



SASURIE COLLEGE OF ENGINEERING

Approved by AICTE, NewDelhi. Affiliated to Anna University, Chennai

Near NH544, Coimbatore Bypass, Near Vijayamangalam Tollgate, Tirupur 638056

NAAC DOCUMENTS

QUALITY INDICATOR FRAME WORK

CRITERION-1

CURRICULAR ASPECTS

SUBMITTEDBY



INTERNAL QUALITY ASSURANCE CELL

SASURIE COLLEGE OF ENGINEERING





Academic Flexibility(30)

Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc. (where the students of the institution have enrolled and successfully completed during the last five years)

AND

Percentage of students enrolled in Certificate/ Value added courses and also completed online courses of MOOCs, SWAYAM, NPTEL etc. as against the total number of students during the last five years

VAC Title: Robo	tics for	Rehabilit	ation Engin	eering											
		hangavel, Manager,			Mr.l Trai	R.Rameshkun ner,	nar,								
Resource Person:	Resource Person: L.G.Balakrishnan & Bros Ltd, Coimbatore- 638459. L.G.Balakrishnan & BrosLtd, Coimbatore- 638459.														
Date of conduct f	rom:	09.12.201	19	To:	14.12	2.2019	Duration:	36 H	Iours						
Organized Depar	tment:	MECHA	ANICAL EN	GINE	ERIN	G									
Participant Year:	2/4		Semester:	EV	VEN	No.of Stud Registered			98						
Venue: Lecture	hall of l	II & III ye	ar MECH												

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Ref: SCE / MECH /Students / VAC / 2019 - 2020 / EVEN

02.12.2019

CIRCULAR

In order to bridge the curricular gap between the Academic Syllabus and Industry requirements, Department of Mechanical Engineering and IQAC of our Institution in association with L.G.Balakrishnan & Bros Ltd, is organizing a Value Added Course (VAC) for the students of II, III and IV year of MECH on the title "Robotics for Rehabilitation Engineering" from 09.12.2019 to 14.12.2019. At the end of the VAC, course completion certificates will be issued to the eligible participants as per the following norms.

• Students, who are securing more than 70% on total score in the VAC test and secured more than 75% in VAC attendance is eligible to receive the course completion certificate for the VAC attended.

Section of the section of the	Mr.Thangavel,	Mr.R.Rameshkumar,
Resource Person	HR/Manager,	Trainer,
Details	L.G.Balakrishnan & Bros Ltd,	L.G.Balakrishnan & Bros Ltd,
	Coimbatore- 638459.	Coimbatore- 638459.
Venue	Lecture hall of II & III year MEC	Н

V-P- HoD/MECH

PRINCIPAL

Copy to:

- 1. Chairman & Secretary for information
- 2. Principal office
- 3. IQAC Co-Ordinator
- 4. Class In charges II, III & IV-Year MECH
- 5. II, III & IV-Year MECH Students
- 6. MECH Notice Board
- 7. Department File

Ma

Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).



Ref: SCE / MECH /Students / VAC / 2019 - 2020 / EVEN

02.12.2019

SYLLABUS - VALUE ADDED COURSE"Robotics for Rehabilitation Engineering"

From 09.12.2019 to 14.12.2019 (6 days)

Duration: 36 Hours

Academic Year: 2019-2020/EVEN

S.No.	Topics Covered	Duration (In Hours)	Date
1	Introduction to Rehabilitation Engineering	3	09.12.2019
2	Fundamentals of Robotics	3	09.12.2019
3	Human Anatomy and Physiology	3	10.12.2019
4	Assistive Technologies in Rehabilitation	3	10.12.2019
5	Rehabilitation Robotics Applications	3	11.12.2019
6	Sensors and Actuators in Rehabilitation Robotics	3	11.12.2019
7	Human-Machine Interface Design	3	12.12.2019
8	Robotics in Neurorehabilitation	3	12.12.2019
9	Exoskeletons in Rehabilitation	3	13.12.2019
10	Rehabilitation Robotics and Machine Learning	_ 3	13.12.2019
11	Clinical Assessment and Outcome Measures	3	14.12.2019
12	Ethical and Social Implications	3	14.12.2019
	Total Hours	36	-

After successful completion of 36 Hours VAC, the assessment test for the VAC titled "Robotics for Rehabilitation Engineering" will be conducted on 14.12.2019.

VAC Coordinator

HoD/MECH

Dr.M.VIJAYAKUMAR ME., Ph.D.,

ASURIE COLLEGE OF ENGINEERING, Vijayamangalam - 638 056, Tirupur (Dt).



STUDENTS PARTICIPATION LIST - VALUE ADDED COURSE

"Robotics for Rehabilitation Engineering"

From 09.12.2019 to 14.12.2019 (6 days)

Duration: 36 Hours

Academic Year: 2019-2020/EVEN

Reg No.	Name of the Student	Year / Branch
732417114001	ALBERT STEEPHEN S	III/MECH
732417114003	ANITH KUMAR V	IIIMECH
732417114004	ARAVINDAKUMAR G	III/MECH
732417114006	BALAJI C S	III/MECH
732417114007	BALAJI G	III/MECH
732417114010	DHAYANIDHI R	III/MECH
732417114011	DHINESH KUMAR K	III/MECH
732417114012	GANESHKUMAR P	III/MECH
732417114013	GOWTHAM M	III/MECH
732417114014	HARIHARAN M	III/MECH
732417114016	HARI KRISHNA M	III/MECH
732417114017	JAGADEESHKUMAR M	III/MECH
732417114019	KALIRAJ R	III/MECH
732417114020	KAMALESH P	III/MECH
732417114023	KAVINKUMAR V	III/MECH
732417114025	KRISHNAMOORTHY P	ШИМЕСН
732417114026	LOGAPRIYAN E	III/MECH
732417114028	MURUGANANDAM K	III/MECH
732417114029	MUTHUPANDI M	III/MECH
732417114031	MYTHERAYAN K	III/MECH
732417114032	NITHISH KUMAR R	III/MECH
732417114033	POORAGAVAN P	III/MECH
732417114036	RAVIKUMAR R	III/MECH
732417114037	SANJAY P	III/MECH
732417114038	SANTHANAM P	III/MECH
732417114039	SATHYANARAYANAN S	III/MECH
732417114040	SHEIK BARIDH A	III/MECH
732417114041	SRIDHAR S	III/MECH
732417114042	SUGANRAJ P	III/MECH
732417114043	SURIYAPRAKASHP	ШИМЕСН
	732417114001 732417114003 732417114004 732417114006 732417114010 732417114010 732417114011 732417114012 732417114014 732417114016 732417114017 732417114019 732417114020 732417114020 732417114023 732417114025 732417114026 732417114028 732417114029 732417114031 732417114031 732417114031 732417114032 732417114033 732417114036 732417114037 732417114038 732417114039 732417114040 732417114040 732417114041	732417114001 ALBERT STEEPHEN S 732417114003 ANITH KUMAR V 732417114004 ARAVINDAKUMAR G 732417114006 BALAJI C S 732417114007 BALAJI G 732417114010 DHAYANIDHI R 732417114011 DHINESH KUMAR K 732417114012 GANESHKUMAR P 732417114013 GOWTHAM M 732417114014 HARIHARAN M 732417114016 HARI KRISHNA M 732417114017 JAGADEESHKUMAR M 732417114019 KALIRAJ R 732417114020 KAMALESH P 732417114023 KAVINKUMAR V 732417114024 KRISHNAMOORTHY P 732417114025 KRISHNAMOORTHY P 732417114026 LOGAPRIYAN E 732417114028 MURUGANANDAM K 732417114029 MUTHUPANDI M 732417114031 MYTHERAYAN K 732417114032 NITHISH KUMAR R 732417114034 POORAGAVAN P 732417114035 SANJAY P 732417114036 RAVIKUMAR R 732417114037 SANJAY P 732417114038 SANTHANAM P 732417114039 SATHYANARAYANAN S 732417114040 SHEIK BARIDH A 732417114041 SRIDHAR S



STUDENTS PARTICIPATION LIST - VALUE AIDED COURSE

S.No.	Reg No.	Name of the Student	Year / Branch
31.	732417114045	VASANTHA KUMAR S	III/MECH
32.	732417114047	VELMURUGAN S	III/MECH
33.	732417114048	VENGATESAN M	III/MECH
34.	732417114049	VETRIVEL S	III/MECH
35.	732417114050	VIGNESHWARAN R	III/MECH
36.	732417114052	VIJIPRIYADHAR\$AN P	III/MECH
37.	732417114053	VISHNUKUMAR S	III/MECH
38.	732417114301	HEYSON K J	III/MECH
39.	732417114501	VIGNESH K S	III/MECH
40.	732417114503	DHANANJAYAN K	III/MECH
41.	732417114701	ARUN KUMAR K	III/MECH
42.	732417114702	MYTHILI G	III/MECH
43.	732417114703	JAMES JAYA PRAKASH G	III/MECH
44.	732417114704	VIJAY ANAND S	III/MECH
45.	732417114705	PRAVEEN KUMAR R	III/MECH
46.	732417114706	AJITHA A	III/MECH
47.	732417114707	THIRUMOORTHINANDHA R	III/MECH
48.	732416114002	ADARSH C M	IV/MECH
49.	732416114003	AJITHKUMAR K	IV/MECH
50.	732416114004	ALEXPANDIYAN R	IV/MECH
51.	732416114005	ANANTHASUBRAMANIYAM R	IV/MECH
52.	732416114006	BHARATH M	IV/MECH
53.	732416114007	BHARATHI T	IV/MECH
54.	732416114008	DEENADHAYAL R	IV/MECH
55.	732416114009	DHANASEKARAN P	IV/MECH
56,	732416114010	DHANASEKARAN S	IV/MECH
57.	732416114011	DHILEEPKUMAR P	IV/MECH
58.	732416114012	DILIP K	IV/MECH
59.	732416114013	DINESH KUMAR T	IV/MECH
60.	732416114014	ELANGOVAN M	IV/MECH
61.	732416114015	ELANGOVAN T	IV/MECH
62.	732416114016	GOWTHAM L	IV/MECH
63.	732416114017	JAGATHEESH G	IV/MECH
64.	732416114018	JINU JALEEL	IV/MECH
65.	732416114019	JOBIN C J	IV/MECH
66.	732416114021	KATHIRESH B	IV/MECH
67.	732416114022	KAVIN P	IV/MECH



STUDENTS PARTICIPATION LIST - VALUE ADDED COURSE

S.No.	Reg No.	Name of the Student	Year / Branch					
68.	732416114023	KAVINKUMAR S	IV/MECH					
69.	732416114024	LAKSHMANAN S	IV/MECH					
70.	732416114026	MORAMMED FAZIL V	IV/MUCH					
71.	732416114027	NAVANEL HAKRISHNAN K	IV/MECH					
72.	732416114028	NETLAMANIKANDAN S	IV/MECH					
73.	732416114029	NIKHIL RAJ	IV/MECH					
74.	732416114030	PRAVEENKUMAR S	IV/MECH					
75.	732416114031	RABERTO	IV/MECH					
76.	732416114032	RAGUNATHK	IV/MECH					
77.	732416114033	RAHUL RAMACHANDRAN	IV/MECH					
78.	732416114034	RAMANUJ DUBEY A	IV/MECH					
79.	732416114035	RANJIH S I	IV/MECH					
80.	732416114036	RANJITHKUMAR A	IV/MECH					
81.	732416114037	SAFREENA NOOR ARIMBRATHODI	IV/MECH					
82.	732416114038	SANTHOSH KUMAR K	IV/MECH					
83.	732416114040	SATHYAKUMAR S	IV/MECH					
84.	732416114041	SELVAMANIG	IV/MECH					
85.	732416114042	SELVAMANIKANDAN K	IV/MECH					
86.	732416114043	SHANMUGAM R	1V/MECH					
87.	732416114044	SHANMUGANATHAN	IV/MECH					
88.	732416114045	SRIDHAR CHANDHRU H	IV/MECH					
89.	732416114046	SUBASHS	IV/MECH					
90.	732416114047	THARANITHARAN S	IV/MECH					
91.	732416114049	VAIRAMUTHU S	IV/MECH					
92.	732416114050	VASANTH M	IV/MECH					
93.	732416114051	VENKATESAN K	IV/MECH					
94.	732416114052	VIGNESH A	IV/MECH					
95.	732416114055	VIJAY PRASATH E	IV/MECH					
96.	732416114302	PARVEZ A	IV/MECH					
97.	732416114303	VIGNESH S	IV/MECH					
98.	732416114502	MOHANKUMAR P	IV/MECH					

HoD/MECH

Dr.M.VIJAYAKUMAR ME., Ph.D.,

SASURIE COLLEGE OF ENGINEERING, Vijayamangalam - 638 056, Tirupur (Dt).



STUDENTS ATTENDANCE LIST-VALUE ADDED COURSE

"Robotics for Rehabilitation Engineering"

From 09.12.2019 to 14.12.2019 (6 days)

Duration:36 Hours

Academic Year:2019-2020/EVEN

S.No	Reg No.	Name of the Student	Year/	09.12	2.2019	10.12	.2019	11.13	2.2019	12.12	2.2019	13.12	2.2019	14.1	2.2019	No. of Hours	Signature of the Student
			Branch	FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	Attended	
1.	732417114001	ALBERTSTEEPHENS	III/MECH	1	1	1	1	1	1	/	/	1	1	1	1	36	Allous
2.	732417114003	ANITHKUMARV	III/MECH	1	1	1	1	1	1	1	1	1	Α	1	1	33	V. Am
3.	732417114004	ARAVINDAKUMARG	III/MECH	1	1	A	A	1	1	1	1	1	/	1	1	30	(An Koj
4.	732417114006	BALAJICS	III/MECH	1	1	1	1	/	1/	/	1	1	1	1	1	36	Balajins
5.	732417114007	BALAJIG	пимесн	1	1	1	1	1	1	A	A	1	1	1	1	30	GIBeki
6.	732417114010	DHAYANIDHIR	III/MECH	1	1	/	1	1	1	1	1	1	1	1	1	36	2.241.
7.	732417114011	DHINESHKUMARK	III/MECH	1	1	1	/	1	1	1	1	/	1	1	1	36	K. Planshay
8.	732417114012	GANESHKUMARP	III/MECH	21	1	7 /	1	1	1	/	1	1	1	1	1	36	B. Gen Thy
9.	732417114013	GOWTHAMM	III/MECH	13	1/2	1	1	1	/	/	1	1	A	1	1	33	M. Coust
10.	732417114014	HARIHARANM	III/MECH	1	1	對7號	1	1	1	/	1	1	1	1	1	36	Methor hour
11.	732417114016	HARIKRISHNAM	III/MECH	1	1	A	A	1	1	1	/	1		1	1	30	M. hay his
12.	732417114017	JAGADEESHKUMARM	III/MECH	1	1-18:	110	1	1	1	1	1	1	1	1	1	361	H.JC
13.	732417114019	KALIRAJR	ПІ/МЕСН		i	1	1	1	/	Α	A	1	1	1	br	NOO	CUMAR ME, Ph.D.

PRINCIPAL PRINCIPAL NE., PR.I. PRINCIPAL SASURIE COLLEGE OF ENGINEERING, Vijayamangalam - 638 056, Tirupur (Dt).



.No	Reg No.	Name of the Student	Year/ Branch	09.12	2.2019	10.12.	.2019	11.12	2.2019	12.12	2.2019	13.12	2.2019	14.12.2019		No. of Hours Attended	Signature of the Student
			!	FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	<u> </u>	
4.	732417114020	KAMALESHP	III/MECH	1	1	1	A	1	\overline{L}'	1	(<u> </u>		1	1	1	33	P. Krahah
5.	732417114023	KAVINKUMARV	III/MECH	1	/	1			,	/			1	1	1	36	V. Kindry
5.	732417114025	KRISHNAMOORTHYP	III/MECH	1	1		/		1	A	A	1	/		1	30	PJWysham
7.	732417114026	LOGAPRIYANE	III/MECH	1	1	1	1)	/	1	1	A	1	1	33	D. Kindry PJWnjhon Lagions at
8.	732417114028	MURUGANANDAMK	III/MECH	1	1	1	1_		1_		1	1	1			36	E. Muumes
9.	732417114029	MUTHUPANDIM	III/MECH	1	,	1	1_	(_	Α		1	1_	1	1	1	33	M. glinftne
0.	732417114031	MYTHERAYANK	III/MECH	1	,	1	1	/		/_	/_	,	/	1	1	36	Oldytheraya.
21.	732417114032	NITHISHKUMARR	III/MECH	1	1		1		A	1	1/_		1	1_	1	33	Macput!
22.	732417114033	POORAGAVANP	III/MECH	1	1	1	1	1	1		1	1	1	1	1	36	P. Rogarch
23.	732417114036	RAVIKUMARR	ПІ/МЕСН	1	/	1	1	1	/	A	A	.]	,			30	R. Paiky
24.	732417114037	SANJAYP	III/MECH	1	1	1	A		1	110	1	- 50	1	1	1	33	P. Sanjay
25.	732417114038	SANTHANAM P	III/MECH	1_	1	1	1		/	1	1		1	1	1	36	of Santhers
26.	732417114039	SATHYANARAYANANS	III/MECH	1	1		1	1	1	1	1	1	A	1	1	33	D. Lathyanny
27.	732417114040	SHEIKBARIDHA	III/MECH		1	1	1_	1	1_	1	/	L	1	1	1	36	A Specify
28.	732417114041	SRIDHARS	III/MECH	1	1	1	1	1	1		A	1	1	1	/	33	25. Lay
29.	732417114042	SUGANRAJP	III/MECH	1	NA		1	1	1 / 5	3/-	1		1	1	1	36	P Lugaro
30.	732417114043	SURIYAPRAKASHP	III/MECH	1	1	A	A	1	5/3	30/2	1		1	1	1	20	P. Siya Pr
31.	732417114045	VASANTHAKUMARS	III/MECH	1	1	1	1	1	1	1	1	14/	1	ha	No	MARSHE. Ph	SHRieta
32.	732417114047	VELMURUGANS	III/MECH	1	/	1120	1	1	1	1	1		yr.w	VIJA	PRINCIPA	136	8. Veebre



		<u>STUD</u>	ENTSAT	TEN	DANC	<u>CELIS</u>	<u>5T-V/</u>	<u>ALUI</u>	<u>EADΓ</u>	<u> DEDC</u>	STUDENTSATTENDANCELIST-VALUEADDEDCOURSE														
S.No	Reg No.	Name of the Student	Year/ Branch	09.17	2.2019	10.12	2.2019	11.17	2.2019	12.12	2.2019	13.12.	.2019	14.12.	2019	No.of Hours	Signature of the Student								
		1	Didlicii	FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	Attended	Student								
	732417114048	VENGATESANM	Ш/МЕСН	1	1	1		1	A	/		/	1	/	1	33	M. Vijh								
34.	732417114049	VETRIVELS	III/MECH	1	1	/	/	/	/	1	1	1	/	1	1	36	y ventical								
35.	732417114050	VIGNESHWARANR	III/MECH	1	/	A	A	/	1	1	1	1	1	1	1	30	P. Vighy								
36.	732417114052	VIJIPRIYADHARSANP	III/MECH	/	1	/	1	,	1	1	/	,	А	1	1	33	Vhy								
37.	732417114053	VISHNUKUMARS	III/MECH	1	1	,	1	1	1	1	1	/	1	1		36	8. Vidinkry								
38.	732417114301	HEYSONKJ	III/MECH	1	1		/	/	1	/,	A	1	1	1	1	33	HeJah								
39.	732417114501	VIGNESHKS	III/MECH	1	1	/	/	/	1	/	/	1	1	1	1	36	10.5. Whigh								
40.	732417114503	DHANANJAYANK	IĮI/MECH	1	1	/	I	1	1	,	1		1	,	1	36	d. I began								
41.	732417114701	ARUNKUMARK	III/MECH	1	1	1		A	Α		1	/	1	1	1	30	KAnife								
42.	732417114702	MYTHILIG	III/MECH		1	1	1	1	1		/	/	1	1	1	36	Ce rywhilis								
43.	732417114703	JAMESJAYAPRAKASHG	III/MECH	1	1	1	1	/	/	/	1	A	A	1)	30	f-157								
44.	732417114704	VIJAYANANDS	III/MECH		1	1	A	1	1	1	1	1	1	1	7	33	2. Rugay De								
45.	732417114705	PRAVEENKUMARR	III/MECH	1	1	1	1	1	1	1	1	1	1	1	1	36	P. Vanto								
46.	732417114706	AJITHAA	III/MECH	1)	1	1	/		1	A	1	1	1	1	33	AAR								
47.	732417114707	THIRUMOORTHINANDHAR	III/MECH	1	1	1	1	1	1	1	1	1	1	1	/	36	A. Tullundan								
48.	732416114002	ADARSHCM	IV/MECH	- 1	511	4 2 1	1	1	1	A	A	1	1	1	1	30	Palaye								
49.	732416114003	AJITHKUMARK	IV/MECH	1	11/1	401	3/	10/2	1	A	A	1	1	1	135	30	Non u								
50,	732416114004	ALEXPANDIYANR	IV/MECH	1	1	11	A	10/3		1871	1	2/2	1	意/3	16	133	P. dan								
51.	732416114005	ANANTHASUBRAMANIYAMR	IV/MECH	1	1	1	1/2	1	1	1	/	1	1	V-MA	AYAU	KUMABME	Profly.								

SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tirupur (Dt).



	STU	DENTSAT	TEN	DANG	CELIS	ST-V	ALU	EADI	DEDC	COUR	<u>SE</u>					
Reg No.	Name of the Student	Year/	09.1	2.2019	10.12	.2019	11.13	2.2019	12.13	2.2019	13.12	2.2019	14.12	2.2019	No.of Hours	Signature of the
		branch	FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	Attended	Stotlent
732416114006	BHARATH M	IV/MECH	1	Ť	1	/	1	A	1	1	1	1	,	1	33	M.Bh.A.
732416114007	BHARATHIT	IV/MECH	1	1	1	1	1	1	1	1	1	1	1	1	36	(D) B) 100
732416114008	DEENADHAYALR	IV/MECH	1	1	1	1	A	A	1	1	1	1	1	1	30	P. Der
732416114009	DHANASEKARANP	IV/MECH	1	1	,	1	1	1	1	A	1	,	1	1	33	8 June
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	STUDENTSATTENDANCELIST-VALUEADDEDCOURSE																
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74.	732416114030	PRAVEENKUMARS	IV/MECH		/	,	A	1	1	1	1	1	1	1	1	33	SAM.
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77.	732416114033	RAHULRAMACHANDRAN	IV/MECH	1	1	1	,		,	1	1	1	1	1	,	36	Odh-
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VAC Coordinator

V-P. 14 12-19 HoD/MECH

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Vijayamangalam - 638 056, Tirupur (Dt).



			Report on Value	Add	led C	our	se				
Title:	Roboti	cs for	Rehabilitation Engineering								
Resource	Person:	HR/ L.G.	Thangavel, Manager, .Balakrishnan & Bros Ltd, nbatore- 638459.			Mr.R.Rameshkumar, Trainer, L.G.Balakrishnan & Bros Ltd, Coimbatore- 638459.					
Date of co	nduct fro	m:	09.12.2019	To:	o: 14.12.2019 Duration:			36 I	Hours		
Organized	by:		MECHANICAL ENGINE L.G.Balakrishnan & Bros I		NG 2	ind	IQAC	in ass	ociatio	n with	
Academic	Year:		2019 - 2020				Sem	ester.	EV	EN	
Participan	Participant Year: II, III, IV Year MECH No. of Students Participated:										
Venue:	Lecture	hall o	f II & III year MECH							-	
			Outcome of Value Ac	dded	Cours	e (V	AC)				
• Ev. • De • De dev	abilitation aluate exi sign and i velop wea velopmen	n purpo sting as mplem arable r	principles of robotics to design a pses. ssistive technologies and integrate ent rehabilitation robotics solution obotic exoskeletons, considering der ethical implications related to	roboti ns for s design	cs to en pecific conside	hance : clinica rations	their ca l appli s and a	apabilities for cations and so ddressing cha	rehabil enarios	itation.	
			Assessmen								
 Students, who are securing more than 70% on total score in the VAC test and secured more than 75% in VAC attendance is eligible to receive the course completion certificate for the VAC attended Total Score = (0.5 *Attendance in VAC out of 100 percentage + 0.5 *Test mark in VAC out of 100 marks) No. of students successfully completed the VAC course is <u>98 Students</u> based on the above assessment process. 											
	7.Q.	ordin	V. P. G.	MECI	ı I	6		T-S- Pri	ncipal		



Certificate of Participation

NITHISH KUMAR R, III MECH

This is to certify that Mr./Ms

successfully completed the Va	lue Added Course titled "Robotics for Rehab	ilitation Engineering" Organized by the
Department of Mechanical	Engineering in association with IQAC of	Sasurie College of Engineering and
L.G.Balakrishnan Bros Ltd	from 09.12.2019 to 14.12.2019 (6 Days).	
7-9	U.P. Der	T-S-n-
Co-ordinator	Head of the Department	Principal
		Dr.M. VIDAYAKUMAR ME., Ph.D., PRINC PAL ANALOIS COLLEGE US ENGINEERING.



Certificate of Participation

SURIYAPRAKASH P, III MECH

This is to certify that Mr./Ms		has
successfully completed the Value A	dded Course titled "Robotics for Rehabilitation	on Engineering" Organized by the
Department of Mechanical Engir	neering in association with IQAC of Sasur	ie College of Engineering and
L.G.Balakrishnan Bros Ltd from 0	9.12.2019 to 14.12.2019 (6 Days).	
78-7-	U.P. P	T-S-nc
Co-ordinator	Head of the Department	Principal Principal Dr. M. V. JAYAR ON AR ME, Ph.O., PRINCIPAL
	AST.	SASURIE COLLEGE OF ENGINEERING,



Certificate of Participation

Co-ordinator	Head of the Department	Principal
J. Bout	U-P. P	T-S-n
L.G.Balakrishnan Bro	s Ltd from 09.12.2019 to 14.12.2019 (6 Days).	
Department of Mecha	nical Engineering in association with IQAC of	Sasurie College of Engineering and
successfully completed	the Value Added Course titled "Robotics for Reha	bilitation Engineering" Organized by the
This is to certify tha	t Mr./Ms LAKSHMANAN S, IV MECH	has



Certificate of Participation

This is to certify that Mr./Ms	ELANGOVAN T, IV MECH	has
successfully completed the Value Ad		pilitation Engineering" Organized by the
		Sasurie College of Engineering and
L.G.Balakrishnan Bros Ltd from 09		Sasure Conege of Engineering and

J. South-

Co-ordinator

V-P. D

Head of the Department

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Dr.M.VIJAYAKUMAR ME. Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 618 055 Tigo-



TEST QUESTION PAPER - VALUE ADDED COURSE

"Robotics for Rehabilitation Engineering"

From 09.12.2019 to 14.12.2019 (6 days)

Duration: 36 Hours Academic Year: 2019-2020/EVEN

Date of Test: 14.12.2019

MULTIPLE CHOICE QUESTIONS (25 X 1 = 25 Marks)

Name of the Student:

Year/Sem:

AU Register Number:

Answer all the questions:

- 1. What is the primary focus of rehabilitation engineering?
 - a. Industrial automation
 - b. Healthcare robotics
 - c. Aerospace engineering
 - d. Computer programming
- 2. Which system plays a crucial role in designing robotic devices for rehabilitation?
 - a. Respiratory system
 - b. Cardiovascular system
 - c. Musculoskeletal system
 - d. Digestive system
- 3. What are the fundamental principles of robotics essential for rehabilitation engineering?
 - a. Genetic engineering
 - b. Quantum mechanics
 - c. Basic mechanics and control
 - d. Organic chemistry
- 4. Which type of robots is commonly used in rehabilitation applications?
 - a. Industrial robots
 - b. Agricultural robots
 - c. Service robots
 - d. Social robots
- 5. What is the role of actuators in rehabilitation robotics?
 - a. Gather patient data
 - b. Provide targeted therapeutic interventions
 - c. Monitor environmental conditions
 - d. Process sensory information

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- 6. What does the term "human-machine interface" refer to in the context of rehabilitation robotics?
 - a. Interaction between humans and machines
 - b. Machine learning algorithms
 - c. Robot programming language
 - d. System maintenance procedures
- 7. In neurorehabilitation, which neurological disorder might involve the use of robotic devices?
 - a. Diabetes
 - b. Parkinson's disease
 - c. Hypertension
 - d. Osteoporosis
- 8. What are exoskeletons in the context of rehabilitation robotics?
 - a. External support structures worn by patients
 - b. Tiny robotic insects
 - c. Virtual reality simulations
 - d. Robotic animals used for therapy
- 9. How can machine learning be applied in rehabilitation robotics?
 - a. Analyzing financial data
 - b. Creating virtual reality environments
 - c. Developing adaptive learning algorithms
 - d. Designing hardware components
- 10. Which term refers to the evaluation of rehabilitation robotics effectiveness using established metrics?
 - a. Clinical assessment
 - b. Mechanical assessment
 - c. Technical assessment
 - d. User assessment
- 11. What is a key consideration in the ethical use of robotics in healthcare?
 - a. Cost-effectiveness
 - b. Rapid development
 - c. Patient confidentiality
 - d. Technological complexity
- 12. In the context of rehabilitation engineering, what is the significance of understanding human anatomy and physiology?
 - a. Enhancing artistic skills
 - b. Improving communication abilities
 - c. Designing effective robotic interventions
 - d. Studying historical perspectives
- 13. Which of the following is NOT a type of rehabilitation scenario commonly addressed by robotics?
 - a. Stroke rehabilitation
 - b. Cardiovascular rehabilitation
 - c. Spinal cord injury rehabilitation
 - d. Musculoskeletal rehabilitation

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- 14. What is the primary goal of rehabilitation robotics?
 - a. Automating household chores
 - b. Enhancing human capabilities and functions
 - c. Developing autonomous vehicles
 - d. Improving social media algorithms
- 15. What role do sensors play in rehabilitation robotics?
 - a. Provide targeted therapeutic interventions
 - b. Gather patient data for analysis
 - c. Control robotic movements
 - d. Generate electrical power
- 16. Which field is NOT directly related to rehabilitation engineering?
 - a. Biomechanics
 - b. Astrophysics
 - c. Physical therapy
 - d. Occupational therapy
- 17. What does the term "adaptive learning" imply in the context of rehabilitation robotics?
 - a. Customizing therapy based on individual needs
 - b. Creating robots with learning capabilities
 - c. Programming robots to follow set patterns
 - d. Adjusting robot size based on patient height
- 18. How can robotics contribute to personalized rehabilitation plans?
 - a. Generating standardized treatment protocols
 - b. Customizing therapy based on patient characteristics
 - c. Eliminating the need for human intervention
 - d. Using a one-size-fits-all approach
- 19. What is the primary purpose of clinical assessment in rehabilitation robotics?
 - a. Testing the durability of robotic components
 - b. Evaluating the effectiveness of interventions
 - c. Assessing the environmental impact of robots
 - d. Monitoring the power consumption of robotic systems
- 20. Which factor is crucial in ensuring successful user acceptance of rehabilitation robotics?
 - a. Robot speed
 - b. User interface design
 - c. Complexity of algorithms
 - d. Availability of spare parts
- 21. In the context of robotics for rehabilitation, what is the primary role of actuators?
 - a. Collecting patient data
 - b. Providing targeted therapeutic interventions
 - c. Sensing environmental conditions
 - d. Processing visual information

Me

Dr.M.VIJAYAKUMAR ME., Ph.D.,
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Vijayamangalam - 638 655, Titumer (Ch.)



- 22. What distinguishes wearable robotic exoskeletons from other robotic devices?
 - a. Size and weight
 - b. Ability to fly
 - c. Integration with virtual reality
 - d. Communication capabilities
- 23. Which neurological disorder may involve the use of robotic devices for rehabilitation?
 - a. Diabetes
 - b. Parkinson's disease
 - c. Asthma
 - d. Arthritis
- 24. How can rehabilitation robotics contribute to a more personalized approach to patient care?
 - a. Standardizing treatment protocols
 - b. Ignoring individual differences
 - c. Adapting therapy based on patient characteristics
 - d. Using a one-size-fits-all approach
- 25. What is an essential consideration in the ethical use of rehabilitation robotics?
 - a. Technological complexity
 - b. Patient confidentiality
 - c. Cost-effectiveness
 - d. Rapid development



TEST QUESTION ANSWER KEY - VALUE ADDED COURSE

"Robotics for Rehabilitation Engineering"

From 09.12.2019 to 14.12.2019 (6 days)

Duration: 36 Hours

Academic Year: 2019-2020/EVEN

Date of Test: 14.12.2019

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5	b	10	а	15	b	20	b	25	b

VAC Coordinator

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TEST QUESTION PAPER - VALUE ADDED COURSE

"Robotics for Rehabilitation Engineering"

From 09.12.2019 to 14.12.2019 (6 days)

Duration: 36 Hours Academic Year: 2019-2020/EVEN

Date of Test: 14.12.2019

MULTIPLE CHOICE QUESTIONS (25 X 1 = 25 Marks)

Name of the Student: Gr. Aravindakumar Year/Sem: 111/VI

AU Register Number: 732417/14004

Answer all the questions:

1. What is the primary focus of rehabilitation engineering?

a. Industrial automation

(b) Healthcare robotics

- c. Aerospace engineering
- d. Computer programming
- 2. Which system plays a crucial role in designing robotic devices for rehabilitation?
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 - b. Quantum mechanics
- (C)Basic mechanics and control
- d. Organic chemistry
- 4. Which type of robots is commonly used in rehabilitation applications?
 - a Industrial robots
 - b. Agricultural robots
- © Service robots
- d. Social robots
- 5. What is the role of actuators in rehabilitation robotics?
 - a. Gather patient data
- (b) Provide targeted therapeutic interventions
- c. Monitor environmental conditions
- d. Process sensory information

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- 6. What does the term "human-machine interface" refer to in the context of reliabilitation robotics?
- 1 Interaction between humans and machines
- b. Machine learning algorithms
- c. Robot programming language
- d. System maintenance procedures
- 7. In neurorehabilitation, which neurological disorder might involve the use of robotic devices?
 - a. Diabetes
- DParkinson's disease
- c. Hypertension
- d. Osteoporosis
- 8. What are exoskeletons in the context of rehabilitation robotics?
- a External support structures worn by patients
- b. Tiny robotic insects
- c. Virtual reality simulations
- d. Robotic animals used for therapy
- 9. How can machine learning be applied in rehabilitation robotics?
 - a. Analyzing financial data
 - b. Creating virtual reality environments
- © Developing adaptive learning algorithms
- d. Designing hardware components
- 10. Which term refers to the evaluation of rehabilitation robotics effectiveness using established metrics?
- (a) Clinical assessment
- b. Mechanical assessment
- c. Technical assessment
- d. User assessment
- 11. What is a key consideration in the ethical use of robotics in healthcare?
 - a. Cost-effectiveness
 - b. Rapid development
- (c) Patient confidentiality
- d. Technological complexity
- 12. In the context of rehabilitation engineering, what is the significance of understanding human anatomy and physiology?
 - a. Enhancing artistic skills
 - b. Improving communication abilities
 - © Designing effective robotic interventions
 - d. Studying historical perspectives
- 13. Which of the following is NOT a type of rehabilitation scenario commonly addressed by robotics?
 - a. Stroke rehabilitation
 - b. Cardiovascular rehabilitation
 - c. Spinal cord injury rehabilitation
 - (d) Musculoskeletal rehabilitation

D

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14 W	That is	s the	primary	goal	of	rchabi	litation	robotics?	

- Automating household chores
- (b) Enhancing human capabilities and functions
- c. Developing autonomous vehicles
- d. Improving social media algorithms

15. What role do sensors play in rehabilitation robotics?

- a. Provide targeted therapeutic interventions
- (b) Gather patient data for analysis
- e. Control robotic movements
- d. Generate electrical power

16. Which field is NOT directly related to rehabilitation engineering?

- a. Biomechanics
- b. Astrophysics
- e. Physical therapy
- (d)Occupational therapy



- 17. What does the term "adaptive learning" imply in the context of rehabilitation robotics?
- (a) Customizing therapy based on individual needs
- b. Creating robots with learning capabilities
- c. Programming robots to follow set patterns
- d. Adjusting robot size based on patient height

18. How can robotics contribute to personalized rehabilitation plans?

- a. Generating standardized treatment protocols
- (b) Customizing therapy based on patient characteristics
- c. Eliminating the need for human intervention
- d. Using a one-size-fits-all approach
- 19. What is the primary purpose of clinical assessment in rehabilitation robotics?
 - a. Testing the durability of robotic components
 - Assessing the environmental impact of robots
 - d. Monitoring the power consumption of robotic systems
- b. Evaluating the effectiveness of interventions
- d. Mountaining the power consumption of rocotte systems
- 20. Which factor is crucial in ensuring successful user acceptance of rehabilitation robotics?
 - (a) Robot speed
 - b. User interface design
 - c. Complexity of algorithms
 - d. Availability of spare parts
- \gg
- 21. In the context of robotics for rehabilitation, what is the primary role of actuators?
 - a. Collecting patient data
- (b) Providing targeted therapeutic interventions
- c. Sensing environmental conditions
- d. Processing visual information

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- 22. What distinguishes wearable robotic exoskeletons from other robotic devices?
 - a Size and weight
 - b. Ability to fly
 - c. Integration with virtual reality
 - d. Communication capabilities
- 23. Which neurological disorder may involve the use of robotic devices for rehabilitation?
 - a. Diabetes
 - (b) Parkinson's disease
 - c. Asthma
 - d. Arthritis
- 24. How can rehabilitation robotics contribute to a more personalized approach to patient care?
 - a. Standardizing treatment protocols
 - b. Ignoring individual differences
 - ©Adapting therapy based on patient characteristics
 - d. Using a one-size-fits-all approach
- 25. What is an essential consideration in the ethical use of rehabilitation robotics?
 - a. Technological complexity
 - (b.)Patient confidentiality
 - c. Cost-effectiveness
 - d. Rapid development



ASSESMENTSHEET-VALUEADDEDCOURSE

"Robotics for Rehabilitation Engineering"

From 09.12.2019 to 14.12.2019 (6 days)

Duration:36Hours

AcademicYear:2019-2020/EVEN

				Attenda	nce Details	VAC-MO	CQTEST	OVERALL
S.No	Reg No.	Name of the Student	Year/ Branch	No. of Hours Attended	Attendance Score(100) (A)	No. of Correct Answers	MCQ Score (100) (B)	Score (100) (50%ofA +50%ofB)
1.	732417114001	ALBERTSTEEPHENS	III MECH	36	100	19	76	88
2.	732417114003	ANITHKUMARV	III/MECH	33	90	19	76	83
3.	732417114004	ARAVINDAKUMARG	III/MECH	30	80	21	84	82
4.	732417114006	BALAJĮCS	III/MECH	36	100	18	72	86
5.	732417114007	BALAJÍG	HIMECH	30	80	20	80	80
6.	732417114010	DHAYANIDHIR	III/MECH	36	100	19	76	88
7.	732417114011	DHINESHKUMARK	ШМЕСН	36	100	19	76	88
8.	732417114012	GANESHKUMARP	III MECH	36	100	18	72	86
9.	732417114013	GOWTHAMM	III MECH	33	90	19	76	83
10.	732417114014	HARIHARANM	IIIMECH	36	100	19	76	88
11.	732417114016	HARIKRISHNAM	III MECH	30	80	20	80	80
12.	732417114017	JAGADEESHKUMARM	III MECH	36	100	19	76	88
13.	732417114019	KALIRAJR	III MECH	30	80	21	84	82

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		Seg No. Name of the Student		Attenda	nce Details	VAC-M	ONER edd.	
S.No	Reg No.		Year/ Branch	No. of Hours Attended	Attendance Score(100) (A)	No. of Correct Answers	MCQ Score (100) (B)	(100) (50%-oda ~50%-oda
14.	732417114020	KAMALESHP	III/MECH	33	90	19	76	83
15.	732417114023	KAVINKUMARV	III/MECH	36	100	20	80	90
16.	732417114025	KRISHNAMOORTHYP	III/MECH	30	80	21	84	82
17.	732417114026	LOGAPRIYANE	III/MECH	33	90	18	72	81
18.	732417114028	MURUGANANDAMK	III/MECH	36	100	21	84	92
19.	732417114029	MUTHUPANDIM	III/MECH	33	90	19	76	83
20.	732417114031	MYTHERAYANK	III/MECH	36	100	19	76	88
21.	732417114032	NITHISHKUMARR	III/MECH	33	90	19	76	83
22.	732417114033	POORAGAVANP	III/MECH	36	100	20	80	90
23.	732417114036	RAVIKUMARR	III/MECH	30	80	21	84	82
24.	732417114037	SANJAYP	III/MECH	33	90	18	72	81
25.	732417114038	SANTHANAM P	III/MECH	36	100	21	84	92
26.	732417114039	SATHYANARAYANANS	III/MECH	33	90	19	76	83
27.	732417114040	SHEIKBARIDHA	III/MECH	36	100	19	76	88
28.	732417114041	SRIDHAR S	III/MECH	33	90	19	76	83
29.	732417114042	SUGANRAJP	III/MECH	36	100	20	80	96
30.	732417114043	SURIYAPRAKASHP	III/MECH	30	80	21	84	82
31.	732417114045	VASANTHAKUMARS	III/MECH	36	100	21	84	92
32.	732417114047	VELMURUGANS	III/MECH	36	100	21	84	Dr2M.VI.

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				Attenda	nce Details	VAC-M	CQTEST	OVERALL Score
S.No	Reg No.	Name of the Student	Year/ Branch	No. of Hours Attended	Attendance Score(100) (A)	No. of Correct Answers	MCQ Score (100) (B)	(100) (50%ofA +50%ofB)
33.	732417114048	VENGATESANM	III/MECH	33	90	19	76	83
34.	732417114049	VETRIVELS	III/MECH	36	100	20	80	90
35.	732417114050	VIGNESHWARANR	III/MECH	30	80	. 21	84	82
36.	732417114052	VIJIPRIYADHARSANP	III/MECH	33	90	18	72	81
37.	732417114053	VISHNUKUMARS	III/MECH	36	100	21	84	92
38.	732417114301	HEYSONKJ	III/MECH	33	90	19	76	83
39.	732417114501	VIGNESHKS	III/MECH	36	100	19	76	88
40.	732417114503	DHANANJAYANK	III/MECH	36	100	21	84	92
41.	732417114701	ARUNKUMARK	III/MECH	30	80	21	84	82
42.	732417114702	MYTHILIG	III/MECH	36	100	20	80	90
43.	732417114703	JAMESJAYAPRAKASHG	III/MECH	30	80	21	84	82
44.	732417114704	VIJAYANANDS	III/MECH	33	90	18	72	81
45.	732417114705	PRAVEENKUMARR	III/MECH	36	100	21	84	92
46.	732417114706	AJITHAA	III/MECH	33	90	19	76	83
47.	732417114707	THIRUMOORTHINANDHAR	III/MECH	36	100	20	80	90
48.	732416114002	ADARSHCM	IV/MECH	30	80	21	84	82
49.	732416114003	AJITHKUMARK	IV/MECH	30	80	21	84	82
50.	732416114004	ALEXPANDIYANR	IV/MECH	33	90	19	76	83
51.	732416114005	ANANTHASUBRAMANIYAMR	IV/MECH	36	100	19	76	88pr.M.\

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				Attenda	nce Details	VAC-M	OVERALL Score	
S.No	Reg No.	Name of the Student	Year/ Branch	No. of Hours Attended	Attendance Score(100) (A)	No. of Correct Answers	MCQ Score (100) (B)	(100) (50%ofA +50%ofB)
52.	732416114006	BHARATH M	IV/MECH	33	90	19	76	83
53.	732416114007	BHARATHIT	IV/MECH	36	100	20	80	90
54.	732416114008	DEENADHAYALR	IV/MECH	30	80	21	84	82
55.	732416114009	DHANASEKARANP	IV/MECH	33	90	18	72	81
56.	732416114010	DHANASEKARANS	IV/MECH	36	100	21	84	92
57.	732416114011	DHILEEPKUMARP	IV/MECH	33	90	19	76	83
58.	732416114012	DILIPK	IV/MECH	36	100	19	76	88
59.	732416114013	DINESEKUMART	IV/MECH	36	100	. 21	84	92
60.	732416114014	ELANGOVANM	IV/MECH	30	80	21	84	82
61.	732416114015	ELANGOVANT	IV/MECH	36	100	21	84	92
62.	732416114016	GOWTHAML	IV/MECH	33	90	19	76	83
63.	732416114017	JAGATHEESHG	IV/MECH	36	100	19	76	88
64.	732416114018	JINUJALEEL	IV/MECH	36	100	21	84	92
65.	732416114019	JOBINCJ	IV/MECH	33	90	19	76	83
66.	732416114021	KATHIRESHB	IV/MECH	36	100	20	80	90
67.	732416114022	KAVINP	IV/MECH	30	80	21	84	82
68.	732416114023	KAVINKUMARS	IV/MECH	33	90	18	72	81
69.	732416114024	LAKSHMANANS	IV/MECH	36	100	21	84	92
70.	732416114026	MOHAMMEDFAZILV	IV/MECH	30	80	21	84	82

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S.No	RegNo.	Name of the Student	Year/ Branch	Attendance Details		VAC-MCQTEST		OVERALL Score
				No. of Hours Attended	Attendance Score(100) (A)	No. of Correct Answers	MCQ Score (100) (B)	(100) (50%ofA +50%ofB)
71.	732416114027	NAVANEETHAKRISHNANK	IV/MECH	33	90	19	76	83
72.	732416114028	NEELAMANIKANDANS	IV/MECH	36	100	20	80	90
73.	732416114029	NIKHILRAJ	IV/MECH	30	80	21	84	82
74.	732416114030	PRAVEENKUMARS	IV/MECH	33	90	18	72	81
75.	732416114031	RABERTD	IV/MECH	36	100	21	84	92
76.	732416114032	RAGUNATHK	IV/MECH	33	90	19	76	83
77.	732416114033	RAHULRAMACHANDRAN	IV/MECH	36	100	19	76	88
78.	732416114034	RAMANUJDUBEYA	IV/MECH	36	100	21	84	92
79.	732416114035	RANJITHSI	IV/MECH	36	100	21	84	92 -
80.	732416114036	RANJITHKUMARA	IV/MECH	33	90	19	76	83
81.	732416114037	SAFREENANOOR ARIMBRATHODI	IV/MECH	36	100	19	76	88
82.	732416114038	SANTHOSHKUMARK	IV/MECH	36	100	21	84	92
83.	732416114040	SATHYAKUMARS	IV/MECH	33	90	19	76	83
84.	732416114041	SELVAMANIG	IV/MECH	36	100	20	80	90
85.	732416114042	SELVAMANIKANDANK	IV/MECH	30	80	21	84	82
86.	732416114043	SHANMUGAMR	IV/MECH	33	90	18	72	81
87.	732416114044	SHANMUGANATHAN	IV/MECH	36	100	21	84	92
88.	732416114045	SRIDHARCHANDHRU H	IV/MECH	33	90	19	76	83
89.	732416114046	SUBASHS	IV/MECH	36	100	20	80	98r.M.

98r.M.VIJAYAKUMAR ME., Ph.1 PRINCIPAL SASURIE COLLEGE OF ENG. MEERING, Vijayamangalam - 638 056, Tirupur (Dt).



S.No	Reg No.	Name of the Student		Attendance Details		VAC-MCQTEST		OVERALL Score
			Year/ Branch	No. of Hours Attended	Attendance Score(100) (A)	No. of Correct Answers	MCQ Score (100) (B)	(100) (50%ofA +50%ofB)
90.	732416114047	THARANITHARANS	IV/MECH	33	90	19	76	83
91.	732416114049	VAIRAMUTHUS	IV/MECH	36	100	20	80	90
92	732416114050	VASANTHM	IV/MECH	30	80	21	84	82
93.	732416114051	VENKATESANK	IV/MEC:I	33	90	18	72	81
94.	732416114052	VIGNESH A	IV/MECH	36	100	21	84	92
95.	732416114055	VIJAYPRASATHE	IV/MECH	33	90	19	76	83
96.	732416114302	PARVEZA	IV/MECH	36	100	19	76	88
97.	722416114303	VIGNESH S	IV/MECH	36	100	21	84	92
98.	732416114502	MOHANKUMARP	IV/MECH	33	90	19	76	83

VAC Coordinator

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