Ec dep AY 2023

Mahatma Basweshwar Education Society's
M. S. BIDVE ENGINEERING COLLEGE,
(Approved by AICTE, New Delhi & DTE Mumbai , Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere)
P.O.Box No. 112, Barshi Road, LATUR-413 531 (Maharashtra)
'NAAC' Accredited
Estd :1983
DTE Code : EN2129

Internal Quality Assurance Cell (IQAC)

Department of Electronics Engineering

Academic Year 2023-24

The Following Faculties were assigned to the undersigned as Mentors for the year 2023-24 academic Session.

S.NO	Class	Mentor	Roll no.	Signature
1	SE	Prof.J.S.Hatte	1 to 25	
2	SE	Prof.S.S.Killarikar	26 to 50	
3	SE	Prof.V.K.Shah	51 to 76	
4	TE	Prof.S.S Mudda	1 to 24	
5	TE	Prof.U.B.Solapurkar	25 to 48	
6	TE	Prof.V.S Bale	49 to 73	
7	BE	Prof.S.S.Shetkar	1 to 21	
8	BE	Prof.R.O.Sudke	22 to 43	
9	BE	Prof.R.P.Khanapure	44 to 63	

HOD
Prof. S S Killarikar

AY- 2023-24, Ec dept.

Mahatma Basweshwar Education Society's

M. S. BIDVE ENGINEERING COLLEGE,

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P.O.Box No. 112, Barshi Road, LATUR-413 531 (Maharashtra)

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Internal Quality Assurance Cell (IQAC)

Department of Electronics Engineering

Academic Year 2023-24

Part-II

The Following Faculties were assigned to the undersigned as Mentors for the year 2023-24 Part-II academic Session

S.NO	Class	Mentor	Roll no.	Signature
1	SE	Prof.V.K.Shah	1 to 17	
2	SE	Prof.S.S.Killarikar	18 to 34	
3	SE	Prof.J.S.Hatte	35 to 52	
4	SE	Prof.R.P.Khanapure	53 to 71	
5	TE	Dr.S.R.Halhalli	1 to 17	
6	TE	Dr.S.R.Dhanure	18 to 34	
7	TE	Prof.V.S Bale	35 to 50	
8	TE	Prof.U.B.Solapurkar	51 to 65	
9	BE	Prof.R.O.Sudke	1 to 32	
10	BE	Prof.S.S.Shetkar	33 to 63	

HOD

Prof. S S Killarikar

AY-2023-2

Mahatma Basweshwar Education Society's
M. S. BIDVE ENGINEERING COLLEGE,
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P.O.Box No. 112, Barshi Road, LATUR-413 531 (Maharashtra)
Estd :1983 'NAAC' Accredited DTE Code : EN2129

Internal Quality Assurance Cell (IQAC)

Department of INFORMATION TECHNOLGY Academic Year 2023-24

The Following Faculties were assigned to the undersigned as Mentors for the year 2023-24 academic Session. Part-I

S.NO	Class	Mentor	Roll no.	Signature
1	SE	Dr. HAIGARE N. M.	1 to 25	
2	SE	Prof. KAUTHALE S. M.	26 to 50	
3	SE	Prof. CHOURE K. A.	51 to 77	
4	TE	Prof. KAMBLE N. P.	1 to 25	
5	TE	Prof. PATIL O. M.	26 to 50	
6	TE	Prof. PATIL A.A.	51 to 75	
7	BTech.	Prof. KAUTHALE S. M.	1 to 25	
8	BTech.	Prof. CHOURE K. A.	26 to 50	
9	BTech.	Prof. BIRADAR D. V.	51 to 72	

HOD

Prof. BIRADAR D V

Civil 202
Part I

Notice

Dt. 28-08-2023

As a part of academic monitoring the following faculty members are asked to officiate as class mentor as shown below for the academic year 2023-24, Part-I

Sr. No.	Class	Roll No	Mentor	Signature of Mentor
1	SE (Civil)	1 to 22	Prof. A.A. Hamane	
		23 to 44	Prof. M.P.Kariappa	
		45 to 65	Prof. G.N.Shete	
		66 to 87	Prof. S.G.CHAUDHARI	
2	TE (Civil)	1 to 14	Prof. S.G. Deshpande	
		15 to 28	Prof. A.A. Hamane	
		29 to 42	Prof. A.N. Shaikh	
		43 to 56	Prof. WALE.S.V	
		57 to 71	Prof. R.P. Rajput	
3	BE (Civil)	1 to 20	Prof. A.N. Shaikh	
		21 to 40	Prof. WALE.S.V	
		41 to 60	Prof. M.P.Kariappa	
		61 to 78	Prof. R.P. Rajput	

H.O.D.
(Civil Engineering Dept.)

Mahatma Basweshwar Education Society's

M. S. BIDVE ENGINEERING COLLEGE,

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P.O.Box No. 112, Barshi Road, LATUR-413 531 (Maharashtra)

Department of Electronics and Telecommunication Engineering

Academic Year: 2024-25 Part-I

Mentor-Mentee

Class	Class Representatives	Name of the Mentor	Roll no.	Signature
SY	Vishnu Gupta Revati Gadekar	Prof. V K Shah	1 to 20	
		Dr. J S Hatte	21 to 40	
		Prof. Patil V P	41 to 60	
		Prof. V N Jadhav	61 to 80	
TY	Ayanile Kartik Santosh Suryawanshi Vaishnavi Rajendra	Prof. S S Killarikar	1 to 24	
		Dr. S R Dhanure	25 to 48	
		Prof. V S Bale	49 to 72	
BY	Pratik Mali Pratiksha Hudge	Prof. R P Khanapure	1 to 22	
		Prof. S.S Shetkar	23 to 44	
		Prof. Ravindra Randale	45 to 66	

HoD ENTC

Mentor - M
AY - 2024-
EC dept

AY-2024-25, D
Mech. Dept

M.B. EDUCATION SOCIETY'S

M. S. BIDVE ENGINEERING COLLEGE.

LATUR-413 531 (Maharashtra)

(Approved by AICTE, New Delhi & DTE Mumbai, Affiliated to DBATU, Lonere)

'NAAC' Accredited

DEPARTMENT OF MECHANICAL ENGINEERING

ACADEMIC YEAR: 2024-2025 Part-I

Mentor -Mentee List

Sr.No.	Class	Name Of Mentor	Roll No.
1	S.Y.(Mech) Sem-III	Prof.S.M.Bembalkar	01 to 20
2	S.Y.(Mech) Sem-III	Prof.N.R.Gir	21 to 40
3	T.Y.(Mech) Sem-V	Prof.V.G.Kasbe	01 to 5
4	T.Y.(Mech) Sem-V	Prof.Dr.S.G.Mantri	21 to 30
5	B.Tech. Final Year (MECH)Sem-VII	Prof.N.R.Gir	01 to 22
6	B.Tech. Final Year (MECH)Sem-VII	Prof.Patil S.	23to 44

IQAC Dept. Coordinator

Head of Department

Mentor- Ment
EC dep AY 202

Mahatma Basweshwar Education Society's

M. S. BIDVE ENGINEERING COLLEGE,

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P.O.Box No. 112, Barshi Road, LATUR-413 531 (Maharashtra)

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Internal Quality Assurance Cell (IQAC)

Department of Electronics Engineering

Academic Year 2023-24

The Following Faculties were assigned to the undersigned as Mentors for the year 2023-24 academic Session.

S.NO	Class	Mentor	Roll no.	Signature
1	SE	Prof.J.S.Hatte	1 to 25	
2	SE	Prof.S.S.Killarikar	26 to 50	
3	SE	Prof.V.K.Shah	51 to 76	
4	TE	Prof.S.S Mudda	1 to 24	
5	TE	Prof.U.B.Solapurkar	25 to 48	
6	TE	Prof.V.S Bale	49 to 73	
7	BE	Prof.S.S.Shetkar	1 to 21	
8	BE	Prof.R.O.Sudke	22 to 43	28.11
9	BE	Prof.R.P.Khanapure	44 to 63	

HOD

Prof. S S Killarikar

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE-RAIGAD- 402 103

M.S.BIDVE ENGG.COLLEGE,LATUR
DEPT.OF ELECTRONICS ENGINEERING
Special program for slow and fast learners
Academic Year (2023-2024) Part-I Odd Semester

Notice

All the students of FINAL YEAR (EC) are informed that slow and fast learners groups are created on the basis of marks(less than 40%) obtained in CA1 of various subjects. Following is the list of Roll numbers of slow learners. Kindly contact to subject Teachers for more details.

Subject	Slow learners Roll numbers	Faculty Signature
EE&F	1, 4, 6, 8, 9, 25, 34, 42, 45, 46, 50, 61, 63	
MCN	1, 4, 6, 8, 9, 25, 34, 42, 45, 46, 50, 61, 63	
CMOS	1, 4, 6, 8, 9, 25, 34, 42 45, 46, 50, 61, 63.	
DS&A	1, 4, 6, 8, 9, 25, 34 42, 45, 46, 50, 61, 63	
ESD	1, 4, 6, 8, 9, 25, 34 42, 45, 46, 50, 61, 63	

Date: 04/10/2023

HOD EC Dept.

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE-RAIGAD- 402 103

M.S.BIDVE ENGG.COLLEGE,LATUR
DEPT.OF ELECTRONICS ENGINEERING
Special program for slow and fast learners
Academic Year (2023-2024) Part-I Odd Semester

Notice

All the students of TY (EC) are informed that slow and fast learners groups are created on the basis of marks(less than 40%) obtained in CA1 of various subjects. Following is the list of Roll numbers of slow learners. Kindly contact to subject Teachers for more details.

Subject	Slow learners Roll numbers	Faculty Signature
EMFT	1, 3, 6, 9, 10, 14, 17, 18, 21, 27, 34, 36, 38, 43, 50, 55, 59, 61, 66, 67, 71	
DSP	2, 6, 7, 9, 18, 21, 34, 43, 45, 61, 68	
AC	4, 7, 8, 9, 10, 13, 15, 17, 18, 21, 27, 29, 31, 34, 35, 36, 38, 59, 61, 63, 68, 72	
DSD	7, 9, 13, 15, 17, 18, 27, 34 36, 38, 59, 68, 72, 73	
ME	R.N. 8, 9, 10, 11, 12, 34. 36	

Date: 04/10/2023

HOD EC Dept.

M.S. BIDVE ENGINEERING COLLEGE,
LATUR-413 531(Maharashtra)
DEPARTMENT OF ELECTRONICS

ATTENDANCE REPORT OF THEORY CLASS

ACADEMIC YEAR : 2023-24 PART : I CLASS : SY (EC) SUBJECT : EM-III FACULTY: Prof. Maka A.R.

Roll No SR.NO.	Name of Student	DATE------->	9/12/23	11/12/23	12/12/23	13/12/23	14/12/23	15/12/23					Total Attendance out of 6	% Attendance	"C" TW Marks out of____ (20%)
		Period No.	1	2	3	4	5	6	7	8	9	10			
2	Ayanile Kartik		P	P	P	P	A	P					5	84	
5	Gaddime Vishal		P	P	A	P	P	P					5	84	
10	Rathod Ajay		P	P	P	A	P	P					5	84	
13	Rathod Rameshwar		P	P	A	P	P	P					5	84	
20	Shaikh Usama		P	P	P	A	P	P					5	84	
22	Gangathade Vishakha		P	P	P	A	P	P					5	84	
32	Telange Rohit		P	P	P	P	P	P					6	100	
41	Chevale Sakshi		P	P	P	P	A	P					5	84	
54	Choudhari Sahisha		P	P	P	P	P	P					6	100	
65	Swami Aditi		P	P	P	P	P	P					6	100	
75	Munde Mayuri		P	P	P	P	P	P					6	100	
76	Kadam Shivaji		P	A	P	P	A	P					5	84	
	Maka														
	Maka A.R.														

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Electronics Department
M.S.Bidve Engineering College
LATUR - 413 512

M.B.Education Society's
M.S BIDVE ENGINEERING COLLEGE,
LATJR-413 531(Maharashtra)
DEPARTMENT OF ELECTRONICS

ATTENDANCE REPORT OF THEORY CLASS

ACADEMIC YEAR : 2023-24 PART : I CLASS : SY (EC) SUBJECT : NT FACULTY: Prof. Hatte J.S

SR.NO.	Name of Student	DATE--------> 9/12/23	11/12/23	12/12/23	13/12/23	14/12/23	15/12/23					Total Attendance out of 6	% Attendance	"C" TW Marks out of____ (20%)
		Period No. 1	2	3	4	5	6	7	8	9	10			
10	Rathod Ajay	P	P	A	P	P	P					5	84	
13	Rathod Rameshwar	P	P	A	P	P	P					5	84	
25	Durkewad Yogeshwar	P	P	P	P	A	P					5	84	
27	masure Amit	P	P	P	P	A	P					5	84	
39	Jadhav Mahesh	P	P	A	P	P	P					5	84	
48	Bolegave Shreya	P	P	P	P	P	P					6	100	
55	Patil Shubham	P	P	P	P	A	P					5	84	
56	Kaname Jyoti	P	P	P	P	A	P					5	84	
75	munde mayuri	P	P	P	P	P	P					6	100	

Prof Hatte J.S

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Electronics Department
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LATUR-413 531(Maharashtra)
DEPARTMENT OF ELECTRONICS

ATTENDANCE REPORT OF THEORY CLASS

ACADEMIC YEAR : 2023-24 PART : I CLASS : TY (EC) SUBJECT : DSD FACULTY: Prof. Mudda S.S.

SR.NO.	Name of Student	DATE--------> 16/11/23	17/11/23	18/11/23	20/11/23	21/11/23	22/11/23					Total Attendance out of 6	% Attendance	"C" TW Marks out of____ (20%)
		Period No. 1	2	3	4	5	6	7	8	9	10			
7	Taee Shantanu	P	P	P	P	P	P					6	100	
9	Malegave Vikas	P	P	P	A	P	P					5	84	
13	Shiese Sheevash	P	P	P	P	A	P					5	84	
15	Mali Peatik	P	P	P	P	P	P					6	100	
17	Gadekae Tejas	P	P	P	P	P	A					5	84	
18	Shaikh Umae	P	P	P	P	P	A					5	84	
27	Hakke Yashwant	P	P	P	P	P	P					6	100	
34	Kunal Kadam	A	P	P	P	P	P					6	100	
36	Gunjotkae Vaibhav	P	P	P	P	P	P					6	100	
38	Mane Yash	P	A	P	P	P	P					5	84	
59	Aarti Donje	P	P	P	P	P	P					6	100	
68	Athaev Mhetee	P	P	P	P	P	P					6	100	
72	Peavag Rohan	P	P	P	P	P	A					5	84	
73	Laxmi Patil	P	P	P	A	P	P					5	84	

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Electronics Department
M.S Bidve Engineering College
413 512

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LATUR-413 531(Maharashtra)
DEPARTMENT OF ELECTRONICS

ATTENDANCE REPORT OF THEORY CLASS

ACADEMIC YEAR :2023-24 PART : I CLASS :TY(EC) SUBJECT : DSP FACULTY: Prof. V. B. Solapurkar

SR.NO.	Name of Student	DATE--------> 16/11/23	17/11/23	18/11/23	20/11/23	21/11/23	22/11/23					Total Attendance out of 6	% Attendance	"C" TW Marks out of____ (20%)
		Period No. 1	2	3	4	5	6	7	8	9	10			
2	Barkate Pratik	P	P	P	P	P	P					6	100	
6	Burewase Rushikesh	P	P	P	P	A	P					5	84	
7	Tare Shantanu	P	A	P	P	P	P					5	84	
9	malegave Vikas	P	P	P	A	P	P					5	84	
18	Shaikh Umar	P	P	P	P	A	P					5	84	
21	Tiwari Vaishali	P	P	P	P	P	A					5	84	
34	kunal kadam	P	P	P	P	P	A					5	84	
43	shaikh Toshif	P	P	P.	P	P	P					6	100	
45	Patil Jadhav maheshwari	P	P	P	P	P	A					5	84	
61	komal waghmare	P	P	P	P	P	P					6	100	
68	Athare mhetre	P	P	A	P	P	P					5	84	

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Electronics Department
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DEPARTMENT OF ELECTRONICS

ATTENDANCE REPORT OF THEORY CLASS

ACADEMIC YEAR : 2023-24 PART : I CLASS : BY (EC) SUBJECT : CMOS FACULTY: Prof. Shetkar S.S

SR.NO.	Name of Student	DATE-------->	20/11/23	21/11/23	22/11/23	23/11/23	24/11/23	25/11/23					Total Attendance out of 6	% Attendance	"C" TW Marks out of____ (20%)
		Period No.	1	2	3	4	5	6	7	8	9	10			
1	Bagwan Akbar		P	P	P	P	P	A					5	84	
4	Anurag Bajpai		P	P	P	P	A	P					5	84	
6	Prasad Vaijwade		P	A	P	P	P	A					4	67	
8	Chavan Sushant		P	P	A	P	P	P					5	84	
9	Savyasachi K.		P	P	P	P	A	P					5	84	
25	Kambale Sakshi		P	P	P	P	P	A					5	84	
34	Kambale Swati		P	P	P	P	P	P					6	100	
42	Gire Ankita		P	P	P	A	P	P					5	84	
45	Phad Rohit		P	P	P	P	P	A					5	84	
46	Solanke Mahesh		P	P	P	A	P	P					5	84	
50	Akash Jadhav		P	P	P	P	A	P					5	84	
61	Mugale Krishna		P	P	P	P	P	A					5	84	
63	Shaikh Aman		P	P	P	P	A	P					5	84	

Prof Dr Shettar S.S.

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Electronics Department
M.S.Bidve Engineering College
LATUR - 413 512

M.B.Education Society's
M.S BIDVE ENGINEERING COLLEGE,
LATUR-413 531(Maharashtra)
DEPARTMENT OF ELECTRONICS

ATTENDANCE REPORT OF THEORY CLASS

ACADEMIC YEAR : 2023-24 PART : I CLASS : BY (EC) SUBJECT : DS & A FACULTY: Prof. Hatte J.S.

SR.NO. / RoN No.	Name of Student	DATE-------->	20/11/23	21/11/23	22/11/23	24/11/23	25/11/23	25/11/23					Total Attendance out of 6	% Attendance	"C" TW Marks out of____ (20%)
		Period No.	1	2	3	4	5	6	7	8	9	10			
1	Baguan Aebaz		P	P	P	P	P	P					6	100	
4	Anueag Bajpai		P	P	A	P	P	A					4	67	
6	Peasad Vaijwade		P	P	P	P	A	P					5	84	
8	chavan Sushant		P	P	P	P	A	P					5	84	
9	Savyasachi Dhananjay		P	P	P	P	P	A					5	84	
25	kambale sakshi		P	P	P	P	P	P					6	100	
34	kambale swati		P	P	A	P	P	P					5	84	
42	Gisi Ankita		P	P	P	P	A	P					5	84	
45	Phad Rohit		P	P	P	P	P	P					6	100	
46	solonke mahesh		P	P	P	A	P	P					5	84	
50	Akash Jadhav		P	P	P	P	P	P					6	100	
61	mugale Keishna		P	P	P	P	A	P					5	84	
63	shaikh Aman		P	P	P	A	P	P					5	84	

Prof. Hatte J.S

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Special program for slow and fast learners
Academic Year (2023-2024) Part-I Odd Semester

Notice

All the students of SY (EC) are informed that slow and fast learners groups are created on the basis of marks(less than 40%) obtained in CA1 of various subjects. Following is the list of Roll numbers of slow learners. Kindly contact to subject Teachers for more details.

Subject	Slow learners Roll numbers	Faculty Signature
EDC	2, 3, 5, 8, 11, 16, 24, 27, 36, 38, 52, 56, 60, 66, 71,	
DE	10, 13, 20, 34, 39, 41, 55, 56, 60, 75	
NT	10, 13, 25, 27, 39, 48, 55, 56, 75,	
EM-III	02, 5, 10, 13, 20, 22, 32, 41, 65, 75, 76	

Date: 04/10/2023

HOD EC Dept.

Mentor-Mentee
AY- 2023-24, P-
Ec dept.

Mahatma Basweshwar Education Society's
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Estd :1983 'NAAC' Accredited DTE Code : EN2129

Internal Quality Assurance Cell (IQAC)

Department of Electronics Engineering
Academic Year 2023-24
Part-II

The Following Faculties were assigned to the undersigned as Mentors for the year 2023-24 Part-II academic Session

S.NO	Class	Mentor	Roll no.	Signature
1	SE	Prof.V.K.Shah	1 to 17	
2	SE	Prof.S.S.Killarikar	18 to 34	
3	SE	Prof.J.S.Hatte	35 to 52	
4	SE	Prof.R.P.Khanapure	53 to 71	
5	TE	Dr.S.R.Halhalli	1 to 17	
6	TE	Dr.S.R.Dhanure	18 to 34	
7	TE	Prof.V.S Bale	35 to 50	
8	TE	Prof.U.B.Solapurkar	51 to 65	
9	BE	Prof.R.O.Sudke	1 to 32	
10	BE	Prof.S.S.Shetkar	33 to 63	

HOD
Prof. S S Killarikar

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE-
RAIGAD- 402 103

M.S.BIDVE ENGG.COLLEGE,LATUR
DEPT.OF ELECTRONICS ENGINEERING

Academic Year (2023-2024) Part-II

Notice

All the students of Second Year (EC) are informed that slow and fast learners groups are created on the basis of marks(less than 40%) obtained in MSE of various subjects. Following is the list of Roll numbers of slow learners. Kindly contact to subject Teachers for more details.

Subject	Slow learners Roll numbers	Faculty Signature
PT & RP	02, 03, 04, 05, 06, 07, 08, 09, 11, 13, 15, 17, 51, 54, 58,	18, 20, 21, 23, 26, 32, 33, 34, 35, 36, 39, 46, 48, 70.
BHR	10, 13, 29.	Prof. Killarikar S. S.
DE COA	5, 16, 20, 38, 52, 55, 59 70.	
S&S	2, 3, 4, 18, 20, 21	

Date:

HOD EC Dept.

Electronics Engineering
M.S. Bidve Engg. College
LATUR

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE-
RAIGAD- 402 103

M.S.BIDVE ENGG.COLLEGE,LATUR
DEPT.OF ELECTRONICS ENGINEERING

Academic Year (2023-2024) Part-II

Notice

All the students of Third YEAR (EC) are informed that slow and fast learners groups are created on the basis of marks(less than 40%) obtained in MSE of various subjects. Following is the list of Roll numbers of slow learners. Kindly contact to subject Teachers for more details.

Subject	Slow learners Roll numbers	Faculty Signature
Control system	61, 64, 66 02, 13, 14, 29, 31, 49	Dr. S.S. Mudda.
Digital Signal Processing	16, 17, 20, 23, 29, 30, 31, 32, 33, 35, 36, 55, 57 70 — 38	
Microprocessor & Microcontrolers.	02, 13, 16, 17, 20, 29 32, 33, 35, 36, 55, 57	Dr. Shetkar S.S.
Comunication Engineering	02, 13, 20, 23, 29 31, 32, 35, 38, 57	Dr. Suresh Halhalli
Employability & Skill development	02, 13, 23, 20, 29, 30, 31, 32, 33, 35, 36	UBS / JSH.
power Electronics	02, 13, 14, 16, 17, 20 23, 29, 30, 31, 33, 55 57, 70	UBS / RPK.

Date: **HOD EC Dept.**

M.B.Education Society's
M.S BIDVE ENGINEERING COLLEGE,
LATUR-413 531(Maharashtra)
DEPARTMENT OF ELECTRONICS

ATTENDANCE REPORT OF THEORY CLASS

ACADEMIC YEAR :2023-24 PART :II CLASS : SY (EC) SUBJECT : PT & RP FACULTY: Prof. J. S. Hatte

SR.NO. Roll No.	Name of Student	DATE-------->	16/4/24	18/4/24	19/4/24	20/4/24	22/4/24						Total Attendance out of 5	% Attendance	"C" TW Marks out of ____ (20%)
		Period No.	1	2	3	4	5	6	7	8	9	10			
2	Ayanile Kartik		P	P	P	A	P						4	80	
3	Gitei sakshi		P	P	P	P	P						5	100	
4	Patil Rutuja		A	P	P	P	P						4	80	
5	Gaddime Vishal		P	P	P	P	P						5	100	
6	More Pratiksha		P	A	P	P	A						3	60	
18	Mane Nikita		P	P	P	P	P						5	100	
20	Shaikh Usama		P	P	P	A	P						4	80	
21	Deshpande disha		P	P	P	P	P						5	100	
23	Jadhav Pratik		P	A	P	P	A						3	60	
26	Wadkar Sneha		P	P	P	P	A						4	80	
32	Koli Rahul		P	P	P	A	P						4	80	
7	Ustuge Diksha		P	P	P	A	P						4	80	
8	Rajnale Shivani		P	P	P	P	A						4	80	
9	Birajdar Pranjali		P	P	P	A	P						4	80	
11	Mule Vishal		P	A	P	P	A						4	80	

Prof. Hatte J.S.

H.O.D

M.B.Education Society's
M.S BIDVE ENGINEERING COLLEGE,
LATUR-413 531(Maharashtra)
DEPARTMENT OF ELECTRONICS

ATTENDANCE REPORT OF THEORY CLASS

ACADEMIC YEAR :2023-24 PART : II CLASS : SE (EC) SUBJECT : S&S FACULTY: Prof. Bale V.S

SR.NO.	Name of Student	DATE----> 16/4/24	18/4/24	19/4/24	20/4/24	22/4/24						Total Attendance out of 5	% Attendance	"C" TW Marks out of____ (20%)
		Period No. 1	2	3	4	5	6	7	8	9	10			
2	Ayanile kartik	P	P	P	P	P						5	100	
3	Giri sakshi	P	A	P	P	A						3	60	
4	Patil Rutuja	P	P	A	P	A						3	60	
18	mane Nikita	P	P	P	P	P						5	100	
20	shaikh Usama	P	P	P	A	P						4	80	
21	Deshpande Disha	P	P	P	A	P						4	80	

Prof V.S.Bale

Head
Department of Electronics
M.S.Bidve Engineering College
LATUR - 413 512

M.B Education Society's
M.S BIDVE ENGINEERING COLLEGE,
LATUR-413 531(Maharashtra)
DEPARTMENT OF ELECTRONICS

ATTENDANCE REPORT OF THEORY CLASS

ACADEMIC YEAR :2023-24 PART :II CLASS : TY (EC) SUBJECT : MP & MC FACULTY: Prof. Shetkar S.S.

SR.NO.	Name of Student	DATE-------->	8/5/24	20/5/24	21/5/24	22/5/24	24/5/24						Total Attendance out of	% Attendance	"C" TW Marks out of____ (20%)
		Period No.	1	2	3	4	5	6	7	8	9	10	5		
2	Bhaekate Peatik		P	P	P	P	P						5	100	
13	mali Peatik		A	P	P	P	P						4	80	
16	Joshi Sheuti		P	A	P	P	P						4	80	
17	Tiwaei Veushali		P	P	A	P	P						4	80	
20	Avanti Sueyawanshi		P	P	P	P	A						4	80	
29	Kunal Kadam		P	A	P	P	P						4	80	
32	Patil Khushi		P	P	P	P	P						5	100	
33	Sueyawanshi sandhya		P	P	P	P	P						5	100	
35	chate muktabai		A	P	P	P	P						4	80	
36	Lakhangave Payal		P	P	A	P	P						4	80	
55	Sandhya Ghuge		P	P	P	P	A						4	80	
57	sandhyaeani shelae		P	P	P	P	P						5	100	

H.O.D
Electronics Department
M.S Bidve Engineering College

Prof. Dr. Shetkar S.S.

Notice for slow learners

Dt. 06-05-2024

Following roll no are observed that they are slow learns for the academic year 2023-24, Part-II

Sr. No.	Class	Roll No
1	SE (Civil)	1, 4, 7, 14, 69
2	TE (Civil)	04, 08, 22 27, 49, 60 61
3	BE (Civil)	07, 25, 31, 45, 53, 65 68

H.O.D.
(Civil Engineering Dept.)

Methodologies to Identify and support slow learner students and encourage advanced learner students Preface: Department of civil Engineering is very sensitive to understand the students learning abilities. Efforts are made to raise the learning levels of both weak learners.

The following mechanism is used for identification of learner types.

➢ **Objectives**: The objective of such assessment process of the learning levels of the students is:

➢ To identify the factors affecting the student's performance

➢ To analyse them with respect to the departmental assessment process.

➢ After identification and analysis, to provide a proper solution for improving their performance and build a successful career.

➢ To provide a desirable and gracious solution both for the slow learners and advanced learners to avoid any discrimination between them and they must take interest to reach up to a position in due course of time where both the group feel at balance with each other.

As per Gardener's theory of multiple intelligence, it's important to identify the intelligence level of the students and incorporate it with blooms taxonomy to teach the subject accordingly, however due to a large number of students and many subjects, emphasis is given to two categories weak students and bright students

The slow learner students are identified based by every class coordinator on the basis of following parameters:

1. Class test results

2. Attendance

3. Observations by Class coordinators, subject teachers in class & lab.

Student-Centric Strategy to support slow learners:

• Question bank is prepared for the weak students on important and challenging topics along with solutions and university marking scheme.

• Assignments.

• Motivate weak students to ask questions in class to clear their doubts, eventually building their confidence.

• Encourage weak students to attend tutorials and assist them to solve and practice more numerical.

• In the remedial classes' students interact with each other and exchange knowledge, solution methods along with the faculty member as well.

M.B. EDUCATION SOCIETY'S

M. S. BIDVE ENGINEERING COLLEGE,

LATUR-413 531 (Maharashtra)

(Approved by AICTE, New Delhi & DTE Mumbai, Affiliated to DBATU, Lonere)

'NAAC' Accredited

INTERNAL QUALITY ASSURANCE CELL (IQAC)

ASSIGNMENT ATTENDANCE SHEET

ACADEMIC YEAR 2023-24 II Semester : Odd / Even ✓ Department of Civil

CLASS: SE FACULTY : BATCH:

Roll No.	Name of the student	DATE---> 07/02/24	16/02/24	21/02/24	08/3/24							
		Experiment/ Assignment 1	Experiment/ Assignment 2	Experiment/ Assignment 3	Experiment/ Assignment 4	Experiment/ Assignment 5	Experiment/ Assignment 6	Experiment/ Assignment 7	Experiment/ Assignment 8	Experiment/ Assignment 9	Experiment/ Assignment 10	Total presentee out of ___	%
		SIGNATURES OF STUDENTS											
01	Shaikh A. J.	Shaikh A.J.	Shaikh A.J.	Shaikh A.J.	Shaikh A.J.								
04	Sayyad M. A.	Sayyad	Sayyad	Sayyad	Sayyad								
07	Sayyad F. I.	Sayyad	Sayyad	Sayyad	Sayyad								
14	Narhare A. N.	Narhare	Narhare	Narhare	Narhare								
69	Ansarwadekar K. K.	Kak	Kak	Kak	Kak								

Faculty

List of slow learners

Operating System

All the students listed below got less than 4 marks in **CA1 examination**. They should submit assignment-1 on or before 08/03/2024.

Sr. No.	Roll No.	Name of Student	Marks	Sign
1	6	RATHOD PREETI PARSHURAM	AB	
2	15	KATE MANSI SURYAKANT	03	
3	20	KARANDE YASHASHRI KISHOR	AB	
4	28	WAGHMARE ANIKET ANGAD	03	
5	36	JAJU PRIYANKA SANJAY	AB	
6	43	JOSHI ABHIJEET PRAVIN	03	
7	44	ANDHALE PRAJWAL NAMDEV	AB	
8	47	GUTTE ABAJI PANDIT	AB	
9	58	KADAM AKASH SHIVAJI	02	
10	63	HARDE VASUDHA VISHNUDAS	AB	
11	66	SOLANKE SHANKAR SADASHIV	AB	
12	67	BEDADE ARYAN MADHAV	03	
13				

Subject faculty
(Gujar S.S.)

HOD

Mahatma Basweshwar Education Society's
M. S. BIDVE ENGINEERING COLLEGE,
(Approved by AICTE, New Delhi & DTE Mumbai, Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere)
P.O.Box No. 112, Barshi Road, LATUR-413 531 (Maharashtra)
Estd :1983 'NAAC' Accredited DTE Code : EN2129

Internal Quality Assurance Cell (IQAC)

Department of computer Sci. & Engg.
List of slow learners of Operating System

Sr. No.	Roll. No.	Name of Student	Signature
1	4	GARAD GANESH SANJAY	
2	6	RATHOD PREETI PARSHURAM	
3	14	GHODKE AMAN ANANT	
4	27	SONWALKAR ANURAG PRAKASH	
5	28	WAGHMARE ANIKET ANGAD	
6	35	BIRAJDAR SUDARSHAN ASHOK	
7	36	JAJU PRIYANKA SANJAY	
8	37	GADDIME SWARUP SUDHAKAR	
9	38	KANADE SHIVENDRA SHIVPUTRA	
10	39	CHINCHANSURE PRAJWAL JITENDRA	
11	40	SABNE ANKIT MADHUKAR	
12	43	JOSHI ABHIJEET PRAVIN	
13	44	ANDHALE PRAJWAL NAMDEV	
14	49	NILANGE MAHESH SANTOSH	
15	56	GURME MAHESH SHAM	
16	57	SAGRE SHWETA KALLAPPA	
17	58	KADAM AKASH SHIVAJI	
18	67	BEDADE ARYAN MADHAV	
19	68	MALWAD VIKAS DNYANRAJ	

All the students listed above got less than 8 marks in MSE examination. They should submit Mid Semester Paper on or bef

Subject Faculty

(Gujar S.S.)

HOD

Estd : 1983

Mahatma Basweshwar Education Society's
M. S. BIDVE ENGINEERING COLLEGE,
Approved by AICTE, New Delhi & DTE Mumbai. Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.
P.O.Box No. 112, Bairshi Road, LATUR 413 531 (Maharashtra)
'NAAC' Accredited
DTE Code : EN2129
Internal Quality Assurance Cell (IQAC)

Department of computer Sci. & Engg.
List of slow learners of Operating System

Sr. No.	Roll	Name of Student	Signature
1	4	GARAD GANESH SANJAY	
2	20	KARANDE YASHASHRI KISHOR	
3	29	WAGHMARE RONAK GOVIND	
4	36	JAJU PRIYANKA SANJAY	
5	38	KANADE SHIVENDRA SHIVPUTRA	
6	14	ANDHALE PRAJWAL NAMDEV	
7	15	CHIRKE DINESH TUKARAM	
8	56	GURME MAHESH SHAM	
9	66	SOLANKE SHANKAR SADASHIV	
10	67	BEDADE ARYAN MADHAV	
11	68	MALWAD VIKAS DNYANRAJ	

All the students listed above got less than 4 marks in CA2 examination. They should submit Mid Semester Paper on or before 20/05/

Subject Faculty

HOD

A.Y. 23-24
PART II

Mahatma Basweshwar Education Society's
M. S. BIDVE ENGINEERING COLLEGE,
(Approved by AICTE, New Delhi & DTE Mumbai, Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere)
P.O.Box No. 112, Barshi Road, LATUR-413 531 (Maharashtra)
Estd :1983 'NAAC' Accredited DTE Code : EN2123

Internal Quality Assurance Cell (IQAC)

Department of computer Sci. & Engg.

List of slow learners of Design and Analysis of Algorithm

Sr. No.	Roll	Name of Student	Marks	Date of S	Signature
1	4	GARAD GANESH SANJAY	1	20/5/24	Ganesh
2	20	KARANDE YASHASHRI KISHOR	Absent	29/5/24	Yashashri
3	29	WAGHMARE RONAK GOVIND	Absent	28/5/24	Ronak
4	39	CHINCHANSURE PRAJWAL JITENDRA	0	21-5-24	Prajwal
5	68	MALWAD VIKAS DNYANRAJ	3	29-5-24	Vikas Malwad

All the students listed below got less than 4 marks in CA2 examination. They should submit Mid Semester Paper on or before 20/05/2024.

Subject Faculty

HOD

Mahatma Basweshwar Education Society's
M. S. BIDVE ENGINEERING COLLEGE,
(Approved by AICTE, New Delhi & DTE Mumbai, Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere)
P.O.Box No. 112, Barshi Road, LATUR-413 531 (Maharashtra)
Estd :1983 'NAAC' Accredited DTE Code : EN2129
Internal Quality Assurance Cell (IQAC)

Department of computer Sci. & Engg.

List of slow learners of Design and Analysis of Algorithm

Sr. No.	Roll. No.	Name of Student	Marks	Date of S	Signature
1	4	GARAD GANESH SANJAY	5	20/5/24	Ganesh
2	25	BHADADE SURAJ SURESH	4	15/05/24	Suraj
3	28	WAGHMARE ANIKET ANGAD	4	21/5/24	Aniket
4	35	BIRAJDAR SUDARSHAN ASHOK	1	17/05/24	Sudarshan
5	37	GADDIME SWARUP SUDHAKAR	6	17/05/24	Swarup
6	39	CHINCHANSURE PRAJWAL JITENDRA	2	17/05/24	Prajwal
7	40	SABNE ANKIT MADHUKAR	0	22/05/24	Ankit
8	43	JOSHI ABHIJEET PRAVIN	6	16/5/24	Abhijeet
9	58	KADAM AKASH SHIVAJI	5	16/05/24	Akash
10	63	HARDE VASUDHA VISHNUDAS		20/05/24	Vasudha
11	67	BEDADE ARYAN MADHAV	1	10/06/24	Aryan

All the students listed below got less than 10 marks in MSE examination. They should submit Mid Semester Paper on or before 16/05/2

Subject Faculty

HOD

Mahatma Basweshwar Education Society's

M. S. BIDVE ENGINEERING COLLEGE,

(Approved by AICTE, New Delhi & DTE Mumbai, Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere)

P.O.Box No. 112, Barshi Road, LATUR-413 531 (Maharashtra)

Estd :1983

'NAAC' Accredited

DTE Code : EN2129

Internal Quality Assurance Cell (IQAC)

Department of Computer Science and Engineering

List of slow learners of Discrete mathematics

Roll No.	Name of the Student	Sign	Date
63	HARDE VASUDHA VISHNUDAS	Vasudha	15/10/23
64	MAIND RIYAZ KHAJAMAINODDIN		15/10/23

Note:- Students listed abovegot less than 8 marks . They should submit Mid Semester Paper on or before 15/10/2

Subject Faculty

HOD

-22!

DR.BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE - RAIGAD- 402 103

M. S. BIDVE ENGG. COLLEGE, LATUR

(3)

DEPT. OF MECHANICAL ENGINEERING

Special program for slow and fast learners

Academic Year (2023-2024) Odd Semester Part I

Notice

All the students of Final Year Mechanical Engg. are informed that slow and fast learners groups are created on basis of marks obtained in Mid-semester Examination of various subjects. Following is the of Roll numbers of slow learners(less than 40% marks). Kindly contact to subject Teachers for more details.

Subject	Slow learners roll numbers	Faculty Signature
Mechatronics	1, 2, 4, 5, 14, 15, 16, 18, 19, 20, 22, 25, 26, 35, 36, 38, 39, 43, 45, 47, 50, 52.	
Industrial Engineering and Management	02, 04, 5, 6, 8, 9, 11, 12, 13, 14, 15, 16 17 to 22, 24 to 28, 29, 30, 33 to 37, 40, 43 45, 47, 50, 51, 52, 53.	
Open Elective-III (Entrepreneurship Development)	11, 12, 16, 18 20, 22, 24 25, 26, 30, 32, 35, 38, 39, 45, 47, 51, 52, 53.	
Elective-V (Non-conventional Machining)	01, 02, 04, 05, 06, 11, 12, 14, 15, 16, 18, 00, 22, 24, 25, 26, 27, 28, 32, 35, 36, 38, 39, 40, 45, 47, 50, 51, 52, 53	
Open Elective-IV	01 to 9, 11 to 20, 21, 24 to 41, 43 to 48, 50 to 53.	

Date:-

H.O.D. Mech. Dept

DR.BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE - RAIGAD- 402 103

3

M. S. BIDVE ENGG. COLLEGE, LATUR

DEPT. OF MECHANICAL ENGINEERING

Special program for slow and fast learners

Academic Year (2023-2024) Odd Semester Part - I

Notice

All the students of T.Y. Mechanical Engg. are informed that slow and fast learners groups are created on basis of marks obtained in Mid-semester Examination of various subjects. Following is the of Roll numbers of slow learners(less than 40% marks). Kindly contact to subject Teachers for more details.

Subject	Slow learners roll numbers	Faculty Signature
Theory of Machines- II	01,02,03,05,07,08,09,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,28,30,33,35,36,37,39,40,41,42,43,44,45	
Heat Transfer	01, 02, 03, 05, 07, 08, 11, 12, 13, 14, 15, 16, 17, 19, 21, 22, 24, 25, 28, 33, 34, 37, 42, 43	
Machine Design – I	03, 05, 07, 09, 11, 12, 16, 18, 21, 25, 28, 33, 35, 37, 39, 42, 43, 44, 45	
Elective-II Automobile Engineering	01, 02, 03, 04, 05, 06, 07, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 24, 25, 28, 32, 34, 35, 36, 37, 39, 40, 41, 42, 43	
Applied Thermodynamics	02, 03, 05, 11, 12, 14, 16, 18, 21, 23, 24, 25, 28, 32, 34, 35, 37, 40	
Open Elective- I (Solar Energy)	01, 02, 03, 04, 05, 06, 07, 10, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 32, 35, 36, 37, 42, 01, 28, 30, 33, 34, 43,	

H.O.D. Mech. Dept

Date:-

DR.BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE - RAIGAD-402 103

M. S. BIDVE ENGG. COLLEGE, LATUR

DEPT. OF MECHANICAL ENGINEERING

Special program for slow and fast learners

Academic Year (2023-2024) Odd Semester part-I

Notice

All the students of S . Y. Mechanical Engg. are informed that slow and fast learners groups are created on basis of marks obtained in Mid-semester Examination of various subjects. Following is the of Roll numbers of slow learners(less than 40% marks). Kindly contact to subject Teachers for more details.

Subject	Slow learners roll numbers	Faculty Signature
Materials Science and Metallurgy	01, 03, 13, 14, 15, 20, 25, 26, 29, 30	
Thermodynamics	01, 02, 3, 5, 6, 7, 8, 9, 12, 13 15, 16, 19, 20, 24, 25, 26, 28,	
Fluid Mechanics	01, 02, 03, 05, 06, 07, 08, 09, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 23, 24, 25, 26, 27, 28, 29, 30	
Engineering Mathematics – III	01, 02, 03, 04, 05, 07, 08, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25, 26, 28.	

Date:-

H.O.D. Mech. Dept

DR.BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE - RAIGAD- 402 103

M. S. BIDVE ENGG. COLLEGE, LATUR

DEPT. OF MECHANICAL ENGINEERING

Special program for slow and fast learners

Academic Year (2023-2024) Even Semester Part-II

Notice

All the students of S . Y. Mechanical Engg. are informed that slow and fast learners groups are created on basis of marks obtained in Mid-semester Examination of various subjects. Following is the of Roll numbers of slow learners(less than 40% marks). Kindly contact to subject Teachers for more details.

Subject	Slow learners roll numbers	Faculty Signature
Manufacturing Processes – I	1, 2, 4, 6, 7, 8, 9, 10, 13, 14, 16, 17, 18 19, 24, 26, 27, 28, 29, 30, 31	
Theory of Machines-I	1, 2, 4, 6, 7, 8, 9, 14, 16 18, 19, 24, 25, 26, 27, 29, 30, 31	
Basic Human Rights / .	1, 2, 4, 6, 7, 8, 9, 13, 16, 18, 20, 26, 27, 29, 30, 31	
Strength of Materials	2, 4, 5, 6, 7, 16, 19, 20 26, 27, 29, 30, 31	
Elective-I Fluid Machinery	1, 2, 4, 6, 7, 8, 9, 13, 16 18, 20, 26, 27, 29, 30, 31	

H.O.D. Mech. Dept

Date:-

DR.BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE - RAIGAD-402 103

M.S. BIDVE ENGG.COLLEGE,LATUR

DEPT.OF MECHANICAL ENGINEERING

Special program for slow and fast learners

Academic Year (2023-2024) Even Semester

Notice

All the students of T.Y. Mechanical Engg. are informed that slow and fast learners groups are created on basis of marks obtained in Mid-semester Examination of various subjects. Following is the of Roll numbers of slow learners(less than 40% marks). Kindly contact to subject Teachers for more details.

Subject	Slow learners roll numbers	Faculty Signature
Manufacturing Processes-II	1 3, 4, 5, 6, 7, 8, 9, 11, 12, 14, 15, 16 18, 20, 22, 25, 26, 32, 35, 38, 42 50, 51,	
Machine Design-II	3, 5, 9, 11, 12, 14, 16, 18, 20, 22 24, 26, 35, 36, 38, 39, 42, 43, 44, 49 50, 51,	
Elective-III IC Engines	01, 3, 4, 5, 6, 11, 12, 14, 15, 16, 17, 18 19, 20, 21, 22, 24, 25, 26, 27, 28, 29 30 31, 32, 33, 34, 35, 36, 38, 39, 40 42, 43 [illegible] 45, 46, 47, 49, 50 51, 52	
Elective-IV Robotics	1, 11, 12, 14, 16, 18, 20, 25, 26 35, 36, 38, 43, 44, 46,	Jagal
Elective-IV Quantitative Techniques and Project Management		
—	—	—

H.O.D. Mech. Dept

Date:-

Mahatma Basweshwar Education Society's

M.S. BIDVE ENGINEERING COLLEGE,

(Approved by AICTE,New Delhi & DTE mumbai,Affiliated to S.R.T.M.U,Nanded)

P.O.Box No.112,Brashi Road,LATUR-413531(Maharashtra)

Department –MCA **DTE Code:-MC2129**

MCA 2023-24

Mentor List of MCA

SR.NO	Class	Mentor	Roll No	Signature
1	MCAFY	Prof.Rasure B.B	1 To 20	
2	MCAFY	Prof.Vyavhare N.R	21 To 32	
3.	MCAFY	Prof.Dhappadhule M.S.	33 to 64	
3	MCASY	Prof.Birajdar P.S.	1 To 22	
5	MCASY	Prof.Deshmukh S.D	23 to 44	

HOD

Prof.Dr.Suresh P. Halbalil

Principal

M.S.Bidve Engg. College

Latur-413512

Mahatma Basweshwar Education Society's
M.S. BIDVE ENGINEERING COLLEGE,
(Approved by AICTE,New Delhi & DTE mumbai,Affiliated to S.R.T.M.U,Nanded)
P.O.Box No.112,Brashi Road,LATUR-413531(Maharashtra)
Department - Computer Application
DTE Code:- 2129

SR.NO	Class	Mentor	Roll No	Signature
1	MCAFY	Prof.Rasure B.B	1 To 20	
2	MCAFY	Prof.Deshmukh S.D	21 To 32	
3	MCASY	Prof.Birajdar P.S.	1 To 20	
4	MCASY	Prof.Dhappadhule M.S.	21 To 40	
5	MCASY	Prof.Vyavhare N.R	41 to 57	

HOD

I/C. PRINCIPAL
PRINCIPAL
Institute of Computer Education
Latur

Mahatma Basweshwar Education Society's
M.S. BIDVE ENGINEERING COLLEGE,
(Approved by AICTE,New Delhi & DTE mumbai,Affiliated to S.R.T.M.U,Nanded)
P.O.Box No.112,Brashi Road,LATUR-413531(Maharashtra)
Department - Computer Application
DTE Code:- 2129

MCA First Year 2023-24 [SEM I]

UNIT Test I Record of 5 Subjects

Marks:25

Roll No	Name	Subjects									
		PLC	Slow learners	DS	Slow learners	COA	Slow learners	IMF	Slow learners	MFCS	Slow learners
1	AADE VISHAL BHAGWAN	10		17		8	SL	13		4	SL
2	ADSUL DHANASHREE PRABHAKAR	2	SL	7	SL	11		4	SL	2	SL
3	ADSULE RUTICK NANDKUMAR	10		20		18		16		12	
4	BIRADAR SHUBHANGI BALAJI	2	SL	17		13		11		13	
5	CHAVAN MADHURA SUDHIRRAO	4	SL	3	SL	12		12		3	SL
6	CHOUNDE GOURAVI RAMAKANT	10		9	SL	12		14		11	
7	DANDGULE SHIVAJI GAVIND	16		16		10		12		7	
8	DESHMUKH VAISHNVI SUNIL	15		15		18		10		14	
9	FAVADE VISHAL VITTHAL	17		17		13		11		13	
10	FUTANE AMOL KAMLAKAR	16		16		10		12		7	SL
11	FUTANE VIJAY SUDHAKAR	16		16		10		12		7	SL
12	GADE VAISHALI YUVRAJ	15		15		18		10		14	
13	GAHIRWAR KIRTI KIRANSINHA	15		5	SL	10		4	SL	3	SL
14	GAHIRWAR KISANSING VIJAYSING	10		17		13		11		13	
15	GORE PRANJALI PRAVIN	18		5	SL	16		7	SL	6	SL
16	GUMME RUTUJA CHANDRAKANT	13		7	SL	11		4	SL	2	SL
17	GUTTE SUJATHA SHAMRAO	10		20		18		16		12	
18	HAJARE SHRIKRUSHNA GAVIND	10		17		13		11		13	
19	HANCHATE PRAJWAL PANDURANG	18		17		13		11		13	
20	JADHAV DATTAPRASAD VASANT	10		12		25		7	SL	9	SL
21	JADHAV PAYAL VISHNUDAS	13		17		13		11		13	

22	JADHAV PRATHVIRAJ BALAJI	16		6	SL	7	SL	4	SL	0	SL
23	JADHAV SHREYA SATISH	11		9	SL	15		7	SL	11	
24	JAGTAP JIVAN SHIVAJI	18		17		13		11		13	
25	KADAM ADITYA SURYAKANT	13		17		8	SL	13		4	SL
26	KADAM PRANAV BALAJI	13		7	SL	11		4	SL	2	SL
27	KADAM VISHWAJIT ABHIMANYU	25		20		18		16		12	
28	KAMBLE ARATI SATYAVAN	13		17		13		11		13	
29	KAMBLE BALAJI MARUTI	7	SL	3	SL	12		12		3	SL
30	KAMBLE DNYANWSHWAR PRABHAKAR	15		9	SL	12		14		11	
31	KAMBLE SHRADHA MACHINDRA	13		14		20		13		4	SL
32	KANDANGIRE VAIBHAV PRADIP	5	SL	13		7	SL	10		10	
33	KATAKE SHRUTI NAGSEN	5	SL	19		17		10		7	SL
34	KORE ANURADHA BHAGAVAN	13		14		20		13		4	SL
35	KSHIRSAGAR SURAJ BALAJI	5	SL	13		7	SL	10		10	
36	LOKHANDE ABHILASH BHAGWAN	9	SL	16		10		12		4	SL
37	MANE KRISHNA SHIVMURTI	9	SL	16		10		12		4	SL
38	MANE SWAPNIL VAIJANATH	12		19		13		16		13	
39	MATHAPATI SHREYA SOMESHWAR	18		16		10		12		13	
40	MUDKANNA VAISHNAVI JITENDRA	10		12		13		18		11	
41	PANDHARE SUHAS VISHWANATH	13		8	SL	8	SL	10		18	
42	PATHAN MOHSIN KHALIL	16		9	SL	13		13		AA	
43	PATIL GANESH RAJKUMAR	11		13		11		16		13	
44	PATIL VAISHNAVI VISHWANATH	18		9	SL	18		11		AA	
45	PATIL VAISHNAVI VIRESH	13		6	SL	13		18		18	
46	PAWAR SHEKHAR BABRUWAN	13		14		20		13		4	SL
47	RANKHAMB BAJRANH LAXMAN	5	SL	13		7	SL	10		10	
48	SATBHAI CHANDRAKANT RAJIV	9	SL	16		10		12		4	SL
49	SAVANT RUTUJA UMESH	9	SL	16		10		12		4	SL
50	SAVRIKAR PUSHKARAJ UDDHAVRAO	12		19		13		16		13	
51	SHAIKH AMAN MALIK	18		16		10		12		13	
52	SHARAMA SHMBHU SURESHJI	10		12		13		18		11	
53	SHEGEDAR VISHAL BHAUSAHEB	13		8	SL	8	SL	10		18	
54	SHENDAGE MAHESH BAPU	16		9	SL	13		13		AA	

Mahatma Basweshwar Education Society's
M.S. BIDVE ENGINEERING COLLEGE,
(Approved by AICTE, New Delhi & DTE mumbai, Affiliated to S.R.T.M.U, Nanded)
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Department - Computer Application
DTE Code:- 2129

MCA First Year 2023-24 [SEM I]

UNIT Test I Record of 5 Subjects **Marks:25**

Roll No	Name	Subjects									
		PLC	Slow learners	DS	Slow learners	COA	Slow learners	IMF	Slow learners	MFCS	Slow learners
1	AADE VISHAL BHAGWAN	10		17		8	SL	13		4	SL
2	ADSUL DHANASHREE PRABHAKAR	2	SL	7	SL	11		4	SL	2	SL
3	ADSULE RUTICK NANDKUMAR	10		20		18		16		12	
4	BIRADAR SHUBHANGI BALAJI	2	SL	17		13		11		13	
5	CHAVAN MADHURA SUDHIRRAO	4	SL	3	SL	12		12		3	SL
6	CHOUNDE GOURAVI RAMAKANT	10		9	SL	12		14		11	
7	DANDGULE SHIVAJI GAVIND	16		16		10		12		7	
8	DESHMUKH VAISHNVI SUNIL	15		15		18		10		14	
9	FAVADE VISHAL VITTHAL	17		17		13		11		13	
10	FUTANE AMOL KAMLAKAR	16		16		10		12		7	SL
11	FUTANE VIJAY SUDHAKAR	16		16		10		12		7	SL
12	GADE VAISHALI YUVRAJ	15		15		18		10		14	
13	GAHIRWAR KIRTI KIRANSINHA	15		5	SL	10		4	SL	3	SL
14	GAHIRWAR KISANSING VIJAYSING	10		17		13		11		13	
15	GORE PRANJALI PRAVIN	18		5	SL	16		7	SL	6	SL
16	GUMME RUTUJA CHANDRAKANT	13		7	SL	11		4	SL	2	SL
17	GUTTE SUJATHA SHAMRAO	10		20		18		16		12	
18	HAJARE SHRIKRUSHNA GAVIND	10		17		13		11		13	
19	HANCHATE PRAJWAL PANDURANG	18		17		13		11		13	
20	JADHAV DATTAPRASAD VASANT	10		12		25		7	SL	9	SL
21	JADHAV PAYAL VISHNUDAS	13		17		13		11		13	

22	JADHAV PRATHVIRAJ BALAJI	16		6	SL	7	SL	4	SL	0	SL
23	JADHAV SHREYA SATISH	11		9	SL	15		7	SL	11	
24	JAGTAP JIVAN SHIVAJI	18		17		13		11		13	
25	KADAM ADITYA SURYAKANT	13		17		8	SL	13		4	SL
26	KADAM PRANAV BALAJI	13		7	SL	11		4	SL	2	SL
27	KADAM VISHWAJIT ABHIMANYU	25		20		18		16		12	
28	KAMBLE ARATI SATYAVAN	13		17		13		11		13	
29	KAMBLE BALAJI MARUTI	7	SL	3	SL	12		12		3	SL
30	KAMBLE DNYANWSHWAR PRABHAKAR	15		9	SL	12		14		11	
31	KAMBLE SHRADHA MACHINDRA	13		14		20		13		4	SL
32	KANDANGIRE VAIBHAV PRADIP	5	SL	13		7	SL	10		10	
33	KATAKE SHRUTI NAGSEN	5	SL	19		17		10		7	SL
34	KORE ANURADHA BHAGAVAN	13		14		20		13		4	SL
35	KSHIRSAGAR SURAJ BALAJI	5	SL	13		7	SL	10		10	
36	LOKHANDE ABHILASH BHAGWAN	9	SL	16		10		12		4	SL
37	MANE KRISHNA SHIVMURTI	9	SL	16		10		12		4	SL
38	MANE SWAPNIL VAIJANATH	12		19		13		16		13	
39	MATHAPATI SHREYA SOMESHWAR	18		16		10		12		13	
40	MUDKANNA VAISHNAVI JITENDRA	10		12		13		18		11	
41	PANDHARE SUHAS VISHWANATH	13		8	SL	8	SL	10		18	
42	PATHAN MOHSIN KHALIL	16		9	SL	13		13		AA	
43	PATIL GANESH RAJKUMAR	11		13		11		16		13	
44	PATIL VAISHNAVI VISHWANATH	18		9	SL	18		11		AA	
45	PATIL VAISHNAVI VIRESH	13		6	SL	13		18		18	
46	PAWAR SHEKHAR BABRUWAN	13		14		20		13		4	SL
47	RANKHAMB BAJRANH LAXMAN	5	SL	13		7	SL	10		10	
48	SATBHAI CHANDRAKANT RAJIV	9	SL	16		10		12		4	SL
49	SAVANT RUTUJA UMESH	9	SL	16		10		12		4	SL
50	SAVRIKAR PUSHKARAJ UDDHAVRAO	12		19		13		16		13	
51	SHAIKH AMAN MALIK	18		16		10		12		13	
52	SHARAMA SHMBHU SURESHJI	10		12		13		18		11	
53	SHEGEDAR VISHAL BHAUSAHEB	13		8	SL	8	SL	10		18	
54	SHENDAGE MAHESH BAPU	16		9	SL	13		13		AA	

	SHETGAR MAHESH MADHUKAR	11		13		11		16		13	
56	SHINDE JYOTIRAM DATTA	18		9	SL	18		11		AA	
57	SHINDE RAMPRASAD BALANAND	13		6	SL	13		18		18	
58	SHINDE TANAYA CHANDRAKANT	13		8	SL	8	SL	10		18	
59	THOMBARE SHWETALI SAMBHAJI	16		9	SL	13		13		AA	
60	TINGRE AKASH MANIK	11		13		11		16		13	
61	UPADE AKASHKUMAR KAMLAKAR	18		9	SL	18		11		AA	
62	WADWALKAR VAISHNAVI DHANANJAY	13		6	SL	13		18		18	
63	WAGH AMRUTA LAXMIKANT	18		9	SL	18		11		AA	
64	WALAMPALLE AVISHKAR GOVIND	13		6	SL	13		18		18	

1. Prof. Dhappadhule .M.S.
2. Prof. Dr. Deshmukh S. D.
3. Prof. Rasure B. B.
4. Prof. Birajdar P. S.
5. Prof Halgare N. M

Exam Incharge

HOD

Principal

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Department - Computer Application
DTE Code:- 2129

SR.NO	Class	Mentor	Roll No	Signature
1	MCAFY	Prof.Rasure B.B	1 To 20	
2	MCAFY	Prof.Deshmukh S.D	21 To 32	
3	MCASY	Prof.Birajdar P.S.	1 To 20	
4	MCASY	Prof.Dhappadhule M.S.	21 To 40	
5	MCASY	Prof.Vyavhare N.R	41 to 57	

HOD

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UNIT –I

Essay Answer (10 mark) Questions

1. (a) Convert the given decimal number 234 to binary, octal, hexadecimal and BCD equivalent. **[6M][L1][CO1]**
   (b) Given that $(16)_{10} = (100)_b$, determine the value of b. **[2M][L1][CO1]**
   (c) Given that $(292)_{10} = (1204)_b$, determine the value of b. **[2M][L1][CO1]**
2. (a) Convert the following. **[5M][L1][CO1]**
   i) $(BC)_{16} = (\ )_{10}$ ii) $(2314)_8 = (\ )_{10}$ iii) $(1000011)_2 = (\ )_{10}$ iv) $(647)_{10} = (\ )_{16}$
   (b) Express the following numbers in decimal. **[3M][L1][CO1]**
   i) $(10110.0101)_2$ ii) $(16.5)_{16}$ iii) $(26.24)_8$
   (c) Convert decimal 27.315 to binary. **[2M][L1][CO1]**
3. Perform the following
   (a) Subtraction using 9's complement for the given. **[5M][L1][CO1]**
   i) 54321 –41245 ii) 1231-4145
   (b) Subtraction by using 1's complement for the given. **[5M][L1][CO1]**
   i) 111011-110110 ii) 10001-10011
4. Perform the following
   (a) Subtraction using 10's complement for the given. **[5M][L1][CO1]**
   i) 3456 – 245 ii) 1631-745
   (b) Subtraction by using 2's complement for the given. **[5M][L1][CO1]**
   i) 111001-1010 ii) 10011-10001
5. (a) Perform the following using BCD arithmetic. **[5M][L1][CO1]**
   i) $(79)_{10} + (177)_{10}$ ii) $(481)_{10} + (178)_{10}$
   (b) Convert the following to binary and then to gray code. **[5M][L1][CO1]**
   i) $(1111)_{16}$ ii) $(BC54)_{16}$ iii) $(237)_8$ iv) $(164)_{10}$ v) $(323)_8$
6. (a) Explain about the Binary Codes. **[5M][L1][CO1]**
   (b) Simplify the following Boolean functions to minimum number of literals. **[5M][L1][CO1]**
   i) F=xy+x'z+yz.
   ii) F=x'y'z+x'yz+xy'
   iii) F= (x+y)'(x'+y')
   iv) F=xy+xy'+x'y
   v) F= (BC'+A'D)(AB'+CD')
7. (a) State and prove De Morgan's theorem. **[4M][L1][CO1]**
   (b) State and prove Duality theorem. **[4M][L1][CO1]**
   (c) State the distributive law. **[2M][L1][CO1]**
8. (a) Obtain the Dual and complement to the following Boolean expressions. **[8M][L1][CO1]**
   i) F=AB+A (B+C) + B' (B+D)
   ii) F=A+B+A'B'C
   iii)F=A'B+A'BC'+A'BCD+A'BC'D'E

iv) F= ABEF+ABE'F'+A'B'EF

(b)Give the truth table of XNOR logic gates. **[2M][L1][CO1]**

9. (i) Express the Boolean function F= A+B'C as a sum of minterms. **[5M][L1][CO1]**

   (ii) Express the Boolean function F= XY+X'Z as a product of maxterm. **[5M][L1][CO1]**

10. (a)Express the following function as a sum of minterms and as a product of maxterms

    F(A,B,C,D) = B'D+A'D+BD. **[5M][L1][CO1]**

    (b) Obtain the truth table of the following Boolean function and express the function as sum of minterms and product of maxterms F = (A+B) (B+C). **[5M][L1][CO1]**

UNIT –II
Essay (10 mark) Questions

1. a) Minimize the following Boolean function using K-map
   F (A, B, C, D)= Σm(1,4,5,6,12,13,14,15). **[2M][L1][CO3]**
   b) Obtain the simplified expression using K-map for the following Boolean function
   F (A, B, C, D, E) =∑ (0,1,4,5,16,17,21,25,29). **[3M][L1][CO3]**
   c) Simplify F(A,B,C,D) = ∑ (4,5,6,7,12,13,14) +d(1,9,11,15) using K-map. **[5M][L1][CO3]**
2. Simplify the following Boolean function for minimal SOP & POS form using K-map
   i) F (A, B, C, D) = Σ (0,1,2,5,8,9,10)
   ii) F (A, B, C, D) = π(1,3,5,7,12,13,14,15). **[10M][L2][CO3]**
3. Obtain (i) Sum of products form and (ii) Product of sums form for
   F=x'z'+y'z'+yz'+xy **[10M][L2][CO3]**
4. Minimize the given Boolean function, F (A, B,C,D) = Σ m(0,1,2,3,6,7,13,15) using Tabulation method and implement it using basic gates. **[10M][L2][CO3]**
5. (a)Write the design procedure for combinational circuit. **[5M][L3][CO4]**
   (b) Design & implement the Full Adder . **[5M][L3][CO4]**
6. (a) Design & implement 4-bit Adder/subtractor. **[4M][L3][CO4]**
   (b) Explain about carry look ahead adder with suitable diagram. **[6M]L1][CO4]**
7. (a) Construct a BCD adder circuit**.** [**3M][L3][CO4]**
   (b)With a neat design procedure, explain the implementation of a 4-bit Magnitude Comparator. **[7M][L3][CO4]**
8. (a) Define Decoder. Design & implement a 3 to 8 line Decoder**.** **[5M][L3][CO4]**
   (b) Design & implement a Full Adder using Decoder and two OR gates. [**5M][L3][CO4]**
9. (a) What is Encoder? Design an octal to binary Encoder. **[5M][L3][CO4]**
   (b) Design & Implement an 8:1 Multiplexer. **[5M][L3][CO4]**
10. (a) Implement the following Boolean function using 4:1 Multiplexer.
    F (A, B, C) =∑ (1,2,6,7). **[5M][L3][CO4]**
    (b) Design a 1:4 Demultiplexer and mention the applications of a DEMUX. **[5M][L1][CO4]**

UNIT –III
Essay (10 mark) Questions

1. (a) Draw the logic diagram of a JK – flip flop and explain its operation. **[5M][L4][CO3]**
   (b) What is the need for Master Slave JK FF and explain its operation with neat diagrams. **[5M][L2][CO3]**
2. (a)Explain the operation of an SR Flip Flop using excitation table. Give its Truth Table and Characteristic Equation **[5M][L2][CO3]**
   (b)Give the characteristic table, Truth table, characteristic equation and excitation table for T and DFF. **[5M][L2][CO3]**
3. (a)Implement D-FF using JK FF with its truth table. **[5M][L4][CO3]**
   (b) Draw the basic flip flop circuit with NOR gates. Explain its operation **[5M][L2][CO3]**
4. (a)Compare Synchronous and Ripple counters. **[3M][L2][CO2]**
   (b) Design and implement Mod-10 Synchronous Up counter using T-FFs **[7M][L4][CO3]**
5. (a)Design MOD -6 Ripple Down counter **[5M][L4][CO3**
   (b)Draw and explain a 4-bit Serial in Serial out (SISO) Shift Register. **[5M][L4][CO3]**
6. Draw and explain 4-bit Universal shift register. **[10M][L6][CO3]**
7. (a)Explain the difference between Ring and Johnson counters with neat sketch. **[5M][L4][CO3]**
   (b) Design a 4-bit synchronous up counter using JK flip flops. **[5M][L2][CO4]**
8. (a) Design a Positive edge triggered Master-Slave D flip flop **[4M][L2][CO3]**
   (b) Design and implement a BCD Ripple counter using JK Flip Flops. **[6M][L3][CO3]**
9. (a)Design a 4-bit binary ripple down – counter using a negative edge triggered T – Flip Flops. **[5M][L3][CO3]**
   (b)Explain the operation of Pseudo Random Binary Sequence Generator with a neat diagram. **[5M][L2][CO3]**
10. (a)Explain the principle of clock generation with neat diagram **[4M][L4][CO3]**
    (b) Design and implement a 2 bit Up-Down Counter using JK FF's. **[6M][L4][CO3]**

UNIT –IV
Essay (10 mark) Questions

1. (a)Perform the analysis of standard DTL NAND gate and give its characteristics **[5M][L4][CO3]**
   (b) Give the classification of integrated circuits and compare the various logic families. **[5M][L2][CO2]**
2. (a)What is meant by Tristate logic? Draw the circuit of Tristate TTL logic and explain the functions. **[6M][L4][CO4]**
   (b) Explain the following specifications **[4M][L2][CO2]**
   (i) Fan out
   (ii) Noise margin
3. (a) Briefly Explain about ECL. **[5M][L2][CO2]**
   (b) Compare between Different CMOS Logic families. **[5M][L1][CO2]**
4. (a)Explain about TTL to CMOS interfacing **[5M][L4][CO2]**
   (b) Compare TTL, ECL and CMOS **[5M][L1][CO2]**
5. Design a BCD to excess 3 code converter using suitable PLA **[10M][L4][CO4]**
6. Implement the following functions using a PLA ` **[10M][L4][CO3]**
   (i)f1(w,x,y)=∑m(3,5,6,7) ii) f2(w,x,y)=∑m(0,2,4,7)
7. Generate the following Boolean function using PAL with 4 inputs and 4 outputs **[10M][L6][CO3]**
   (i)Y3= a'bc'd+a'bcd'+abc'd
   (ii)Y2=a'bcd'+a'bcd+abcd
   (iii)Y1=a'bc'+a'bc+ab'c+abc'
   (iv)Y0=abcd8.
8. (a)Derive the PLA programming table for the combinational circuit that squares a 3-bit number. **[5M][L2][CO4]**
   (b) Compare three combinational circuits: PLA, PAL and ROM. **[5M][L1][CO4]**
9. (a)Explain the architecture of PLA **[5M][L2][CO2]**
   (b) Briefly introduce the content addressable memory. **[5M][L1][CO2]**
10. Implement the following Boolean function using PAL. **[10M][L6][CO3]**
    (i) F1 (w,x,y,z) = Σm(0,1,2,3,7,9,11)
    (ii) F2 (w,x,y,z) = Σm(0,1,2,3,10,12,14)
    (iii) F3 (w,x,y,z) = Σm(0,1,2,3,10,13,15
    (iv) F4 (w,x,y,z) = Σm(4,5,6,7,9,15)
11. (a)Explain the 4X4 ROM construction with neat diagram. **[5M][L2][CO4]**
    (b) Implement NOT, NAND and NOR operation using CMOS logic **[5M][L2][CO4]**

UNIT –V
Essay (10 mark) Questions

1) a) Explain various data objects in VHDL. Give necessary examples. **[5M] [L2] [CO5]**

(b) Explain the structure of a VHDL program. **[5M] [L2] [CO5]**

2) Explain in detail different modeling styles of VHDL with suitable examples. **[10M] [L2] [CO5]**

3) Draw and explain in detail the VHDL design flow. **[10M] [L2] [CO5]**

4) a) Explain the importance of Schematic in VHDL. **[5M] [L1] [CO5]**

b) Explain about Data Types in VHDL. **[5M] [L2] [CO5]**

5) a) Write a VHDL program for a 4X1 MUX. **[5M] [L4] [CO5]**

b) Discuss in detail about Data Flow design elements. **[5M] [L4] [CO5]**

6) a) Design a logic circuit and write a VHDL program to add 3 bit numbers. **[5M] [L5] [CO5]**

b) Explain about Simulation and Synthesis processes in VHDL. [**5M] [L2] [CO5]**

7) Design the logic circuit and write a data-flow style VHDL program for the following function.

$F(A,B,C,D) = \sum (1,5,6,7,9,13) + d(4,15)$. **[10M] [L5] [CO5]**

8) a) Write about structural design elements with VHDL code. **[5M] [L1] [CO5]**

b) Write a VHDL entity and Architecture for the following function. F(x) = (a + b) (c d). Also draw the relevant logic diagram. **[5M] [L5]** [**CO5]**

9) a) Write a VHDL program for a 2 bit Magnitude Comparator using Data Flow model. **[5M] [L5] [CO5]**

b) Write a VHDL program for a D and T FF. **[5M] [L5] [CO5]**

10) a) Write a VHDL program for Full adder. [**5M] [L5] [CO5]**

b) Write a VHDL program for 3 to 8 Decoder. **[5M] [L5] [CO5]**

UNIT-I
Short (2 mark) Questions

1. Converting the following to octal: $(4243)_{16}$. (ii) $(125)_{10}$.
2. Express the given number (M=01000100) using 1's complement?
3. What is the need for taking complement?
4. Perform X-Y using 1's complement of the given binary numbers X = 1010100 and Y = 1000011.
5. Find 10's complement of given decimal numbers X = 52324 and Y =2421.
6. Why XS-3 code is called a self-complementing code?
7. What are the signed binary number systems?
8. What are the different classifications of binary codes?
9. State about error correcting codes?
10. What is meant by parity bit?
11. Define Demorgan's theorem.
12. Write the truth table for F=(A+B)(C+D)
13. State the associative law and commutative law.
14. State De Morgan's theorem and Duality.
15. Simplify the following expression Y = (A + B)(A '+ C)(B' + C')
16. Show that (X + Y' + XY)(X + Y')(X'Y) = 0
17. Prove that ABC + ABC' + AB'C + A'BC = AB + AC + BC
18. Define Canonical SOP & Canonical POS.
19. Define binary logic?
20. Define logic gates?

UNIT-II
Short (2 mark) Questions

1. Simplify the given Boolean function, F(X,Y,Z) = ∑(1,2,3,6,7).
2. Define Minterm and Maxterm.
3. Find the minterms of the given Boolean expressions
   $F=C^1D+AB\ C^1+ABD^1+A^1B^1D.$
4. Define Prime Implicant and Essential Prime Implicant.
5. Draw a 5 variable k-map.
6. Give the steps involved in analysis procedure for a combinational circuit.
7. Draw a Half Adder circuit and mention its truth table.
8. Draw a Half Subtractor circuit and mention its truth table.
9. Implement a Full Adder using Half Adders.
10. Mention the expressions for difference and borrow of Full Subtractor.
11. Draw the diagram of a 4 bit Binary Adder.
12. Draw the circuit of two bit by two bit binary multiplier.
13. Draw the 4*16 Decoder circuit using two 3x8 Decoders.
14. Define encoder and decoder.
15. Write the truth table of priority encoder.
16. List the applications of Encoder and Decoder.
17. Design a 2:1 Multiplexer.
18. Define Mux and Demux.
19. List the applications of MUX and DEMUX.
20. Define Carry Look Ahead Adder.

UNIT-III
Short (2 mark) Questions

1. Write the difference between Latch and Flip flop
2. Briefly explain about D-FF
3. Draw the block diagram of sequential circuit using combinational circuit and memory unit
4. Draw the logic circuit of flip-flop and truth table using NAND gates
5. Give the comparison between combinational circuits and sequential circuits
6. What is shift register? Give the classification of them?
7. Draw the circuit of ring counter.
8. What is the operation of SR flip-flop?
9. What are the different types of flip-flop?
10. Define Flip flop. What are the applications of FF
11. What is the operation of JK flip-flop?
12. Draw the PIPO shift register
13. What is edge-triggered flip-flop?
14. What are different types of counter
15. Explain the flip-flop excitation tables for JK flip-flop
16. Draw the MOD-2 Counter.
17. Draw the SIPO shift register
18. Give the comparison between synchronous & Asynchronous counters.
19. What is a master-slave flip-flop?
20. What are the classifications of sequential circuits?

UNIT-IV
Short (2 mark) Questions

1. Define Propagation delay and Fan-out.
2. Draw the symbol of NMOS and PMOS transistor.
3. Define noise margin.
4. Draw CMOS AND gate.
5. What are the advantages of flash memory?
6. Draw the DTL OR gate.
7. What is the concept of ROM?
8. What are the advantages of PLDs.
9. List different PLDs.
10. Draw CMOS OR gate.
11. Draw the structure of PAL.
12. What is meant by Tristate TTL
13. Compare PAL, PLA & PROM.
14. Realize $F(x,y,z) = \Sigma m(1,2,5,7)$ using PLA.
15. Realize $F(x,y,z) = \Sigma m(1,2,3,6)$ using PAL
16. How does the PLDs differ from fixed logic devices?
17. Find the number of address lines to access 4KB ROM.
18. What is static memory?
19. List the differences between static & dynamic memories.

UNIT-V

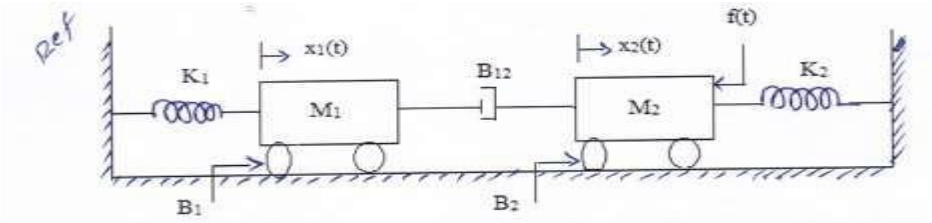
Short (2 mark) Questions

1. List the different objects of VHDL.
2. Define FSM.
3. What is the need of HDL?
4. Give the difference between Signal and Variable.
5. Give any two differences between different modeling styles of VHDL.
6. Define Data flow model.
7. Define Structural model.
8. Define Behavioral model.
9. State the basic statement used in behavioral Modeling.
10. Define Process and Sequential Statements with example.
11. Write an entity declaration for 1x8 De-Mux.
12. Write a VHDL Program for 1x4 DEMUX in Dataflow Model.
13. Write a VHDL Program for Half adder in Structural Model.
14. Write a VHDL Program for Full adder in Behavioral Model.
15. Write a VHDL Program for 1x8 De-MUX in Structural Model.
16. Write a VHDL Program for Half Subtractor in Dataflow Model.
17. Write a VHDL Program for Full Subtractor in Structural Model.
18. Write a VHDL Program for 2x4 Decoder in Dataflow Model.
19. Write a VHDL Program for 4x2 Encoder in Structural Model.
20. Write an Entity Declaration for 4x8 Decoder in Structural Model.

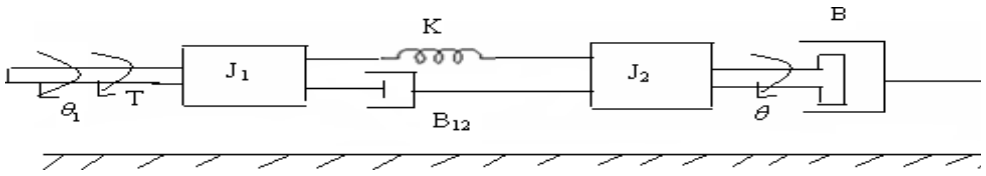
UNIT –I

CONTROL SYSTEMS CONCEPTS

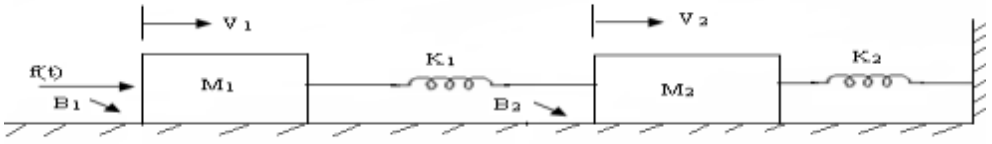
Q.1 For the mechanical system shown in Fig, determine the transfer functions $\frac{X1(s)}{F(s)}$ & $\frac{X2(s)}{F(s)}$ [L3,CO1] 10M



Q.2 Write the differential equations governing the mechanical rotational system shown in the figure and find transfer function. [L3,CO1] 10M



Q.3 For the mechanical system shown in the figure draw the force-voltage and force-current analogous circuits. [L6,CO1] 10M

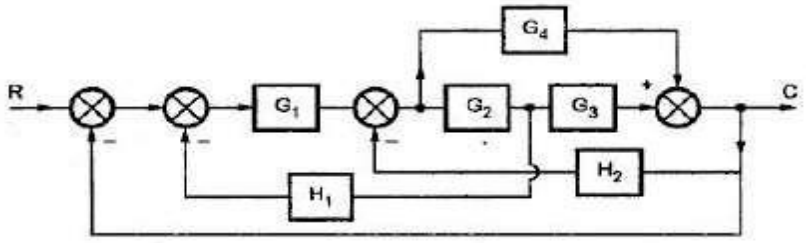


Q.4

a. Compare open loop and closed loop control systems based on different aspects? [L2,CO1] 6M

b. Distinguish between Block diagram Reduction Technique and Signal Flow Graph? [L2,CO1] 4M

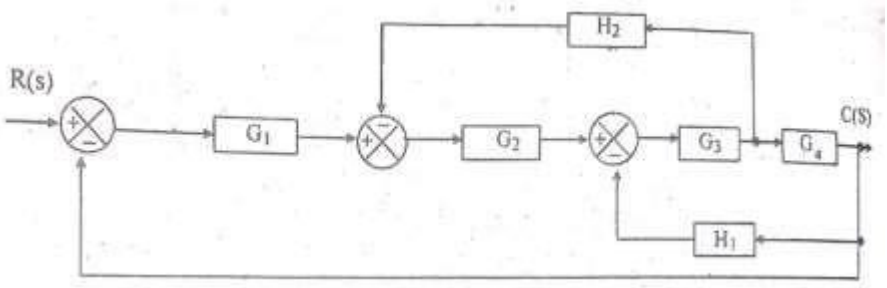
Q.5 Using Block diagram reduction technique find the Transfer Function of the system. [L5,CO1] 10M



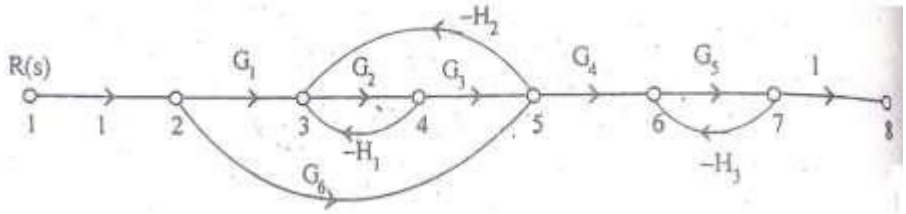
Q.6 a. Give the block diagram reduction rules to find the transfer function of the system. [L2,CO1] 8M

b. List the properties of signal flow graph. [L1,CO1] 4M

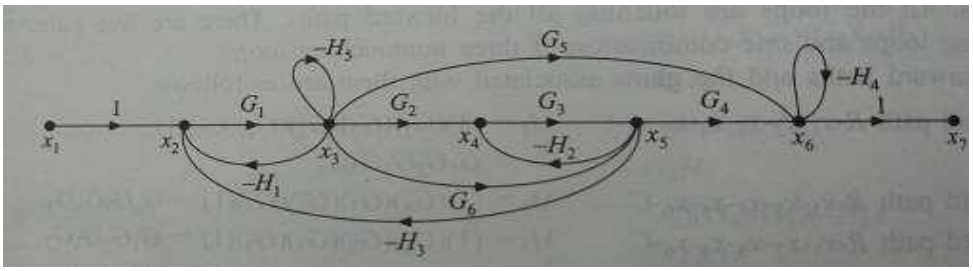
Q.7 For the system represented in the given figure, determine transfer function C(S)/R(S). [L3,CO1] 10M



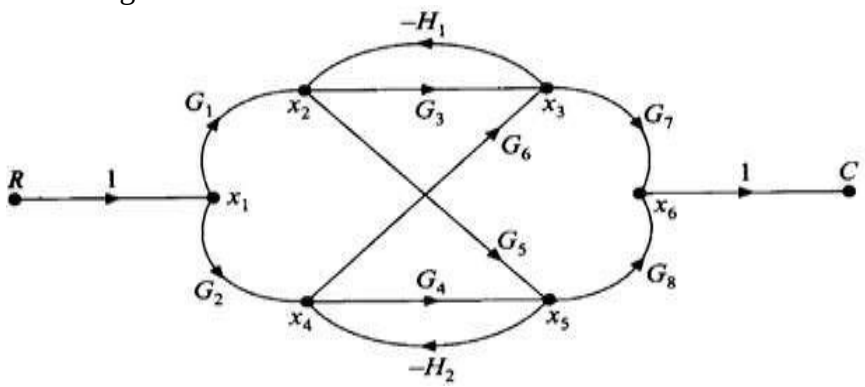
Q.8 Find the overall transfer function of the system whose signal flow graph is shown below. [L5,CO1] 10M



Q.9 Obtain the transfer function of the system whose signal flow graph is shown below. [L3,CO1] 10M



Q.10 Using mason gain formula find the transfer function $\frac{C}{R}$ for the signal flow graph shown in figure. [L3,CO1] 10M



Q.11 i) Define control systems? [L1,CO1] 2M

ii) What is feedback? What type of feedback is employed in control systems? [L2,CO1] 2M

iii) Define transfer function? [L1,CO1] 2M

iv) What is block diagram? What are the basic components of block diagram? [L2,CO1] 2M

v) Explain transmittance [L4,CO1] 2M

UNIT-II

TIME RESPONSE ANALYSIS

Q.1 List out the time domain specifications and derive the expressions for Rise time, Peak time and Peak overshoot. [L1,CO2] 10M

Q.2 Find all the time domain specifications for a unity feedback control system whose open loop transfer function is given by **G(S) =** $\frac{25}{S(S+5)}$. [L2,CO2] 10M

Q.3 A closed loop servo is represented by the differential equation: $\frac{d^2c}{dt^2} + 8\frac{dc}{dt} = 64e$. Where 'c' is the displacement of the output shaft, 'r' is the displacement of the input shaft and e =r – c. Determine undamped natural frequency, damping ratio and percentage maximum overshoot for unit step input. [L3,CO2] 10M

Q.4 a. Measurements conducted on a servo mechanism, show the system response to be $\mathbf{c(t) = 1+0.2e^{-60t}- 1.2e^{-10t}}$ When subject to a unit step input.Obtain an expression for closed loop transfer function, determine the undamped natural frequency, damping ratio? [L3,CO2] 5M

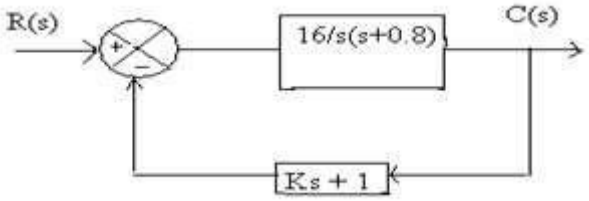
b. For servo mechanisms with open loop transfer function given below what type of input signal give rise to a constant steady state error and calculate their values. [L3,CO2] 5M

$$\mathbf{G(s)H(s)=\frac{10}{S^2(S+1)(S+2)}}.$$

Q.5 A unity feedback control system has an open loop transfer function, $\mathbf{G(s)} = \frac{\mathbf{10}}{\boldsymbol{S(S+2)}}$. Find the rise time, percentage overshoot, peak time and settling time for a step input of 12 units. [L5,CO2] 10M

Q.6 Define steady state error? Derive the static error components for Type 0, Type 1 &Type 2 systems? [L1,CO2] 10M

Q.7 A positional control system with velocity feedback shown in figure. What is the response c(t) to the unit step input. Given that damping ratio=0.5.Also determine rise time, peak time, maximum overshoot and settling time. [L3,CO2] 10M



Q.8 a. A For servo mechanisms with open loop transfer function given below what type of input signal give rise to a constant steady state error and calculate their values. [L3,CO2] 5M

$$\mathbf{G(s)H(s)=\frac{20(S+2)}{S(S+1)(S+3)}}$$

b. Consider a unity feedback system with a closed loop transfer function $\frac{\boldsymbol{C(S)}}{\boldsymbol{R(S)}} = \frac{\boldsymbol{KS+b}}{\boldsymbol{(S^2+aS+b)}}$. Calculate open loop transfer function G(s). Show that steady state error with unit ramp input is given by $\frac{\boldsymbol{(a-K)}}{\boldsymbol{b}}$ [L3,CO2] 5M

Q.9 For a unity feedback control system the open loop transfer function [L3,CO2] 10M

$\mathbf{G(S) = \frac{10(S+2)}{S^2(S+1)}}$.

(i) Determine the position, velocity and acceleration error constants.

(ii) The steady state error when the input is **R(S) =** $\frac{3}{S} - \frac{2}{S^2} + \frac{1}{3S^3}$.

Q.10	a.	What is the characteristic equation? List the significance of characteristic equation.	[L1,CO2]	2M
	b.	The system has **G(s) =** $\frac{K}{S(1+ST)}$ with unity feedback where K & T are constant. Determine the factor by which gain **'K'** should be multiplied to reduce the overshot from **75%** to **25%?**	[L3,CO2]	8M
Q.11	i)	How the system is classified depending on the value of damping ratio?	[L4,CO2]	2M
	ii)	List the time domain specifications?	[L1,CO2]	2M
	iii)	Define peak overshoot?	[L1,CO2]	2M
	iv)	Define accelerating error constant?	[L1,CO2]	2M
	v)	What is the need for a controller?	[L2,CO2]	2M

UNIT –III

STABILITY ANALYSIS IN CONTROL SYSTEMS

Q.1 With the help of Routh's stability criterion find the stability of the following systems represented by the characteristic equations: [L5,CO3] 10M

(a) $\mathbf{s^4 + 8\,s^3 + 18\,s^2 + 16s + 5 = 0.}$

(b) $\mathbf{s^6 + 2s^5 + 8s^4 + 12s^3 + 20s^2 + 16s + 16 = 0}$.

Q.2 With the help of Routh's stability criterion find the stability of the following systems represented by the characteristic equations: [L5,CO3] 10M

(a) $\mathbf{s^5 + s^4 + 2\,s^3 + 2\,s^2 + 3s + 5 = 0}$

(b) $9\mathbf{s^5 - 20s^4 + 10\,s^3 - s^2 - 9s - 10 = 0}$

Q.3 The open loop Transfer function of a unity feedback control system is given by **G(s)H(s) =** $\frac{K}{(S+2)(S+4)(S^2+6S+25)}$ Determine the value of K which will cause sustained oscillationsin the closed loop system and what is the corresponding oscillation Frequency. [L3,CO3] 10M

Q.4		Determine the range of K for stability of unity feedback system whose open loop transfer function is **G(s) H(s) =** $\frac{K}{S(S+1)(S+2)}$ using Routh's stability criterion.	[L3,CO3]	10M
Q.5		Explain the procedure for constructing root locus.	[L2,CO3]	10M
Q.6		Sketch the root locus of the system whose open loop transfer function is **G(s) H(s) =** $\frac{K}{S(S+2)(S+4)}$.	[L3,CO3]	10M
Q.7		Sketch the root locus of the system whose open loop transfer function is **G(s) H(s) =** $\frac{K}{S(S^2+4S+13)}$	[L3,CO3]	10M
Q.8		Sketch the root locus of the system whose open loop transfer function is **G(s) H(s) =** $\frac{K(S+9)}{S(S^2+4S+11)}$	[L3,CO3]	10M
Q.9		Sketch the root locus of the system whose open loop transfer function is **G(s) H(s) =** $\frac{K(S^2+6S+25)}{S(S+1)(S+2)}$	[L3,CO3]	10M
Q.10		Sketch the root locus of the system whose open loop transfer function is **G(s)H(s) =** $\frac{K}{S(S^2+6S+10)}$	[L3,CO3]	10M
Q.11	i)	Explain BIBO stability?	[L12,CO3]	2M
	ii)	What is the necessary condition for stability?	[L2,CO3]	2M
	iii)	Define root locus?	[L1,CO3]	2M
	iv)	What is centroid? How the centroid is calculated?	[L2,CO3]	2M
	v)	What is limitedly stable system?	[L2,CO3]	2M

UNIT-IV

FREQUENCY RESPONSE ANALYSIS

Q.1	Sketch the Bode plot for the following transfer function **G(s)H(s)** = $\frac{K e^{-0.1s}}{S(S+1)(1+0.1S)}$	[L3,CO4]	10M
Q.2	Sketch the Bode plot for the system having the following transfer function **G(s) =** $\frac{15(S+5)}{S(S^2+16S+100)}$	[L3,CO4]	10M

Q.3	a.	Define and derive the expression for resonant frequency.	[L1,CO4]	5M
	b.	Draw the magnitude bode plot for the system having the following transfer function: **G(s) H(s)** = $\frac{2000\,(S+1)}{S(S+10)\,(S+40)}$	[L3,CO4]	5M
Q.4		Derive the expressions for resonant peak and resonant frequency and hence establish the correlation between time response and frequency response.	[L3,CO4]	10M
Q.5		Draw the Bode plot for the following Transfer Function **G(s) H(s)** = $\frac{20(0.1S+1)}{S^2(0.2S+1)\,(0.02S+1)}$ From the bode plot determine (a) Gain Margin (b) Phase Margin (c) Comment on the stability	[L3,CO4]	10M
Q.6	a.	Given ξ **= 0.7** and ω_n **= 10 rad/sec.** Calculate resonant peak, resonant frequency and bandwidth.	[L3,CO4]	5M
	b.	Sketch the polar plot for the open loop transfer function of a unity feedback system is given by **G(s) =** $\frac{1}{S(1+S)\,(1+2S)}$**.** Determine Gain Margin & Phase Margin.	[L3,CO4]	5M
Q.7		A system is given by **G(s) H(s) =** $\frac{(4S+1)}{S^2(S+1)\,(2S+1)}$ Sketch the nyquist plot and determine the stability of the system.	[L3,CO4]	10M
Q.8		Draw the Nyquist plot for the system whose open loop transfer function is, **G(s)H(s) =** $\frac{K}{S(S+2)\,(S+10)}$**.** Determine the range of K for which closed loop system is stable.	[L3,CO4]	10M
Q.9		Obtain the transfer function of Lead Compensator, draw pole-zero plot and write the procedure for design of Lead Compensator using Bode plot.	[L3,CO4]	10M
Q.10		Obtain the transfer function of Lag Compensator, draw pole-zero plot and write the procedure for design of Lag Compensator using Bode plot.	[L3,CO4]	10M
Q.11	i)	Define phase margine ?	[L1,CO4]	2M
	ii)	Write the expression for resonant peak and resonant frequency?	[L3,CO4]	2M
	iii)	What is phase and gain cross over frequency?	[L2,CO4]	2M
	iv)	What are the frequency domain specifications?	[L2,CO4]	2M
	v)	What is frequency response?	[L2,CO4]	2M

UNIT-V

STATE SPACE ANALYSIS

Q.1		Determine the Solution for Homogeneous and Non homogeneous State equations	[L3,CO5]	10M
Q.2		For the state equation: $\dot{X} = \begin{pmatrix} 0 & 1 \\ -2 & -3 \end{pmatrix}\mathbf{X} + \begin{pmatrix} 0 \\ 1 \end{pmatrix}\mathbf{U}$ with the unit step input and the initial conditions are $\mathbf{X(0)} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$. Solve the following (a) State transition matrix (b) Solution of the state equation.	[L3,CO5]	10M
Q.3		A system is characterized by the following state space equations: $\dot{X}_1 = -3x_1 + x_2$; $\dot{X}_2 = -2x_1 + u$; $Y = x_1$	[L3,CO5]	
		(a) Find the transfer function of the system and Stability of the system.		5M
		(b) Compute the STM		5M
Q.4	a.	State the properties of State Transition Matrix.	[L1,CO5]	5M
	b.	Diagonalize the following system matrix $A = \begin{pmatrix} 0 & 6 & -5 \\ 1 & 0 & 2 \\ 3 & 2 & 4 \end{pmatrix}$	[L3,CO5]	5M
Q.5	a.	Find state variable representation of an armature controlled D.C.motor.	[L2,CO5]	5M
	b.	A state model of a system is given as: $\dot{X} = \begin{pmatrix} 0 & 1 & 0 \\ 0 & 0 & 1 \\ -6 & -11 & -6 \end{pmatrix}X + \begin{pmatrix} 0 \\ 0 \\ 1 \end{pmatrix}U$ and $Y = (1\ 0\ 0)X$ Determine: (i) The Eigen Values. (ii) The State Transition Matrix.	[L3,CO5]	5M
Q.6	a.	Derive the expression for the transfer function and poles of the system from the state model. $\dot{X} = Ax + Bu$ and $y = Cx + Du$	[L3,CO5]	5M
	b.	Diagonalize the following system matrix $A = \begin{pmatrix} 4 & 1 & -2 \\ 1 & 0 & 2 \\ 1 & -1 & 3 \end{pmatrix}$	[L3,CO5]	5M
Q.7		Obtain a state model for the system whose Transfer function is given by $\mathbf{G(s)\,H(s)} = \frac{(7S^2+12S+8)}{(S^3+6S^2+11S+9)}$	[L2,CO5]	10M
Q.8	a.	State the properties of STM.	[L1,CO5]	3M

	b.	For the state equation: $\dot{X} = \begin{pmatrix} 1 & 0 \\ 1 & 1 \end{pmatrix}\mathbf{X} + \begin{pmatrix} 0 \\ 1 \end{pmatrix}\mathbf{U}$ when, $\mathbf{X(0)} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$. Find the solution of the state equation for the unit step input.	[L2,CO5]	7M
Q.9	a.	Find the state model of the differential equation is $\dddot{y} + 2\ddot{y} + 3\dot{y} + 4y = u$	[L2,CO5]	5M
	b.	Diagonalize the following system matrix $A = \begin{pmatrix} 0 & 1 & 0 \\ 3 & 0 & 2 \\ -12 & -7 & -6 \end{pmatrix}$	[L1,CO5]	5M
Q.10	a.	Define state, state variable, state equation.	[L1,CO5]	5M
	b.	Derive the expression for the transfer function from the state model. $\dot{X} = Ax + Bu$ and $y = Cx + Du$	[L1,CO5]	5M
Q.11	i)	List out the properties of STM?	[L1,CO5]	2M
	ii)	Write the state equation?	[L3,CO5]	2M
	iii)	Define state variable?	[L2,CO5]	2M
	iv)	What is Diagonalize matrix?	[L2,CO5]	2M
	v)	Write the formula for solutions of state equation?	[L3,CO5]	2M

Prepared by: ***J.Gowrishankar & Hari***

UNIT –I

CONTROL SYSTEMS CONCEPTS

1) In _____controlsystems the control action is dependent on the desired output [ ]

A) Open loop B) Closed loop

C) Both (A) & (B) D) None

2) The Transfer function is the ratio of [ ]

A) L[O/P] to L[I/P] B) L[I/P] to L[O/P] with Zero initial conditions

C) L[I/P] to L[O/P] D) L[O/P] to L[I/P] with Zero initial conditions

3) For Impulse input, the output response C(s) is equal to. [ ]

A) R(s) B) E(s)

C) G(s) D) B(s)

4) The mass will offer an opposing force whichis proportional __of the body [ ]

A) Displacement B) Velocity

C) Acceleration D) None

5) The Dash-pot has displacement at both ends then the opposing force is proportional to [ ]
____of the body

A) Velocity B)Differential Velocity

C) Differential displacement D) None

6) Block diagrams can be used used to represent_____ [ ]

A) Linear systems B)Non-Linear systems

C) Both (A) & (B) D) None

7) Three blocks with gains **2,-5and10** are connected in parallel. The total gain is ___ [ ]

A) -100 B) -07

C) 100 D) 07

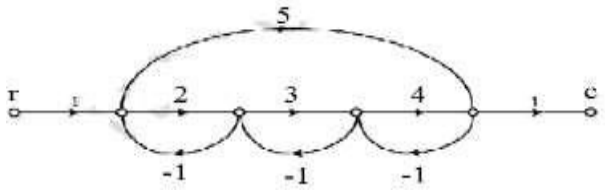
8) _____converts the angular position of the shaft into electrical signal [ ]

A) DCServomotor B) AC Servomotor
C) Tacho generator D) Synchro

9) The C.E of an armature controlled dc servomotor is_____order equation [ ]

A) First B) Second

C) Third D) Zero

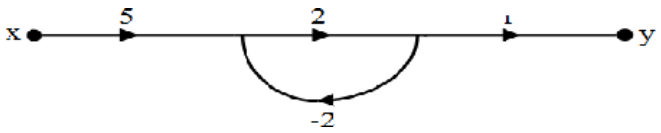


10) In the above signal flow graph of figure the gain c/r willbe [ ]

A) 11/9 B) 24/23

C) 22/15 D) 44/23

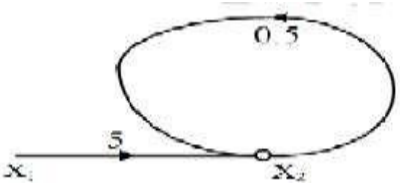
11) In the signal flow graph of figure y/x equal [ ]



A) 3 B)2

C)5/2 D)NONE **GATE 1997**

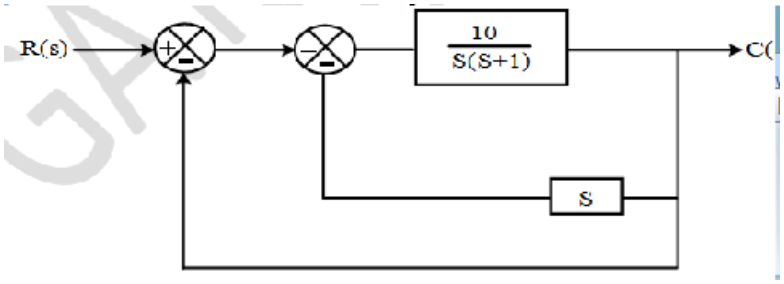
12) In the signal flow Graph shownin figure $X_2=TX_1$whereT,isequal [ ]



A) 10 B)5

C)2.5 D)none **GATE 1987**

13. For the system shown in figure the transfer function is_____ [ ]



A) $10/s^2+s+10$ B)$10/s^2+11s+1$

C)$10/s^2+10$ D)$10/s^2+11s+10$ **GATE 1987**

14) In force-voltage analogy, Mass element is equal to _____ [ ]

A) Resistance B) Inductance

C) Capacitance D) Conductance

15) The spring will offer an opposing force which is proportional ___of the body [ ]

A) Velocity B)Differential Velocity

C) Displacement D) Differential displacement

16) The dash-pot will offer an opposing force which is proportional ___of the body [ ]

A) Velocity B)Differential Velocity

C) Differential displacement D)None

17) The viscous friction co-efficient, in force-voltage analogy, is analogous to [ ]

A)Charge B) resistance

C) reciprocal of inductance D) reciprocal of conductance

18) In force-voltageanalogy, velocity is analogous to [ ]

A) Current B) charge

C) inductance D) capacitance

19) AC servomotor differs with normal induction motor in [ ]

A) Small X/R ratio B) large X/R ratio

C) linear speed-torque D) both A) and C)

20) A.C. servomotor is basically a _____motor [ ]

A) Universal B) single phase induction

C) two phase induction D) three phase induction

21) Synchro is basicallya_____ [ ]

A)2-phaseIM B) 3-phase IM

C) 3-phase alternator D) Transformer

22) For a second order undamped system, the poles are [ ]

A) Purely imaginary B) complex conjugate

C) real & equal D) real & unequal

23) AC servomotor differs with normal inductionmotor in[ ]

A) Small X/R ratio B) large X/R ratio

C) linear speed-torque D) both (A) and (C)

24) In force-currentanalogy, Mass element is equal to _____ [ ]

A) Resistance B) Inductance

C) Capacitance D) Conductance

25) The viscous friction co-efficient, in force-voltage analogy, is analogous to [ ]

A)Charge B) resistance

C) reciprocal of inductance D) reciprocal of conductance

26) In force-voltage analogy, displacement is analogous to [ ]

A) Current B) charge

C) inductance D) capacitance

27) In force-voltage analogy, Spring element is equal to _____ [ ]

A) Resistance B) Inductance

C) Capacitance D) Conductance

28) The spring has displacement at both ends then the opposing force is proportional to_____of The body [ ]

A) Velocity B)Differential Velocity

C) Differential displacement D)None

29) In force-voltage analogy, dashpot element is equal to _____ [ ]

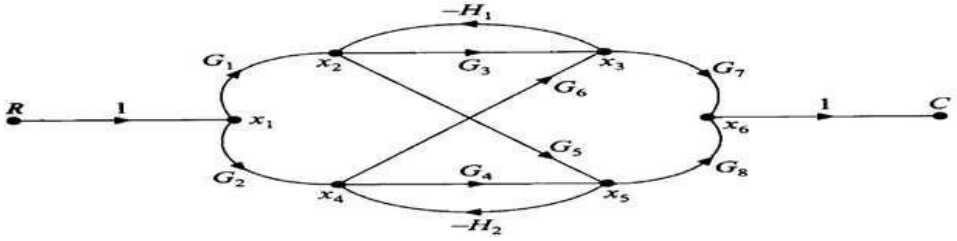
A) Resistance B) Inductance

C) Capacitance D) Conductance

30) Regenerative feedback implies feedback with [ ]

A) Oscillations B) step input

C) negativesign D) positive sign



31) In the above SFG the no of forward paths and individual loops are _____ [ ]

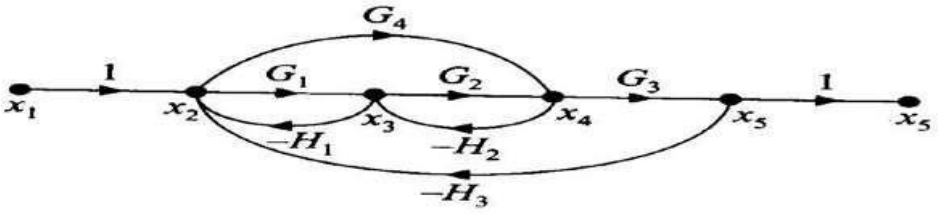
A) 4,2 B) 4,3

C) 6,3 D) 6,2

32) In the above SFG the no of two non-touching and three non-touching loops are _____ [ ]

A) 1,0 B) 1,1

C) 2,1 D) 3,1



33) In the above SFG the no of forward paths and individual loops are _____ [ ]

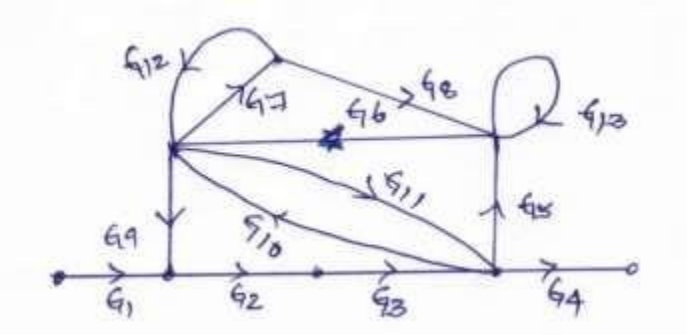
A) 2,3 B) 3,2

C) 4,3 D) 3,5

34) In the above SFG the no of two non-touching and three non-touching loops are _____ [ ]

A) 2,0 B) 3,0

C) 3,1 D) 4,2



35) In the above SFG the no of forward paths and individual loops are _____ [ ]

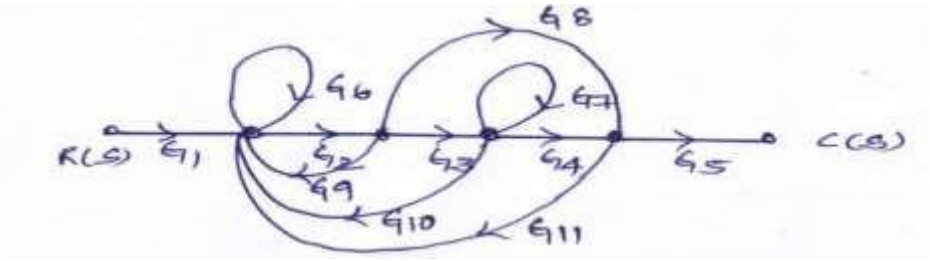
A) 1,6 B) 1,7

C) 1,4 D) 1,5

36) In the above SFG the no of two non-touching and three non-touching loops are _____ [ ]

A) 2,0 B) 3,0

C) 3,1 D) 4,2



37) In the above SFG the no of forward paths and individual loops are _____ [ ]

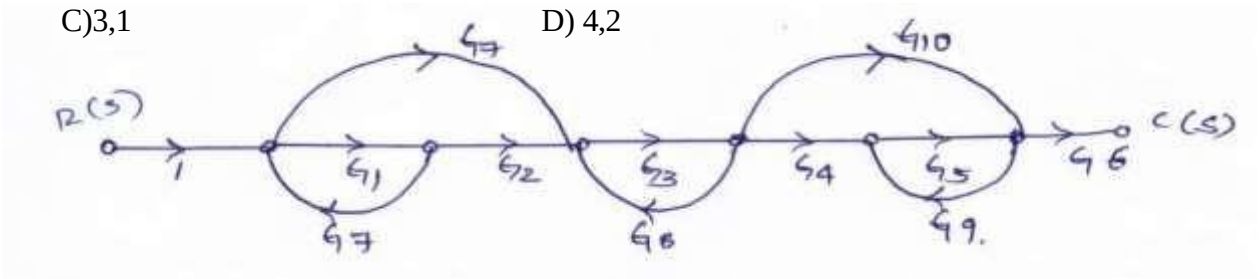
A)2, 5 B) 3, 5

C) 2, 6 D) 3, 6

38) In the above SFG the no of two non-touching and three non-touching loops are _____ [ ]

A) 2,0 B) 3,0

C)3,1 D) 4,2



39) In the above SFG the no of forward paths and individual loops are ____ [ ]

A)2,3 B) 2,4

C) 4,3 D) 3,5

40) In the above SFG the no of two non-touching and three non-touching loops are ____[ ]

A) 2,0 B) 3,0

C) 3,1 D) 4,1

UNIT-II

TIME RESPONSE ANALYSIS

1) For Type-1 system the steady state error due to step input is equal to [ ]

A) Infinity B) Zero

C)One D) Constant

2) A system has the following T.F $\mathbf{G(s) = \frac{200(S+5)(S+50)}{S^4(S+10)(S^2+3S+10)}}$

The order and type of the system are respectively [ ]

A) 4& 7 B) 4& 9

C) 7& 4` D) 9& 4

3) Which of the following systems is generally preferred [ ]

A) Undamped B) Under damped

C) Critically damped D) Over damped

4) The damping frequency of oscillation is given by [ ]

A) $\mathbf{W_d=W_r\sqrt{1-\xi^2}}$ B) $\mathbf{W_d=W_r\sqrt{1+\xi^2}}$

C) $\mathbf{W_d=W_n\sqrt{1-\xi^2}}$ D) $\mathbf{W_d=W_n\sqrt{1+\xi^2}}$

5) For a second order critically damped system, the poles are [ ]

A) Purely imaginary B) complex conjugate

C) real & equal D) real & unequal

6) The solution of the differential equation $x^2+2x+2=0$ is [ ]

A) Oscillatory B) over damped

C) under damped D) critically damped

7)Given a unity feedback system with G(s)=K/s(s+4), the value of K for damping ratio of 0.5 is

A)1 B)4 [ ]

C)16 D)64

8)Due to the derivative control, the rise time is [ ]

A)Reduced B) increased

C) not effected D) zero

9) The effect of addition of pole at origin, increases the system [ ]

A) Order B)Type

C) Order and type D) none

10) The type 2 system has _____at the origin. [ ]

A) No net pole B) net pole

C) simple pole D) two poles

11) The position and velocity error constants of a type-2 system are [ ]

A) Constant, constant B) constant, infinity

C) zero, constant D) infinity, infinity

12) Velocity error constant of a system is measured when the input to the system is unit [ ]

A) Parabolic B) ramp

C) impulse D) step

13) In case of type-1 system steady state error for parabolic input is [ ]

A) Unity B) infinity

C) zero D)10

14) For a second order over damped system, the poles are [ ]

A) Purely imaginary B) complex conjugate

C) real & equal D) real & unequal

15) Position error constant of a system is measured when the input tothesystem is unit [ ]

A) Parabolic B) ramp

C) impulse D) step

16) For Type-1 system the steady state error due to step input is equal to [ ]

A) Infinity B) Zero

C)One D) Constant

17) The positional error of the open loop transfer function G(s)= **10/((s+2)(s+3))** with unity feedback system. [ ]

A) 0.075 B) 1

C) 0.375 D) 0.2

18) The value of ξ of 0.6 in the step input of a 2nd order system results in max overshoot of [ ]

A) 10 B) 8.54

C) 9.44 D) 7.55

19) Order of the given open loop transfer function G(s) $=\frac{K(s+2)}{s^2(s^2+2s+1)}$ [ ]

A) Zero B) one

C)two D) four

20) Consider a feedback control system with loop transfer function [ ]

$G(s)=\frac{K(1+0.5s)}{s(1+s)(1+2s)}$ The type of the closed loop system is

A) zero B) one

C) two D) three **GATE 1998**

21) The settling time of 2^{nd} order system is _____times the time constant of the system. [ ]

A) One B)Two

C) Four D) Six

22) For a second order under damped system, the poles are [ ]

A) Purely imaginary B) complex conjugate

C) real & equal D) real & unequal

23) The Laplace transform of impulse function is [ ]

A) zero B) one

C)infinity D) none

24) For the unity feedback control with G(s) =$4/(S^2+8S+4)$, the damping ratio is [ ]

A) 2 B)1

C) 0.707 D) 0.5

25) In time domain analysis response of the system varies w.r.t _____ [ ]

A) Time B) frequency

C) both time and frequency D) constant

26) Undamped natural frequency for$\mathbf{S^2+2S+1=0}$ is [ ]

A) Zero B) one

C)two D) infinity

27) Order of the given open loop transfer function G(s) = K/(S+1) [ ]

A) Zero B) one

C)two D) three

28) The effect of addition of pole atorigin, increases the system [ ]

A) Order B)Type

C) Order and type D) none

29) The type 1 system has _____at the origin. [ ]

A) No net pole B) net pole

C) simple pole D) two poles

30) Position error constant of a system is measured when the input to the system is unit __[ ]

A) Parabolic B) ramp

C) impulse D) step

31) The steady state error due to a ramp input for a type two system is [ ]

A) 0 B) infinity

C)4 D)constant

32). For a 2nd order system with CLTF T(s) =1/(S^2+0.1S+1), the settlingtime for 5% band is[ ]

A)6 B)2

C)3 D)4

33) The steady state error of a stable 'type 0' unity feedback system for a unitstep function is [ ]

A) 0 B) $1/1+K_P$

C)∞ D) $1/K_P$ **GATE 1990**

34) A unity-feedback control system has the open-loop transfer function G(s)= $\frac{4(1+2s)}{s^2(s+2)}$ [ ]

if the input to the system is a unity ramp, the steady-state error will be

A) 0 B) 0.5

C) 2 D) Infinity **GATE 1991**

35) Type of the system givenG(s) = 2/S^2(2+S)is equal to [ ]

A) Zero B) one

C)two D) three

36) If the characteristic equation of a closed-loop system is $s^2+2s+2=0$, then the system is[ ]

A) Overdamped B) Critically damped

C) Under damped D) undamped **GATE 1998**

37) Consider a system with the T.F G(s)=$\frac{(s+6)}{(Ks^2+s+6)}$. Its ξ = 0.5 then the value of K is [ ]

A) 2/6 B) 3

C) 1/6 D) 6 **GATE 2002**

38) For a 2nd order system, damping ratio (ξ) is 0< ξ<1, then the roots of the C.E are [ ]

A) real but not equal B) real and equal

C) complex conjugates D) imaginary **GATE 1995**

39) A casual system having the transfer function G(s)=$\frac{1}{(s+2)}$is excited with 10$u(t)$.

The time at which the output reaches 99% of its steady state value is ` [ ]

A) 2.7 sec B) 2.5 sec

C) 2.3 sec D) 2.1 sec **GATE 2004**

40) Order of the given open loop transfer function G(s) = $\frac{(s+2)}{s(s^2+2s+1)}$ [ ]

A) Zero B) one C) two D) three

UNIT –III

STABILITY ANALYSIS IN CONTROL SYSTEMS

1) When a system is excited by an unbounded input and produces an unbounded output, Then thesystem is_____ [ ]

A) Stable B) unstable

C) conditionally stable D) nothing can said about stability

2) If there is a root locus on real axis between pole and zero then there exist_____ [ ]

A) Break-in point B) breakaway point

C) Both D) none

3) The OLTF of a unity feedback control system is $G(s)=K/(S+2)^2$ the CLTF will have poles at [ ]

A) -2,-2 B) -2,-1

C) -2 + j, -2 – j D) -2, 2

4) The necessary condition of the Routh Hurwitz stability is_____ [ ]

A) Elements in the first column of the routh array is positive

B) coefficients should be zero

C) both A and B

D) None

5) The open loop transfer function of a unity feedback control system is given by $G(s)=\frac{5(S+1)}{S^2(S+2)}$. The stability characteristics of the open loop configuration. [ ]

A) stable B) unstable

C) conditionally stable D) marginally stable

6) If the OLTF of an unity feedback system is the ration of numerator polynomial of degree 'm' And a denominator polynomial of degree 'n' then the integer n-m represent the number of [ ]

A) Break away points B) Unstablepoles

C) Root locus branches D) Asymptotes

7) The open loop transfer function of the system is given by $G(s)=\frac{K}{S(S+2)(S+4)}$.

Themaximum Value of K for which the unity feedback system will be stable. [ ]

A) 16 B) 32

C) 48 D)64

8) Adding pole results _____gain margin [ ]

A) decrease B) increase

C)AorB D) none

9) The rootlocus is a [ ]

A) time domain approach B) frequency domain approach

C) combination of both D) None

10) The OLTF of a unity feedback system is given as G(s) = $\frac{K(S+2)}{S(S^2+2S+2)}$.

The angles of root locus Asymptotes are [ ]

A)$+90^0$,-90^0 B)$+60^0$,-60^0

C) $+120^0$,-120^0 D) $+360^0$,-360^0

11) The no.of. roots of the equation $\mathbf{2S^4+ S^3+3 S^2+5S+7=0}$ that lies in the right half of S-plane[ ]

A)0 B)1

C)2 D)3

12) Loop TF is K(S+1)(S+2))/((S+4)(S+6) for K=0 closed loop poles are at. [ ]

A) -1,-2 B)-4,-6

C)∞, ∞ D)0,0

13) The number of changes in first column of Routh array represents [ ]

A) Stability B) unstability

C) Number of roots lie on right sideof s-plane D) both b and c

14) The stability of the system can be increased by adding____ [ ]

A) Pole B) zero

C) both D) none

15) The root locus of system with G(s) H(s)=$\mathbf{K(S+1)/(S^2\ (S+3.6)}$ has how many asympototes[ ]

A) one point B) two points

C) +j , -j D) three points

16) The roots of the characteristic equation lies on the left of S-plane, then system is [ ]

A) stable B) unstable

C) conditionally stable D) marginally stable

17) The characteristic equation of a system is given by S^4**+8** S^3**+12** S^2**+8S+K=0**.for the system To remain stable, the value of gain K should be [ ]

A) 0 B) 0 < K < 11

C) K > 11 D) Positive

18) The open loop transfer function of a unity feedback control system is given by [ ]
G(s)=**5(S+1)/S^2 (S+2).** The stability characteristics of the closedloopconfiguration.

A) Stable B) unstable

C) conditionally stable D) marginally stable

19) The characteristic equation of a feed back control system is **2**S^4**+** S^3**+3** S^2 **+5S+10=0.**
The Numberof rootsin the right half ofS plane are [ ]

A)0 B)1

C)2 D)3

20) The root locus is [ ]

A) an algebraic method B) a graphical method

C) combination of both D)None

21) Break points can be [ ]

A) only real B) only complex

C) real or complex D) None

22) Asymptotes can intersect [ ]

A) only on the negativerealaxis B) only on the positive real axis

C) anywhere on the real axis D) imaginary axis

23) The open loop transfer function of a system is G(s)H(s)=**k/s(s+1)(s+2).**Its centroid is at s=

A)-2.5 B)-4 [ ]

C)-4.5 D)-1

24) If the roots of characteristic equation lie on imaginary axis the system is [ ]

A) Stable B) unstable

C) Conditionally stable D) marginally stable

25) If first entry in any row of Routh array is negative the system is [ ]

A) StableB) unstable

C) Conditionally stableD) marginally stable

26) The number of changes in first column of Routh array represents [ ]

A) StabilityB) unstability

C) Number of roots lie on right sideof s-planeD) both B and C

27) By adding the pole in the transfer function, The rootlocus shift towards [ ]

A) Right half of S plane B) left half of S plane

C) imaginary axis D) All

28) If the system output is finite for any finite input, then the system is_____ [ ]

A) Stable B) unstable

C) conditionally stable D) nothing can said about stability

29) Root loci of a system has three asymptotes the systemmay have [ ]

A) 3 poles and 1 zero B) 4 poles and 2 zeros

C) 4 poles and 3 zeros D) 5 poles and 2 zeros

30) If the roots of the characteristic equation have negative real parts, then the system is [ ]

A) stable B) unstable

C) conditionally stable D) marginally stable

31) Loop TF isfor K=0 closed looppoles are at. [ ]

A)-1,-2 B)-4,-6

C) ∞ D)0,0

32) If there is a root locus on real axis between two zeros then there exist_____ [ ]

A) Break-in point B) breakaway point

C)Both D) none

33) The number of roots of $s^3 + 5s^2 + 7s + 3 = 0$ in the left half of the s – plane is [ ]

A) Zero B) One

C) Two D) Three **GATE 1998**

34) An amplifier with resistive negative feedback has two left half plane poles in its open – loop transfer function. The amplifier [ ]

A) Will always be unstable at high frequency

B) Will be stable for all frequency

C) May be unstable, depending on the feedback factor

D) Will oscillate at low frequency **GATE 2000**

35) The phase margin of a system with the open – loop transfer function $G(s)H(s)=\frac{(1-s)}{(s+1)(s+2)}$ [ ]

A) 0^0 B) 63.4^0

C) 90^0 D) ∞ **GATE 2002**

36) The open – loop transfer function of a unity – gain feedback control system is given by $T(s)=\frac{K}{(s+1)(s+2)}$. The gain margin of the system in dB is given by [ ]

(A) 0 (B) 1

(C) 20 (D) ∞ **GATE 2006**

37) The gain margin for the system with open – loop transfer function $G(s)H(s)= 2(1+s)/s^2$ is [ ]

(A) ∞ (B) 0

(C) 1 (D) −∞ **GATE 2004**

38) If the closed – loop transfer function of a control system is given as $T(s) = \frac{(S-5)}{(S+2)(S+3)}$, then it is [ ]

(A) an unstable system (B) an uncontrollable system

(C) a minimum phase system (D) a non – minimum phase system **GATE 2007**

39) Consider a characteristic equation given by $\mathbf{3}s^3 + \mathbf{5}s^2 + \mathbf{6}s + K + \mathbf{10=0}$. The condition for stability is [ ]

(A) K > 5 (B) – 10 < K

(C) K > – 4 (D) – 10 < K < – 4 **GATE 1988**

40) An electromechanical closed-loop control system has the following characteristic equation; $s^3 + \mathbf{6}Ks^2 + \mathbf{(}K + \mathbf{2)} + \mathbf{8} = \mathbf{0}$.Where K is the forward gain of the system. The condition for closed loop stability is: [ ]

A)K = 0.528 B)2

C)3 D) none **GATE 1990**

UNIT-IV

FREQUENCY RESPONSE ANALYSIS

1) A system is unstable when [ ]

A)$\omega_{gc}=\omega_{pc}$ B)$\omega_{gc}<\omega_{pc}$

C)$\omega_{gc}>\omega_{pc}$ D)$\omega_{gc}=\omega_{pc}=0$

2) $\xi= 0$, Mr is given by [ ]

A)Infinity B)0

C)1 D)4

3)The slope of$(1+j\omega)$is [ ]

A) +20db B) +40db

C)-40db D)-20db

4)A unity feedback system G(s)=(10(s+2))/(s^2 (s+1)(s^2+2s+2)).The slope of the low frequency asymptote is [ ]

A)-20dB/dec B)-40dB/dec

C)-80dB/dec D)80dB/dec

5) The damping frequency of oscillation is given by [ ]

A) $W_d=W_r\sqrt{1-\xi^2}$ B) $W_d=W_r\sqrt{1+\xi^2}$

C) $W_d=W_n\sqrt{1-\xi^2}$ D) $W_d=W_n\sqrt{1+\xi^2}$

6) The effect of addition of pole increases the system [ ]

A) Order B) Type

C) Order and type D) none

7) At the gain crossover frequency [ ]

A) G(jw)H(jw)=0dB B) G(jw)H(jw)= 1 dB

C) G(jw)H(jw)= -20 dB D) G(jw)H(jw)=20dB

8) The reciprocal of the magnitude of OLTF at phase cross over frequency is called [ ]

A) Phase margin B) gain margin

C) Phase plot D) Magnitude plot

9) Angle of G(jw) H(jw) =0at [ ]

A) gain cross over frequency B) Phase cross over frequency

C) Both D) none

10) From the bode plots it is observed that the gain cross over frequency is greater than phase cross overfrequency. The system is called_____ [ ]

A) Stable B) Marginally stable

C) Conditionally stable D) Unstable

11) From the bode plots it is observed that the gain cross over frequency is lesser than phase crossover frequency. The system is called_____ [ ]

A) Stable B) Marginally stable

C) Conditionally stable D) Unstable

12) For the pole factor $\frac{1}{(S+5)}$ the cornerfrequency is [ ]

A) 1/5 B) 5

C) -1/5 D) -5

13) At the phase crossover frequency w=10 rad / sec , G(jw)H(jw)=15 Db .It's gain margin is[ ]

A) 15 dB B) 0dB

C) -15dB D) cannot be predicted

14) The frequency at which the -3db magnitude is zero is called [ ]

A) Cut-offrate B) Cut-offResonant

C) Cut-off frequency D) Bandwidth

15)The slope of(1+jω) is [ ]

A) +20db B) +40db

C)-40db D)-20db

16) Magnitude of G(jw) H(jw) =1 at [ ]

A) gain cross over frequency B) Phase cross over frequency

C)Both D) none

17)1 DB= ____ [ ]

A) $20\log_e G(j\omega)$ B) G(j ω)

C) $20\log_{10} G(j\omega)$ D) $-20\log_{10} G(j\omega)$

18) Order of the given open loop transfer function G(s) = K**(S+2) / S^2 (S^2+2S+1)]** [ ]

A) Zero B) one

C)two D) four

19) Type of the system given in problem no. 14is equal to [ ]

A) Zero B) one

C)two D) three

20) The settling time of IInd order system is _____times the time constant of the system. [ ]

A) One B)Two

C) Four D) Six

21) For a second order under damped system, the poles are [ ]

A) Purely imaginary B) complex conjugate

C) real & equal D) real & unequal

22) A system is unstable when [ ]

A)ωgc=ωpc B)ωgc<ωpc

C)ωgc>ωpc D)ωgc=ωpc=0

23)Gain cross over frequency is the one at whichG(jω)H(jω)is [ ]

A) equal to1 B) equal to-1

C)>1 D) <-1

24)The slope of1/(1+jω) is [ ]

A) +20db B) +40db

C)-40db D)-20db

25) The phase crossover frequencyis the frequency at which the phase ofG(jω) is [ ]

A) 0◦ B)90◦

C) 270◦ D) 180◦

26) The sinusoidal transfer function is obtained by replacing 's' by_____ [ ]

A)jω B)$(j\omega)^2$

C)$(-j\omega)^2$ D)-jω

27) The effect of addition of pole increases the system [ ]

A) Order B)Type

C) Order and type D) none

28) A second order overall transfer functionis given by$4/(S^2+2S+4)$. Its resonant frequencyis [ ]

A)2 B)1.414

C)1.732 D)3

29) The system with the open loop transfer function $G(s)H(s)=1/s(s^2+s+1)$ has a gain margin of [ ]

A) – 6 dB B)0Db

C)3.5Db D) 6 Db

30) A system has fourteen poles and two zeros. Its high frequency asymptote in its magnitude plot having a slope of: [ ]

A) – 40 dB/decade B) – 240 dB/decade

C) – 280 dB/decade D)–320dB/decade

31) The polar plot $G(s)=10/ (S+1)^3$of intercepts real axis at $\omega=\omega_0$. Then, the real partand ω_0 are respectivelygiven by: [ ]

(A) – 2.5, 1 (B)–5,0.5

(C)–5,1 (D) – 5, 2

32) From the Nicholas chart one can determine the following quantities pertaining to a closed loop system: [ ]

(A) Magnitude and phase (B) Band width

(C) Only magnitude (D) Only phase **GATE 1989**

33) The open-loop transfer function of a feedback control system is $G(s)=1/ (S+1)^3$. The gain margin ofthe system is [ ]

(A) 2 (B)4

(C) 8 (D) 16 **GATE 1991**

34) Non-minimum phase transfer function is defined as the transfer function [ ]

(A) which has zero in the right-half s-plane
(B) which has zero only in the left-half s-plane

(C) which has poles in the right-half s-plane
(D) which has polesin the left-half s-plane

35) The Nyquist plot of loop transfer function $G(s)H(s)$ of a closed loop control system passes through the point $(-1, j\,0)$ in the $G(s)H(s)$plane.

The phase margin of the system is of the system is [ ]

A) 0^0 B) 45^0

C) 90^0 D) 180^0 **GATE: 2004**

36) The Nyquist plot of G(S) H(S)for a closed loop control system, passed through (-1,j 0) pointinGHplane. The gain margin of the system in dB is equal to [ ]

(A) infinite (B) greater than zero

(C) less than zero (D) zero **GATE 2006**

37) In the Bode – plot of a unity feedback control system, the value of phase of G(jω) at the gain cross over frequency is -125^0.The phase margin of the system is [ ]

(A)-125^0 (B) -55^0

(C)55^0 (D)125^0 **GATE 1998**

38) In a Bode magnitude plot, which one of the following slopes would be exhibited athigh frequency by 4th order all-pole system?[]

A) – 80 dB/decade B) – 40 dB/decade

C) + 40 dB/decade D) + 80 dB/decade **GATE: 2014**

39) For the equation, $s^3 - 4s^2 + s + 6 = 0$ the number of roots in the left half ofs -plane will be[ ]

A) Zero B) One

C) Two D) Three **GATE: 2004**

40) The gain margin of a unity feed back control system with the OLTF$G(s)=s+1/s^2$ [ ]

A) 0 B) $1/\sqrt{2}$

C) $\sqrt{2}$ D) 3 **GATE: 2005**

UNIT-V

STATE SPACE ANALYSIS OF CONTINUOUS SYSTEMS

1. $\emptyset(s)$is called [ ]

A)system matrix B) state transition matrix

C) Resolvent Matrix D) Resolution Matrix

2. $\emptyset(t)$is called [ ]

A)system matrix B) state transition matrix

C) model matrix D) input matrix

3) The smallest set of variable of a state is called [ ]

A) State B)conditionofstate

C) Eigen values D) state variables

4) Solution of the state equation with conceding the input is called [ ]

A) Homogenous solution B) non homogeneous solution

C) both D) none

5) $X^{\cdot}(t) = AX(t) + BU(t)$ is called [ ]

A) state model B)stateequation

C) output equation D)all

6) Given a system represented by equations $X^{\cdot}(t) = \begin{bmatrix} 0 & 1 \\ -2 & -3 \end{bmatrix} X(t) + \begin{matrix} 0 \\ 1 \end{matrix} U(t)$ and

Y=1 0X(t) The equivalent transfer function representation G(s) of the system is [ ]

A) $G(s)=1/s^2+5s+2$ B) $G(s)=1/s^2+3s+2$

C) $G(s)=3/s^2+5s+2$ D)none

7) Given a system represented by equations $X^{\cdot}(t) = \begin{bmatrix} 2 & 0 \\ 0 & 2 \end{bmatrix} X(t) + \begin{matrix} 1 \\ 1 \end{matrix} U(t)$

The state transition matrix of the system is [ ]

A) e^{2t} I B) e^{-2t} I

C) I D) none

8) Which among the following is a unique model of a system? [ ]

A) Transfer function B) State variable

C) Both a and b D) None of the above

9) According to the property of state transition method, e^0 is equalto ___ [ ]

A)I B)A

C)e^{-At} D)-e^{At}

10) Which mechanism in control engineering impliesan ability to measure the state by taking measurements at output? [ ]

A) Controllability B) Observability

C) Differentiability D) Adaptability

11) State model representation is possible using _____ [ ]

A) Physical variables B) Phase variables

C) Canonical state variables D) All of the above

12) Which among the following constitute the state model of a system in addition to state equations**?**

A) Input equations B) Output equations

C) State trajectory D) State vector [ ]

13) Which among the following plays a crucial role in determining the state of dynamic system?

A) State variables B) State vector

C) State space D) State scalar [ ]

14) Which among the following are the interconnected units of state diagram representation?

A) Scalars B) Adders

C) Integrators D) All of the above [ ]

15) State space analysis is applicable even if the initial conditions are [ ]

A) Zero B) Non-zero

C)Equal D)Notequal

16) Conventional control theory is applicable to _____systems [ ]

A) SISO B) MIMO

C) Time varying D) Non-linear

17) The number of elements in the state vector is refered to _____of the system [ ]

A) Order B) Characteristic Equation

C) Type D)all

18) In$X^{\cdot}(t) = AX(t) + BU(t)$A is known as [ ]

A) System Matrix B)InputMatrix

C) Output Matrix D) Transmission Matrix

19) In$X^{\cdot}(t) = AX(t) + BU(t)$**B** isknown as [ ]

A) System Matrix B)InputMatrix

C) Output Matrix D) Transmission Matrix

20) In $Y(t) = CX(t) + DU(t)$**C** isknown as [ ]

A) System Matrix B)InputMatrix

C) Output Matrix D) Transmission Matrix

21) In$Y(t) = CX(t) + DU(t)$**D** isknown as [ ]

A) System Matrix B)InputMatrix

C) Output Matrix D) Transmission Matrix

22) The state equations and the output equations together are called [ ]

A) state model B)stateequation

C) output equation D)Dynamic Equation

23) The characteristic equation of a state model is given by [ ]

A) $|\lambda I-A| =0$ B) $|\lambda I+A| =0$

C)$|\lambda I-A|=1$ D)0

24) The roots of the characteristic equation are referred to as _____of the matrix A. [ ]

A) state model B) eigen value

C) output equation D)all

25) The process of obtaining the state diagram of a system from its transfer function is [ ]

A) Diagonalization B)Phasevariable

C) Decomposition D)all

26) The matrix formed by placing the eigen vectors together in column-wise is called [ ]

A) System Matrix B) Modal Matrix

C) Transmission Matrix D)all

27) Which theorm states that every square matrix A satisfies its own characteristic equation.[ ]

A) Cayley-Hamilton B) Kalman's

C) Gilberts D)all

28) The concepts of controllability &observability were introduced by [ ]

A) Cayley-Hamilton B)Kalman's

C) Gilberts D) all

29) Controllability &observabilitycan also be determined by _____method. [ ]

A) Cayley-Hamilton B) Kalman's

C) Gilberts D) all

30) The transfer function of a s/m can be obtained from its state model by using the [ ]

formula C(s)/R(s)=

A) $C(SI-A)^{-1}B+D$ B)C(SI-A)B+D

C)$C(SI-A)^{-1}$ D)all

31) State model is said to be stable if allits eigen values have [ ]

A) positivereal parts B)Negative real parts

C)Both D)None

32) A state variable system $\dot{X}(t) = \begin{bmatrix} 0 & 1 \\ 0 & -3 \end{bmatrix} X(t) + \begin{matrix} 1 \\ 0 \end{matrix} U(t)$ with the initial condition

$X(0) = [-1\ 3]^T$ and the unit step input u(t) has the state transition matrix [ ]

A) $\begin{bmatrix} 1 & 1/3(1-e-3t \\ 0 & e-3t \end{bmatrix}$ (B) $\begin{bmatrix} 1 & 1/3(e-t-e-3t \\ 0 & e-3t \end{bmatrix}$

C) $\begin{bmatrix} 1 & 1/3(e3-t-e-3t \\ 0 & e-3t \end{bmatrix}$ (D) $\begin{bmatrix} 1 & 1/3(1-e-3t \\ 0 & e-t \end{bmatrix}$ **GATE 2005**

33) The number of ways in which STM can be computed is [ ]

A) 2 B) 3 C) 5 D) 6

34) The state variable description of a linear autonomous system is, $\boldsymbol{X}^{o} = A\boldsymbol{X}$ where $\boldsymbol{X}$ is the two dimensional state vector and A=$\begin{bmatrix} 0 & 2 \\ 2 & 0 \end{bmatrix}$. The roots of the characteristic equation are [ ]

A) −2 and +2 B) $-j2$ and $+j2$

C) −2 and −2 D) +2 and +2 **GATE 2004**

35) The state transition matrix for the system $\boldsymbol{X}^{o} = A\boldsymbol{X}$ with initial state $\boldsymbol{X}(0)$ is [ ]

A) $(sI-A)^{-1}$ B) $e^{At}\boldsymbol{X}(0)$

C) $L^{-1}[(sI-A)^{-1}]$ D) $L^{-1}[(sI-A)^{-1}\boldsymbol{X}(0)]$ **GATE 2002**

36) For the system, $\dot{X}(t) = \begin{bmatrix} 2 & 3 \\ 0 & 5 \end{bmatrix} X(t) + \begin{matrix} 1 \\ 0 \end{matrix} U(t)$ which of the following statements is true [ ]

A) The system is controllable but unstable

B) The system is uncontrollable and unstable

C) The system is controllable and stable

D) The system is uncontrollable and stable **GATE 2002**

37) The transfer function of the system describedby $d^2y/dt^2+dy/dt=du/dt+2u$ with *u*asinput and *y*asoutputis [ ]

A) $s+2/s^2+s$ B) $s+1/s^2+s$

C) $2/s^2+s$ D)$2s/s^2+s$

38) Given a system represented by equations $\dot{X}(t) = \begin{bmatrix} 2 & 0 \\ 0 & 4 \end{bmatrix} X(t) + \begin{matrix} 1 \\ 1 \end{matrix} U(t)$ with *u* as unit impulse and with zero initial state, the output *y* , becomes [ ]

A) $2e^{2t}$ B) $4e^{2t}$

C) $2e^{4t}$ D) $4e^{4t}$ **GATE 2002**

39) Given a system represented by equations $\dot{X}(t) = \begin{bmatrix} -1 & 2 \\ 0 & 2 \end{bmatrix} X(t) + \begin{matrix} 0 \\ 1 \end{matrix} U(t)$ [ ]

A) Stable and controllable B) Stable but uncontrollable

C) Unstable but controllable D) Unstable and uncontrollable **GATE 2010**

40) A function $y(t)$ satisfies the following differential equation : $dy(t)/dt+y(t)= \delta(t)$ where $\delta(t)$ is the delta function. Assuming zero initial condition, and denoting the unit step function by $u(t)$, $y(t)$ can be of the form [ ]

A) e^{t} B) e^{-t}

C) $e^{t}u(t)$ D) $e^{-t}u(t)$ **GATE 2008**

Prepared by: ***J.Gowrishankar & Hari***

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Name

SNEHA JYOTIRAM KHARTE

Registration Number

EC24S72066053

Gender

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Parent's/Guardian's name

KHARTE JYOTIRAM VITTHALRAO

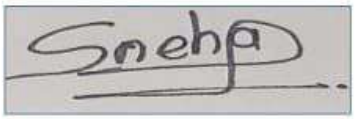
Date of Birth (YYYY-MM-DD)

1999-07-18

Examination Paper

Electronics and Communication Engineering (EC)

Photograph



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