	146	Atashay Suresh Mane	Automated Water Tap Control System	<u>Am</u>	03	
2	147	Shridhar Krishna Myakal	Velocity control using Encoders	<u>S. Myakal</u>	09	
3	151	Shiradkar Akash Manoj	Friction stir Welding Process in piezo-electric generator	<u>Skash</u>	07	
4	152	Ameay Milind Kulkarni	3D Printing using heterogeneous materials.	<u>Amulkarni</u>	06	
5	153	Shreyas Suyog Naik	Design & analysis of Venturi for KTM Duke 390	<u>SNaik</u>	08	
6	154	Akshay Rahul Gadia	Design and performance analysis of Underwater Turbine	<u>Akshay</u>	09	
7	155	Sandesh. Ramdas Gajre	Design modification & analysis of VAWT.	<u>Sandesh</u>	08	
8	156	Pratik A. Dixit	Performance and emission analysis of biodiesel power vehicles	<u>Pratik</u>	08	
9	157	Meha. P. Charan	Solar vapour absorption system	<u>Meha</u>	07	
10	158	Himani Limaye	CFD Analysis of High Pressure Steam Turbine blades.	<u>Himani</u>	08	
11	159	Vaibhav Kokane	Li-fi Technology	<u>Vaibhav</u>	08	
12						


 Name & Sign of Guide
 (H.C. Pisal)

Marathwada Mitra Mandal's
College of Engineering,
 Karvenagar, Pune-52
 Department of Mechanical Engineering
 A.Y. 2018-19 Sem-II

First Review Assessment Sheet for T. E. Seminar

Date: 16/02/19

Name of Student:

Roll No. : 146

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	2
Quality of Literature referred	3	2	1
Student responds adequately to technical questions	3	2	1

Name of Student:

Roll No. : 147

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	2
Quality of Literature referred	3	2	1
Student responds adequately to technical questions	3	2	1

Name of Student:

Roll No. : 151

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	2
Quality of Literature referred	3	2	1
Student responds adequately to technical questions	3	2	1

Name of Student:

Roll No. : 152

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	2
Quality of Literature referred	3	2	1
Student responds adequately to technical questions	3	2	1


Internal Examiner


Seminar Guide

Marathwada Mitra Mandal's
College of Engineering,

Karvenagar, Pune-52

Department of Mechanical Engineering

A.Y. 2018-19 Sem-II

First Review Assessment Sheet for T. E. Seminar

Date: 16/2/19

Name of Student: 153

Roll No. : 153

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	2
Quality of Literature referred	3	2	1
Student responds adequately to technical questions	3	2	1

Name of Student: 154

Roll No. : 154

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	2
Quality of Literature referred	3	2	1
Student responds adequately to technical questions	3	2	1

Name of Student: 155

Roll No. : 155

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	2
Quality of Literature referred	3	2	1
Student responds adequately to technical questions	3	2	1

Name of Student: 156

Roll No. : 156

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	2
Quality of Literature referred	3	2	1
Student responds adequately to technical questions	3	2	1

Internal Examiner

Seminar Guide

Marathwada Mitra Mandal's
College of Engineering,
 Karvenagar, Pune-52
 Department of Mechanical Engineering
 A.Y. 2018-19 Sem-II

First Review Assessment Sheet for T. E. Seminar

Date: 16/2/19

Name of Student:

Roll No. : 157

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	2
Quality of Literature referred	3	2	1
Student responds adequately to technical questions	3	2	1

Name of Student:

Roll No. : 158

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	2
Quality of Literature referred	3	2	1
Student responds adequately to technical questions	3	2	1

Name of Student:

Roll No. : 159

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	2
Quality of Literature referred	3	2	1
Student responds adequately to technical questions	3	2	1

Name of Student:

Roll No. :

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	2
Quality of Literature referred	3	2	1
Student responds adequately to technical questions	3	2	1


Internal Examiner


Seminar Guide

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING,
Karvenagar, Pune- 411052

Department of Mechanical Engineering
TE Mechanical Seminar Second Review 2018-19 Sem II

Date: 25/03/19

Sr. No	Roll No	Name of the Student	Seminar Topic	Sign of Student	Marks out of 15	Remark
1	TMA146	AKSHAY SURESH MANE	Automatic water tap control system		08	
2	TMA147	SHRIDHAR KRISHNA MYAKAL	Velocity controls using Encoders		14	
3	TMA151	AKASH MANOJ SHIRODKAR	Friction Stir Welding		10	
4	TMA152	AMEY MILIND KULKARNI	Dual extrusion homogeneous 3D printing		11	
5	TMA153	SHREYAS SUYOG NAIK	Design of Venturi for KTM 390		13	
6	TMA154	AKSHAY RAHUL GADIA	Underwater Turbines		14	
7	TMA155	SANDESH RAMDAS GAJARE	Design analysis of Vertical Axis Wnd Turbine		12	
8	TMA156	PRATIK ANIL DIXIT	Brookseel emission effects		12	
9	TMA157	NEHA PRAKASH CHAVAN	Solar powered vapour absorption system		11	
10	TMA158	HIMANI MAHESH LIMAYE	CFD Analysis of High Pressure Steam Turbine Blades.		11+01=12	
11	TMA159	VAIBHAV ANIL KOKARE	Li-Fi technology		12	

Prof. A. C. Pisal
Guide

Examiner

**Marathwada Mitra Mandal's
College of Engineering,
Karvenagar, Pune-52
Department of Mechanical Engineering
A.Y. 2018-19 Sem-II**

Second Review Assessment Sheet for T. E. Seminar

Date: 08/03/19

Name of Student: Akshay Mane

Roll No. : TMA146

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	3	2
Seminar Report Status	3	②	1
Presentation (PPT Organization)	3	2	①
Communication Skill	3	②	1

Name of Student: Shridhar Myatal

Roll No. : TMA147

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	③	2
Seminar Report Status	③	2	1
Presentation (PPT Organization)	③	2	1
Communication Skill	③	2	1

Name of Student: Akash Shirodkar

Roll No. : TMA151

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	3	②
Seminar Report Status	3	②	1
Presentation (PPT Organization)	3	②	1
Communication Skill	3	②	1


Internal Examiner


Seminar Guide

Marathwada Mitra Mandal's
College of Engineering,
 Karvenagar, Pune-52
 Department of Mechanical Engineering
 A.Y. 2018-19 Sem-II

Second Review Assessment Sheet for T. E. Seminar

Date: 01/09/19

Name of Student: Amey Kulkarni

Roll No. : TMA152

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	3	②
Seminar Report Status	3	②	1
Presentation (PPT Organization)	③	2	1
Communication Skill	3	②	1

Name of Student: Shreyash Naik

Roll No. : TMA153

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	③	2
Seminar Report Status	3	②	1
Presentation (PPT Organization)	③	2	1
Communication Skill	③	2	1

Name of Student: Akshay Gadgaonkar

Roll No. : TMA154

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	③	2
Seminar Report Status	③	2	1
Presentation (PPT Organization)	③	2	1
Communication Skill	③	2	1

Internal Examiner

Seminar Guide

Marathwada Mitra Mandal's
College of Engineering,
 Karvenagar, Pune-52
 Department of Mechanical Engineering
 A.Y. 2018-19 Sem-II

Second Review Assessment Sheet for T. E. Seminar

Date: 09/07/19

Name of Student: Sandesh Gayare

Roll No. : TMA155

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	3	(2)
Seminar Report Status	3	(2)	1
Presentation (PPT Organization)	3	(2)	1
Communication Skill	(3)	2	1

Name of Student: Pratik Dixit

Roll No. : TMA156

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	(3)	2
Seminar Report Status	3	(2)	1
Presentation (PPT Organization)	3	(2)	1
Communication Skill	3	(2)	1

Name of Student: Neha Chavan

Roll No. : TMA157

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	3	(2)
Seminar Report Status	3	(2)	1
Presentation (PPT Organization)	3	(2)	1
Communication Skill	3	(2)	1

Internal Examiner

Seminar Guide

Marathwada Mitra Mandal's
College of Engineering,
 Karvenagar, Pune-52
 Department of Mechanical Engineering
 A.Y. 2018-19 Sem-II

Second Review Assessment Sheet for T. E. Seminar

Date: 05/07/19

Name of Student: *Himani Limaye* Roll No. : *TMA 158*

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	3	(2)
Seminar Report Status	3	(2)	1
Presentation (PPT Organization)	(3)	2	1
Communication Skill	3	(2)	1

Name of Student: *Vaibhav Kokare* Roll No. : *TMA 159*

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	3	(2)
Seminar Report Status	3	(2)	1
Presentation (PPT Organization)	3	(2)	1
Communication Skill	3	(2)	1

Name of Student: *M. M. M.* Roll No. : *151*

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	3	2
Seminar Report Status	3	2	1
Presentation (PPT Organization)	3	2	1
Communication Skill	3	2	1

[Signature]
Internal Examiner

[Signature]
Seminar Guide

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING

Karvenagar, Pune- 52
 Accredited with 'A Grade' by NAAC

Department of Mechanical Engineering

TE Mechanical Seminar First Review 2018-19 Sem. II

Sr. No	Roll No	Name of the Student	Seminar Topic	Sign of Student	Marks out of 10	Remark
1	258	Onkar Subhash. Rokade	steath Technology		9	
2	259	Kavita Vijay Paurandale	Arc powered engine		87	
3	260	Saurabh Sidhar Sawant	Robotic Arc welding		9	
4	261	Sreerade Jurnini Dipak	Friction losses & lubrication system		8	
5	262	Dignity Dillip Sawant	Design & analysis of double wishbone suspension system		8	
6	263	Prithvi Ashok Solve	EFFECT OF Exhaust Gas Recirculation system on diesel engine		9	
7	265	Sandeep S. Tayade	TRI-cycle oriented machine		9	
8	264	Piyush R. Suryawanshi	System Various Types of solar collector		8	
9	266	Rahul A. Chopade	Hydraulic Hybrid vehicle		8	
10	267	Shantana. V. Gajjarwad	Coal gasification		9	
11	268	Abhishek. Pagnis	Eddy current Braking system		9	
12						

Name & Sign of Guide

(Mr. R. S. Yadav)

Marathwada Mitra Mandal's
College of Engineering,
 Karvenagar, Pune-52
 Department of Mechanical Engineering
 A.Y. 2018-19 Sem-II

First Review Assessment Sheet for T. E. Seminar

Date: 16/02/19

Name of Student: Onkar Subhash Rokade Roll No.: 258

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	(3)	2
Quality of Literature referred	3	(2)	1
Student responds adequately to technical questions	3	(2)	1

Name of Student: Kavita Vijay Raundale Roll No.: 259

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	(2)
Quality of Literature referred	3	(2)	1
Student responds adequately to technical questions	3	(2)	1

Name of Student: Subham Sudhir Sawant. Roll No.: 260

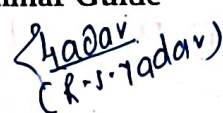
Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background Information is presented	3	(2)
Quality of Literature referred	(3)	2	1
Student responds adequately to technical questions	(3)	2	1

Name of Student: Sawade Krunal Dipak Roll No.: 261

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	(2)
Quality of Literature referred	3	(2)	1
Student responds adequately to technical questions	3	(2)	1


Internal Examiner
 R. P. Tadakhe

Seminar Guide


 (R. S. Tadakhe)

Marathwada Mitra Mandal's
College of Engineering,
 Karvenagar, Pune-52
 Department of Mechanical Engineering
 A.Y. 2018-19 Sem-II

First Review Assessment Sheet for T. E. Seminar

Date: 16/02/19

Name of Student: Digvijay Dilip Sawant Roll No. : 262

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	(3)	2
Quality of Literature referred	(3)	2	1
Student responds adequately to technical questions	3	(2)	1

Name of Student: Prithvi A. Solve Roll No. : 263


Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	(3)	2
Quality of Literature referred	(3)	2	1
Student responds adequately to technical questions	3	(2)	1


Name of Student: Piyush Suryawanshi Roll No. : 264

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	2
Quality of Literature referred	3	2	1
Student responds adequately to technical questions	3	2	1

Name of Student: Sandip S. Tayade Roll No. : 265

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Sufficient background information is presented	3	(2)
Quality of Literature referred	(3)	2	1
Student responds adequately to technical questions	(3)	2	1


Internal Examiner
 R.P. Tadakhe


Seminar Guide
 (R.S. Yadav)

Marathwada Mitra Mandal's
College of Engineering,

Karvenagar, Pune-52

Department of Mechanical Engineering

A.Y. 2018-19 Sem-II

First Review Assessment Sheet for T. E. Seminar

Date: 16/02/19

Name of Student: Rahul A. Chopade

Roll No. : 266

Assessment Points	Circle appropriate score		
	3 – very good, 2- Average 1 – poor		
Sufficient background information is presented	3	(2)	1
Quality of Literature referred	(3)	2	1
Student responds adequately to technical questions	3	(2)	1

Name of Student: Shantaru U. Gajakwad

Roll No. : 267

Assessment Points	Circle appropriate score		
	3 – very good, 2- Average 1 – poor		
Sufficient background information is presented	(3)	2	1
Quality of Literature referred	(3)	2	1
Student responds adequately to technical questions	3	(2)	1

Name of Student: Abhishek. Pagnis


Roll No. : 268


Assessment Points	Circle appropriate score		
	3 – very good, 2- Average 1 – poor		
Sufficient background information is presented	(3)	2	1
Quality of Literature referred	3	(2)	1
Student responds adequately to technical questions	3	(2)	1

Name of Student:

Roll No. : 2

Assessment Points	Circle appropriate score		
	3 – very good, 2- Average 1 – poor		
Sufficient background information is presented	3	2	1
Quality of Literature referred	3	2	1
Student responds adequately to technical questions	3	2	1


Internal Examiner
R. P. Tadakh


Seminar Guide
(R. S. Yadav)

Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING
 Karvenagar, Pune- 411052

Department of Mechanical Engineering
 TE Mechanical Seminar Second Review 2018-19 Sem II

Date:

28/03/19

Sr. No	Roll No	Name of the Student	Seminar Topic	Sign of Student	Marks out of 15	Remark
1	TMB258	ONKAR SUBHASH ROKADE	stealth Technology		12	
2	TMB259	KAVITA VIJAY RAUNDALE	Kavita Vijay Roundale		12	
3	TMB260	SAURABH SUDHIR SAWANT	Robotic Arc Welding		13	
4	TMB261	LUMINI DIPAK SARWADE	The engine lubrication system & frictional losses		12	
5	TMB262	DIGVIJAY DILIP SAWANT	Design and analysis of double wishbone suspension system		13	
6	TMB263	PRITHVI ASHOK SALVE	Prithvi A. Salve Exhaust Gas Recirculation		14	
7	TMB264	PIYUSH M. SURYAWANSHI	Solar collector system		13	
8	TMB265	SANDIP SHRIKRUSHNA TAYADE	Talcycle oriented machine		14	
9	TMB266	RAHUL ANURUDRA CHOPADE	Hydraulic Hybrid Vehicle		13	
10	TMB267	SHANTANU UDAY GAVAKAWAD	Coal gasification		13	
11	TMB268	ABHISHEK MANISH PAGNIS	Eddy current Braking system		15	

Prof. R. S. Yadav
 Guide

Examiner

Marathwada Mitra Mandal's
College of Engineering,
 Karvenagar, Pune-52
 Department of Mechanical Engineering
 A.Y. 2018-19 Sem-II

Second Review Assessment Sheet for T. E. Seminar

Date: 25/03/19

1) Name of Student: Onkar Rokade

TMB
Roll No. : 258

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	(3)	2
Seminar Report Status	3	(2)	1
Presentation (PPT Organization)	(3)	2	1
Communication Skill	3	(2)	1

20

2) Name of Student: kavita Raundale

Roll No. : TMB259

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	(3)	2
Seminar Report Status	3	(2)	1
Presentation (PPT Organization)	3	(2)	1
Communication Skill	(3)	2	1

20

3) Name of Student: Saurobha Sawant

Roll No. : TMB260

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	(3)	2
Seminar Report Status	(3)	2	1
Presentation (PPT Organization)	3	(2)	1
Communication Skill	3	(2)	1

20

AS
Internal Examiner

Sawant
Seminar Guide

Marathwada Mitra Mandal's
College of Engineering,
 Karvenagar, Pune-52
 Department of Mechanical Engineering
 A.Y. 2018-19 Sem-II

Second Review Assessment Sheet for T. E. Seminar

Date: 08/09/19

① Name of Student: Luvini Sarawade

Roll No. : TMB 261

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	③	2
Seminar Report Status	③	2	1
Presentation (PPT Organization)	3	②	1
Communication Skill	3	②	1

20

② Name of Student: Digvijay Sawant

Roll No. : TMB262

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	③	2
Seminar Report Status	③	2	1
Presentation (PPT Organization)	3	②	1
Communication Skill	③	2	1

20

③ Name of Student: Prithvi Salve

Roll No. : TMB 263

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	③	2
Seminar Report Status	③	2	1
Presentation (PPT Organization)	3	②	1
Communication Skill	③	2	1

20


 Internal Examiner


 Seminar Guide

Marathwada Mitra Mandal's
College of Engineering,
 Karvenagar, Pune-52
 Department of Mechanical Engineering
 A.Y. 2018-19 Sem-II

Second Review Assessment Sheet for T. E. Seminar

Date: 25/05/19

① Name of Student: Piyush Suryawanshi Roll No.: TMB 264


Assessment Points	Circle appropriate score 3 - very good, 2- Average 1 - poor		
	Data Collected	3	2
Seminar Report Status	3	2	1
Presentation (PPT Organization)	3	2	1
Communication Skill	3	2	1


② Name of Student: Sandip Tatade Roll No.: TMB 265

Assessment Points	Circle appropriate score 3 - very good, 2- Average 1 - poor		
	Data Collected	3	2
Seminar Report Status	3	2	1
Presentation (PPT Organization)	3	2	1
Communication Skill	3	2	1

③ Name of Student: Rahul Chopade Roll No.: TMB 266

Assessment Points	Circle appropriate score 3 - very good, 2- Average 1 - poor		
	Data Collected	3	2
Seminar Report Status	3	2	1
Presentation (PPT Organization)	3	2	1
Communication Skill	3	2	1


 Internal Examiner


 Seminar Guide

Marathwada Mitra Mandal's
College of Engineering,
 Karvenagar, Pune-52
 Department of Mechanical Engineering
 A.Y. 2018-19 Sem-II

Second Review Assessment Sheet for T. E. Seminar

Date: 28/6/19

⑩ Name of Student: Shantam Gajakwad.

Roll No.: 267 TMB.

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	3	②
Seminar Report Status	③	2	1
Presentation (PPT Organization)	③	2	1
Communication Skill	③	2	1

⑪ Name of Student: Abhishek Potnis

Roll No.: 268 TMB.

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	③	2
Seminar Report Status	③	2	1
Presentation (PPT Organization)	3	②	1
Communication Skill	③	2	1

Name of Student:

Roll No.:

Assessment Points	Circle appropriate score 3 – very good, 2- Average 1 – poor		
	Data Collected	3	2
Seminar Report Status	3	2	1
Presentation (PPT Organization)	3	2	1
Communication Skill	3	2	1

Internal Examiner

Seminar Guide