K S INSTITUTE OF TECHNOLOGY, BANGALORE

DEPARTMENT OF PHYSICS

COURSE FILE

NAME OF THE STAFF	:	SUNIL KUMAR N
SUBJECT CODE/NAME	:	18 PHY12/22
		ENGINEERING PHYSICS
SEMESTER/YEAR	:	I / II
ACADEMIC YEAR	:	2020 – 2021
BRANCH	:	COMPUTER SCIENCE AND ENGINEERING(B Sec)
		ARTIFICIAL INTELLEGENCE AND MECHINE LEARNING
		MECHANICAL ENGINEERING (C Sec)

COURSE IN-CHARGE

HOD

11/2/19

PRINCIPAL

K. S. INSTITUTE OF TECHNOLOGY

Affiliated to VTU, Belagavi & Approved by AICTE, New Delhi, Accredited by NAAC & IEI
No.14, Raghuvanahalli, Kanakapura Main Road, Bengaluru – 560109

Vision

"To impart quality technical education with ethical values, employable skills and research to achieve excellence"

Mission

- To attract and retain highly qualified, experienced and committed faculty.
- To create relevant infrastructure.
- Network with industry and premier institutions to encourage emergence of new ideas by providing research and development facilities to strive for academic excellence.
- To inculcate the professional and ethical values among young students with employable skills and knowledge acquired to transform the society.

DEPARTMENT OF SCIENCE AND HUMANITIES

VISION

"To create a conducive environment to impart sound fundamentals and problem solving skills among the students and prepare them for higher learning"

Mission

- To continuously improve the teaching-learning process and maintain effective pedagogy.
- To inculcate ethical and professional values among students.
- To create institute –industry interaction to promote research.

K S Institute of Technology, Bangalore

DEPARTMENT OF PHYSICS

Program Outcomes (POs) as identified by National Board of Accreditation (NBA), India are what the graduates of an undergraduate engineering program should be able to do at the time of graduation. The POs are discipline non-specific.

	Program Outcome
PO1	**Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis**: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	**Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
PO6	**The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	**Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments
PO12	**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

K. S INSTITUTE OF TECHNOLOGY, BENGALURU-560109

TENTATIVE CALENDAR OF EVENTS: I SEMESTER (2020-2021)

SESSION: DEC 2020 - MAR 2021

Week No.	Month	Day						Days	Activities
		Mon	Tue	Wed	Thu	Fri	Sat		
1	DEC	14*	15	16	17	18	19	6	14*-Commencement of I Semester/Induction Programme
2	DEC	21	22	23	24	25 H	26	5	25-Christmas
3	DEC /JAN	28	29	30	31	1	2	6	
4	JAN	4	5	6	7	8	9	6	
5	JAN	11	12	13	14 H	15	16	5	14-Makara sankaranthi
6	JAN	**18 T1**	**19 T1**	**20 T1**	21	22	23	6	
7	JAN	25	26 H	27 BV	28 ASD	29	30	5	26-Republic Day
8	FEB	1	2	3	4	5	6	6	
9	FEB	8	9	10	11	12	13	6	
10	FEB	15	16	17	**18 T2**	**19 T2**	**20 T2**	6	
11	FEB	22	23	24 BV	25ASD	26	27	6	
12	MAR	1	**2**	3	**4**	5	**6**	6	
13	MAR	8	9	10	11 H	12	13	5	11-Maha Shivaratri
14	MAR	**15 LT**	**16 LT**	**17 LT**	**18 LT**	19	20	6	
15	MAR	**22 T3**	**23 T3**	**24 T3**	25*			4	Last Woking Day
Total No of Working Days : 84									

Total Number of working days (Excluding holidays and Tests)=71

H	Holiday
BV	Blue Book Verification
T1,T2, T3	Tests 1,2, 3
ASD	Attendance & Sessional Display
LT	Lab Test
TA	Test attendance

Monday	12
Tuesday	11
Wednesday	12
Thursday	11
Friday	12
Saturday	13
Total	**71**

K. S INSTITUTE OF TECHNOLOGY, BENGALURU-560109

CALENDAR OF EVENTS: I SEMESTER (2020-2021)

SESSION: December 2020 - April 2021

Week No.	Month	Day						Days	Activities
		Mon	Tue	Wed	Thu	Fri	Sat		
1	DEC	14*	15	16	17	18	19	6	14*-Commencement of I Semester/Induction Programme
2	DEC	21	22	23	24	25 H	26	5	25-Christmas
3	DEC /JAN	28	29	30	31	1	2	6	
4	JAN	4	5	6	7	8	9	6	
5	JAN	11	12	13	14 H	15	16	5	14-Makara sankaranthi
6	JAN	**18 T1**	**19 T1**	**20 T1**	21	22	23	6	
7	JAN	25	26 H	27 BV	28 ASD	29	30	5	26-Republic Day
8	FEB	1	2	3	4	5	6	6	
9	FEB	8	9	10	11	12	13	6	
10	FEB	15	16	17	**18 T2**	**19 T2**	**20 T2**	6	
11	FEB	22	23	24 BV	25ASD	26	27	6	
12	MAR	1	2	3	4	5	6	6	
13	MAR	8	9	10	11 H	12	13	5	11-Maha Shivaratri
14	MAR	15	16	17	18	19	20	6	
15	MAR	22	23	24	**25 T3**	**26 T3**	**27 T3**	6	
16	MAR/ APR	29 LT	30 LT	31 LT	1 LT	2 H	3	5	2-Good Friday
17	APR	5 IT	6 IT	7 IT	8	9	10*	6	* Last Woking Day
Total No of Working Days : 97									

Total Number of working days (Excluding holidays and Tests)=75

H	Holiday	
BV	Blue Book Verification	
T1,T2, T3	Tests 1,2, 3	
ASD	Attendance & Sessional Display	
LT/ IT	Lab Test	Improvement Test
TA	Test attendance	

Monday	17
Tuesday	16
Wednesday	17
Thursday	15
Friday	15
Saturday	17
Total	**97**

13/3/21

PRINCIPAL
K.S. INSTITUTE OF TECHNOLOGY
BENGALURU - 560 109

K.S.INSTITUTE OF TECHNOLOGY
LIST OF STUDENTS STUDYING IN I SEMESTER
FOR THE ACADEMIC YEAR 2020-2021
COMPUTER SCIENCE & ENGINEERING
PHYSICS CYCLE - SECTION A

SL NO	NAME OF THE STUDENT	STUDENT MOBILE NUMBER	STUDENT EMAIL ID	GENDER	DATE OF BIRTH	STUDENT AADHAR NUMBER	ADMISSION QUOTA	FATHER MOBILE NUMBER	MOTHER MOBILE NUMBER
1	AAQIB BASHIR		aaqibb710@gmail.com	Male	2003-01-26	561212063250	J&K	+919622285470	
2	ANAND.V.S	7483043100	anandvadda2002@gmail.com	Male	2002-05-05	809639977005	CET	9741149321	8660855821
3	ANANYA PATIL	9632142419	patilananya49@gmail.com	Female	2003-04-20	464677630865	CET	9740900210	9449938954
4	ANIRUDHA.K.K	9886880845	anirudhakk450@gmail.com	Male	2002-09-18	999116813210	COMEDK	9606866559	9620201299
5	ANKITA CHOUDHARY	7051713726	ankitachoudhary228@gmail.com	Female	2002-11-23	236673353119	J&K	9858108112	7780996891
6	ANUPRIYA.C	9916847070	chellamuthuanupriya@gmail.com	Female	2002-09-05	916145917675	CET	9448735664	
7	ANUSHREE H	7795073753	anushree192002@gmail.com	Female	2002-03-19	423750448279	COMEDK	9141660008	6361420726
8	ANUSHREE.G.M	6363321203	anushreegm456@gmail.com	Female	2002-10-24	237335615027	CET	9901794337	9902527069
9	APEKSHA.M	6362455174	apekshamaddi22@gmail.com	Female	2002-07-22	372390522379	CET	9742279659	9972049286
10	ARCHIT GANAPATI AVADHANI	9480992612	archit.avadhani@gmail.com	Male	2001-12-04	503488700794	MANAGEMENT	9845091912	9845039210
11	B.JAIDEV	9060645261	jaidev4680@gmail.com	Male	2003-06-16	913995260424	MANAGEMENT	8147288843	8618384258
12	BASAVESH.V.L	7204735968	vlbasavesh@gmail.com	Male	2002-05-13	328907287899	CET	9731288941	9731288941
13	BHUMIKA MAHADEVAPPA UMACHAGI	9449803796	bhumikaumachagi77@gmail.com	Female	2002-05-01	7175 9076 0767	CET	9686792936	8147892367
14	BHUVAN.N.GOWDA	9113991079	bhuvan.n.gowda2002@gmail.com	Male	2002-01-11	6791 5708 0133	MANAGEMENT	9141443042	6363780317
15	BOMMINENI TEJASWINI	7676811580	Teju3535@gmail.com	Female	2000-05-17	554637892922	MANAGEMENT	9113291275	9066708999
16	BRUNDA.B	9663398090	brunda.bgowda369@gmail.com	Female	2002-02-13	793126521523	CET	7760403945	7795382665
17	CHAITRA.R	8904921714	chaitrarajappa04@gmail.com	Female	2002-10-23	8388 3827 6806	CET	RAJAPPA	9986564656
18	CHETHAN.S	7760893684	chethans290@gmail.com	Male	2002-07-04	775693285034	CET	9986052783	9686895117
19	DARSHAN.M.S	9686684652	darshandarshanms09@gmail.com	Male	2002-11-09	5488 2113 6011	MANAGEMENT	9845110423	9686684652
20	DHANCIN C BHARGAV	9481840406	dhanubhargav02@gmail.com	Male	2002-08-28	4487 7226 2843	SNQ		9986692790
21	DHANUSH.Y	9731512288	dhanushy3@gmail.com	Male	2002-03-25	311559550720	MANAGEMENT	7483055702	7619540239
22	DHANYA SHARANYA SHREE.R	7625032929	dhanya1929@gmail.com	Female	2002-08-27	367633357204	CET	9449521929	9916201929
23	DIVAKAR.M	7899705900	divakardivl156@gmail.com	Male	2002-03-12	943869052766	CET	+91 73532 32212	+91 73532 32212
24	DIVYA VEERAYYA CHIKKAMATH	8951349585	divyachikkamath2002@gmail.com	Female	2002-04-27	5339 0334 0627	MANAGEMENT	9980593900	9113664589
25	GAGANA C L NAIK	9740858752	gaganaclnaik568@gmail.com	Female	2002-02-12	839440486535	CET	9740858752	9008511498
26	GAGANA.R	7483383673	gaganaramesh005@gmail.com	Female	2002-08-23	941448502445	SNQ		9480987552
27	GANASHREE.G.M	9901437467	tejasgowdag.com@gmail.com	Female	2002-10-16	2182 7047 9207	CET	9986897985	9901437467
28	GANASHREE.K	7259536214	Ganashreekrishna9666@gmail.com	Female	2003-05-22	888874065178	CET		9108169545

29	GIRISH.G	9164305694	girish15012002@gmail.com	Male	2002-01-15	5338 7881 7279	CET	9731594731	9164305694
30	GOEL ANANYA DEVENDRA	7975230046	goeldevendra23@gmail.com	Female	2003-01-16	902259016957	COMEDK	7457804480	7975230046
31	GURU KIRAN.S	9071421289	gurukirans2903@gmail.com	Male	2003-03-29	495529566845	CET	9343549657	8880614534
32	GURU KASHYAP.N.S	8073355880	nsgkpspk@gmail.com	Male	2003-03-08	2692 2815 0008	MANAGEMENT	9448343930	9448943930
33	H.A.SANKEERTHAN	9611711654	sankeerthankeerthi03@gmail.com	Male	2003-04-20	468156337895	CET	9900662021	
34	H.A.TRISHALA	9972904437	jaintrishala3@gmail.com	Female	2002-10-23	541080289645	CET	9538738217	9036736626
35	HARSHITHA.B.R	9108369561	harshithabr185@gmail.com	Female	2002-05-18	261176575705	CET	9148252166	9535182484
36	HONOKSHARATHNA.B	9620142651	honoksharathna2002@gmail.com	Female	2002-03-24	524236379905	CET	9980663673	9449611011
37	HRITHIKA.S	9902828401	Hrithikasuresh312@gmail.com	Female	2001-12-03	529022178033	MANAGEMENT	9341220691	8050452863
38	JAHNAVI P	8296677828	jahnavisathya31@gmail.com	Female	2002-05-31	357618394937	MANAGEMENT	9394160095	9182787322
39	JEEVAN	9945260013	Ljeevan.4@gmail.com	Male	2002-10-14	844271961611	COMEDK	9845814147	9845814147
40	JNANESH.A.S								
41	JONNA DILEEP	6301913259	dileepnaidu43@gmail.com	Male	2002-05-19	788359833633	MANAGEMENT	9445269425	9182404684
42	KAVITHA.R	9448813998	kavitharajesh. 2511@gmail.com	Female	2002-11-25	790656500466	MANAGEMENT	9880043598	9945825880
43	KAVYA.R	9663525880	kavyarajesh.2511@gmail.com	Female	2002-11-25	545309495060	MANAGEMENT	9880043598	9945825880
44	KUSHAL.K.	8073895905	kushalrockstar555@gmail.com	Male	2002-09-02	869655862278	COMEDK	9880940270	8792256893
45	LISHA NIDHI.A.M	8217870359	Llishanidhi29@gmail.com	Female	2002-08-29	4557 1836 6685	MANAGEMENT	9449520998	7760065338
46	M.SANTHOSH KUMAR	82173 73484	manthri1932002@gmail.com	Male	2002-03-19	382578006520	CET	8095949571	8310897219
47	MAHIM SUBHASH AKHAWAT	7357122985	mahimakhawat@gmail.com	Male	2000-04-15	905965923478	COMEDK		
48	MANDARA.K.S	9449103144	ksmandara1@gmail.com	Female	2002-08-30	630408632100	CET	9480958442	9019764169
49	MANISH PIKHAN	8493819702	manishpikhan4@gmail.com	Male	2003-03-20	691430290105	J&K	9596959128	7889539136
50	MANISHA.G.N	9113697369	manishagn02@gmail.com	Female	2002-01-30	795288902363	CET	9449340868	9620194068
51	MANJUNATH.R	6363358647	rmanjunath7692@gmail.com	Male	2002-07-18	672822202306	CET	9844147692	7090738868
52	MONICA.C.S	7411270986	monicacs17062002@gmail.com	Female	2002-06-17	356475471057	CET	9740641560	8147989514
53	NAJEEB MUTHAHEED	8217455347	peacemnhaq7@gmail.com	Male	2002-10-19	566503469257	CET	9242242018	8217455347
54	NEHA REDDY.S	6363466437	peaceneha3@gmail.com	Female	2002-05-29	630710409681	CET	7624826635	8792564288
55	SUSHMA SRIKANTA KURANDWAD								
56	A AKASH								

Class Teacher:- Mr. Venkataramana. B.S

K.S.INSTITUTE OF TECHNOLOGY
LIST OF STUDENTS STUDYING IN I SEMESTER
FOR THE ACADEMIC YEAR 2020-2021
COMPUTER SCIENCE & ENGINEERING
PHYSICS CYCLE - SECTION B

SL.NO	NAME OF THE STUDENT	STUDENT MOBILE NUMBER	STUDENT EMAIL ID	GENDER	DATE OF BIRTH	STUDENT AADHAR NUMBER	ADMISSION QUOTA	FATHER MOBILE NUMBER	MOTHER MOBILE NUMBER
1	MONIESH.S	9361299744	smoniesh85@gmail.com	Male	2002-04-23	498456699140	OTHERS	8778804814	9361546206
2	MONIKA.N	7483931846	monikagowda2811@gmail.com	Female	2002-07-25	785438623463	CET	6362432784	9036749099
3	N.KEERTHANA	7975953830	keenunani@gmail.com	Female	2002-07-09	720423449416	CET	9845211672	9901941978
4	N.NITHESH KUMAR	9502973441	nithesh2545@gmail.com	Male	2002-09-13	648701561414	MANAGEMENT	9701592603	7019150080
5	NAMRATHA.R	8867245448	namratharavi02@gmail.com	Female	2002-05-05	8760 2786 3608	MANAGEMENT		9986073559
6	NARASIMHA.N	7760532109	simha9424@gamail.com	Male	2002-04-02	799783607490	CET	9972042482	9901323281
7	NIDHI K V	6363681492	rayanmd433@gmail.com	Female	2002-04-29	928424168326	COMEDK	7813933933	9482073628
8	NIRMITHA.N	7204648616	nirmithagowda29@gmail.com	Female	2002-09-28	724555771932	CET	9901268100	9632833086
9	NUTHANAPATI DEVITHA	7013388134	devithanuthanpati@gmail.com	Female	2002-12-23	618457746309	MANAGEMENT	9959776454	7330739953
10	PARVASHREE.H.M	7204393175	hmparvashree26@gmail.com	Female	2002-12-26	651104180237	MANAGEMENT	9845082274	9482710479
11	PARVATHY.P.S	8867122742	pillaiparvathy835@gmail.com	Female	2002-06-08	779561145461	COMEDK	9845218835	9141818835
13	PAVAN KUMAR.S	8618275525	Pavankumar0424@gmail.com	Male	2002-04-24	9294 6737 1788	MANAGEMENT	9448901395	8453757048
12	PAVAN.C	9741676406	pavan55pavi555@gmail.com	Male	2002-08-05	275781211178	COMEDK	8861135406	9611761896
14	PAVAN.M	8951219613	mpavan232003@gmail.com	Male	2003-01-23	441293126236	SNQ	9845981913	9686897363
15	PAVAN.P	8296213030	pavanprakash02@gmail.com	Male	2002-03-28	318883889310	CET	9343764356	9108497979
16	PAVITHRA.R	8867256339	pavithraramesh990@gmail.com	Female	2002-06-18	310100993075	MANAGEMENT	9538686339	9986737881
17	POOJITHA.Y	6361495789	poojithanaidu22@gmail.com	Female	2002-05-22	286825030633	CET	9900781506	8105601712
18	POONAM	6360680103	wadikarpoonam@gmail.com	Female	2003-07-20	440802767346	CET	9739727444	8660148908
19	PRADHYUMNA.K	7022957212	kanathurpradhyumna@gmail.com	Male	2002-03-26	8213 9671 6861	CET	9845730509	9448613614
20	PRAJWAL NAIK U	8123039770	prajwal0608@gmail.com	Male	2003-06-08	441575058489	CET	9880706654	9980080877
21	R.KUSHAL SAI	9380953627	kushal.rks07@gmail.com	Male	2021-01-02	658205232420	MANAGEMENT	8884268292	8884268292
22	RAGHAVI.C.S	8792025045	Csraghavi6@gmail.com	Female	2002-12-05	986361762034	MANAGEMENT	8904862902	9972593721
23	RAKSHITH.C.MAHALADKAR	7795981081	rakshithmahaladkar16@gmail.com	Male	2001-01-16	972275102140	MANAGEMENT	9341258521	9341190309
24	RAKSHITHA.P	9980012643	02.rakshitha@gmail.com	Female	2002-06-01	267401709020	CET	9880195845	8095208290
25	ROSHAN KUMAR.B	9353036022	roshannaidu4693@gmail.com	Male	2001-11-21	730859374600	MANAGEMENT	9880242540	
29	S.SAI SHANKARI	6361786327	saishankari123@gmail.com	Female	2002-03-12	516163820040	MANAGEMENT	9901454931	9900013007
26	SAAHIL BHUJANG DHARMA	7338568790	Saahild96@gmail.com	Male	2002-07-24	771736911392	COMEDK	9620106670	9901655370
27	SABHAREESH BALAJI.P	9686517723	sabhareeshbalaji23n@gmail.com	Male	2002-03-07	991997754998	COMEDK	9900545103	9448055435

28	SAHANA.R	8867089755	.ahanasahar21@gmail.com	Female	2002-09-21	31896 069	SNQ	9964152354	9591002998
30	SAMEER.G.KULKARNI	8073200772	sameerkulkarni517@gmail.com	Male	2002-04-28	784141072338	CET	9741891608	9686229608
31	SANKET GANAPATI HEGDE	8867068956	hegdesanket7@gmail.com	Male	2002-04-09	262886100297	CET	9480440840	8867141906
32	SHASHIKANTH.N.G	9845363566	shashikanthngshashi@gmail.com	Male	2002-10-15	4681 9535 2580	CET	8105759234	9611721347
33	SHASHWATHA.H.M	8951600216	shashwathahm81222@gmail.com	Female	2002-12-08	478898511296	CET	9482314867	9242809163
34	SHILPA.M	9620920756	shilpashilu305@gmail.com	Female	2003-02-01	351964118403	CET	9901668970	9620920751
35	SHRAVYA.M.R	9900784350	morbagalshravya@gmail.com	Female	2002-01-05	3006 7682 6155	COMEDK	9845371037	9900230390
36	SINDHURA.H	6364799739	pinkeysindhurah@gmail.com	Female	2003-05-15	940382712670	CET	9916363447	7892401780
37	SIRIPIREDDY THULASI	9901265884	thulsireddy22@gmail.com	Female	2002-06-22	918174053664	COMEDK	7574872481	8978024207
38	SKANDA SWAROOPA.B.V	8431079869	skandaswaroopabv@gmail.com	Male	2002-04-16	849823626536	COMEDK	9945314279	+919945314279
39	SPOORTHY.N	9606242187	spoorthynaidu810@gmail.com	Female	2002-10-08	891592449675	COMEDK	9036252187	6362808923
40	SRISHTI SRIVASTAVA	9170033921	Srivastavasrishti1000@gmail.com	Female	2002-12-10	967881537662	COMEDK	9451041570	9453347565
41	SUDEEP.D.M	7483941805	sudeepdm17@gmail.com	Male	2002-10-17	762532590970	CET	8050273436	8673046073
42	TAHREEM IMAD PASHA	7204021093	tahreempasha786@gmail.com	Male	2002-04-15	854941294456	CET	9886344474	8095922643
43	TALIB MUKHTAR CHODA	7006505631	talib.choda@gmail.com	Male	2002-02-02	856915140028	J&K	9419040819	
45	THANUSHA.K	9108165373	Thanushak2222@gmail.com	Female	2003-03-21	410233705370	SNQ	9108165373	9901982068
44	THANVI KAMATH	9845071977	tanvikamath21@gmail.com	Female	2002-08-21	7969 5021 0342	CET	9449010977	8105096127
46	TRUPTHI.G.B	8884509150	trupthibhogesh@gmail.com	Female	2002-09-02	340172461387	MANAGEMENT	9342509150	9481183728
47	TUSHAR S	8884444405	tushar255@gmail.com	Male	2002-05-25	827671624092	MANAGEMENT	9845238868	9980388660
48	V.ARVIND	8770886413	arvind80802@gmail.com	Male	2003-03-15	496243766690	COMEDK	9039279400	9039279400
49	VAISHNAVI.M	9972572987	vaishusuchith@gmail.com	Female	2002-05-15	800503474489	CET	9902087283	9743928327
50	VANDANA.N	8904287952	vandukeerthi6055@gmail.com	Female	2002-11-21	6128 5235 9407	COMEDK	9986771307	9986771307
51	VANDANA.N	7026761144	vandana99722@gmail.com	Female	2002-05-06	6750 6540 5805	CET	9738822267	9972237141
52	VIBHAV KAUSHIK.V	9731847902	vibhavkaushik07@gmail.com	Male	2002-02-01	496457287980	COMEDK	9611577448	9880378733
53	VIKAS KASHYAP	9902045021	vikasvik1828@gmail.com	Male	2003-01-28	910380595547	MANAGEMENT	8970797782	9945580144
54	VISHAL.N.KORABU	9113034106	vishalnk1234@gmail.com	Male	2002-07-27	520961403188	CET	8970629360	8970670715
55	VUMMANENI CHARAN	6302775154	Vummanenicharan3@gmail.com	Male	2002-12-14	706242886977	COMEDK	8297199199	8639316969
56	Y.JHANSI	7795819304	jhansiy1803@gmail.com	Female	2003-01-18	349204851527	CET		9480729304

HOD

Class Teacher:- Mr. Chowdappa. M.R

K.S.INSTITUTE OF TECHNOLOGY
LIST OF STUDENTS STUDYING IN I SEMESTER
FOR THE ACADEMIC YEAR 2020-2021
ARTIFICIAL INTELLIGENCE & MACHNE LEARNING / MECHANICAL ENGINEERING
.PHYSICS CYCLE - SECTION C

SL.NO	NAME OF THE STUDENT	STUDENT MOBILE NUMBER	STUDENT EMAIL ID	GENDER	DATE OF BIRTH	STUDENT AADHAR NUMBER	ADMISSION QUOTA	FATHER MOBILE NUMBER	MOTHER MOBILE NUMBER
1	ABHISHEK.A	9945559291	2002abhishekgowda@gmail.com	Male	2002-08-02	325059984581	CET		
2	AMITH MAILA.G	7483544489	amithmaiya3@gmail.com	Male	2002-07-12	704419213542	CET	9900965617	9945778878
3	ANANYA .P.	7795799184	ananyaanu1290@gmail.com	Female	2002-10-19	4292 9693 4927	CET	9632226489	9900186670
4	ANUSHA PHANIRAJ	8310155208	anushaphaniraj1209@gmail.com	Female	2002-09-12	747658576544	CET		
5	BHAVANASHREE.K.S	7204489856	bhavanashree294@gmail.com	Female	2002-12-01	9164 0265 2584	CET	9036800904	7524963741
6	C.M.RITHIKA	7204845839	rithikamanjunath08@gmail.com	Female	2002-10-08	267568682754	MANAGEMENT	9845095329	9980529567
7	CHANDAN.V.K	8088589616	chandanvk002@gmail.com	Male	2002-02-15	548967573483	CET		
8	CHETAN VEERANA GOUDA MUDIGOUDRA	8904016091	Chetanmudigoudra@gmail.com	Male	2002-10-21	762967019320	SNQ	9008990691	
9	DHANUSH.P	9019100406	dhanushnaidu05@gmail.com	Male	2003-02-05	316411566528	CET	9902998180	7483822282
10	DISHA GUPTA	8279451137	guptadisha512@gmail.com	Female	2001-12-05	816404184725	MANAGEMENT	9837169137	8384852044
11	GURUDEEP.R	+6366810608	gurudeep70908@gmail.com	Male	2001-11-22	576841630649	CET	9342535666	9663675399
12	HARSHITH RAM NARAYAN	8618483442	Harshith.ram0764@gmail.com	Male	2002-08-07	887940759840	MANAGEMENT	8310918764	8095083494
13	KANDRA AKASH	8792133700	akashkandra18@gmail.com	Male	2002-08-02	557719351026	MANAGEMENT	9900800004	9108858002
14	KARTIK BHATT	8971650429	karthikshambhatt19@gmail.com	Male	2001-12-19	548068800484	CET	9739090386	9535420877
15	LASYA BABU K.M.	8105885342	lasyababu75@gmail.com	Female	2002-07-05	828477256521	CET	9448948886	7892229159
16	LIKHITH.V	9480417715	likhithv02@gmail.com	Male	2002-07-06	229273826139	CET	9448042835	9449831793
17	LITHEESH V.R.	9060030400	vrlitheesh2002@gmail.com	Male	2002-08-01	500842503574	CET		
18	LOKESH .N.	8088811764	lokesh02.n@gmail.com	Male	2002-02-19	291598624681	CET	9449208224	9481955356
19	M. DIVYASHREE	7204555891	divyanaidu720@gmail.com	Female	2002-03-04	680347149531	CET	9590721150	8361984686
20	M.V. VARUN	7019191490	mvvarun002@gmail.com	Male	2002-04-25	440029786007	MANAGEMENT	9844463720	9986509918
21	MADHU S. SALIMATH	8431640148	salimathm2@gmail.com	Female	2002-08-25	2061 2897 8407	MANAGEMENT	9972521108	9632477258
22	MEDI VINAY	7331157204	medivinay27@gmail.com	Male	2002-09-27	884140185772	COMEDK	9160276932	9347685256
23	MOHAMMED ZEESHAN	9731947079	zzeeshan18@gmail.com	Male	2001-11-10	657057412789	MANAGEMENT	8147062782	9845720259
24	MONISH.M	6361738577	mmonishp147@gmail.com	Male	2002-07-14	680303580122	CET	9972934934	6366257642
25	NETHRANAND P.S.	8618884276	nethranandps2001@gmail.com	Male	2001-10-20	242044165561	CET	9880066867	8088116167
26	NIRIKSHA.D	8884376351	nirikshanikku35@gmail.com	Female	2002-03-05	836689881954	CET	9448509229	9448509229

27	NISHITHA.S.	8123825020	nishithagowda1002@gmail.com	Female	2002-07-20	305927629272	MANAGEMENT	9845073212	7676487871
28	PAVAN KALYAN.N.	7022153055	charanyapavan@gmail.com	Male	2002-11-01	704247891987	SNQ	8951121511	9148926226
29	PAVAN.A	07899809753	a.pavan2929@gmail.com	Male	2001-12-08	942597260929	MANAGEMENT	9980922533	9945939429
30	POORNIMA.M.C	8105058248	chandrasekarpoornima6@gmail.com	Female	2002-06-25	289527894911	CET	9342593367	9379769001
31	PRIYANKA.A.H	6363119225	ahpriyanka2002@gmail.com	Female	2002-04-15	266553494214	MANAGEMENT	9980567661	9844282866
32	RAKSHITA.P	6363670989	rakshita.kulkarni3487@gmail.com	Female	2002-07-05	373894974008	CET	9341876555	7019275373
33	RUPA RAJASRI PUTHINEEDI	8951231407	rupaputhineedi@gmail.com	Female	2002-08-14	589047587696	CET	9880484588	9108898024
34	SAGAR .P.	6366719482	sagarsa1564@gmail.com	Male	2002-12-20	363324571250	CET	9845483934	9620577785
35	SAHITHI BHASHYAM	8296796003	sahithib.uni@gmail.com	Female	2002-09-20	419057507051	MANAGEMENT	8971060003	6363792379
36	SHRUTHI K.	6361209139	shruthikandra123@gmail.com	Female	2001-11-26	214512661845	MANAGEMENT	8088345495	9741342449
37	SINDHUJA CHINDIRALA	8971466297	Sindhujachindirala@gmail.com	Female	2002-09-20	919922262648	MANAGEMENT	9844705446	08048905446
38	SNEHA G. PALANKER	8971501093	snehashet002@gmail.com	Female	2002-05-04	395745396093	MANAGEMENT	8861880897	9880268092
39	SYED AASIM HUBAIRA	8095909601	asimsyed8095@gmail.Com	Male	2002-08-03	9548 9714 3456	CET	9844820380	9620104086
40	TANMAYEE R	7204554919	tanmayeeramanath1508@gmail.com	Female	2002-08-15	973850902836	CET	9845679583	7259508419
41	TEJASWINI L	8618269722	Tejaswinilokesh2001@gmail.com	Female	2001-12-12	669366716376	MANAGEMENT	9916162001	8792806274
42	V.PREETHI	9392795265	Chowdarypreethi582@gmail.com	Female	2002-10-07	769112084184	MANAGEMENT	9346379065	7702531309
43	VIPUL KANT TRIPATHI	6263162603	vipultripathi62@gmail.com	Male	2002-09-01	988536921436	MANAGEMENT	7415847000	8823014350
44	VISHISTA VUPPALAPATI	9900637893	Vishista2002@gmail.com	Female	2002-12-18	6099 1734 3067	MANAGEMENT		
45	YASHILA.R	8095955432	yashilaraju@gmail.com	Female	2002-08-17	3112 9776 2386	CET	9844107339	8073114295
46	YOGITHA .S.	9035431519	Yogithachinni24@gmail.com	Female	2003-01-28	847114488131	CET	9480427898	8095939753
47	DHARMAVARAPU LAKSHMI AARADHYA								
48	**DARSHAN.S**	7618700778	darshan240802@gmail.com	Male	2002-08-24	5267 0225 4446	MANAGEMENT	9900657434	8861521575
49	**HARSHA VARDHAN.V**	6362032203	Harshavardhan Reddy 271v@gmail .com	Male	2001-09-14	825731073581	MANAGEMENT	7760645502	8453040792
50	**HARYANK.V.KASHYAP**	9448154738	hankhavok16@gmail.com	Male	2002-05-17	329879360054	SNQ	9880141113	8884340027
51	**KUSHAL KADAM**	7337832874	kushalkadam98765@gmail.com	Male	2000-11-15	567605696383	SNQ	7338474341	7337832874
52	**PRANITHA.R**	9591160128	sweetypranitha128@gmail.com	Female	2002-04-08	6350 1844 6079	MANAGEMENT	7406525652	9740286449
53	**SHALINI.D.S**	9606809070	shalinids254@gmail.com	Female	2003-01-05	260660346172	SNQ	8050759179	9618027770
54	**SHREYAS.S.K**	7019639291	sk.shreu200@gmail.com	Male	2002-04-01	783843481207	MANAGEMENT	SRIDHAR K S	9845735551
55	**SUPRITH GOWDA.J**	6362383798	suprithgowda9008397472@gmail.com	Male	2003-04-27	431867870915	MANAGEMENT	99445674468	9008397472

Class Teacher:- Mrs. Lakshmi-C

K.S.INSTITUTE OF TECHNOLOGY
LIST OF STUDENTS STUDYING IN II SEMESTER
FOR THE ACADEMIC YEAR 2020-2021
COMPUTER SCIENCE & ENGINEERING
CHEMISTRY CYCLE - SECTION A

ass Teacher: Mrs.SHYLAJA.K.R

..NO	USN	NAME OF THE STUDENT
1	1KS20CS001	A AKASH
2	1KS20CS002	AAQIB BASHIR
3	1KS20CS003	ANAND V S
4	1KS20CS004	ANANYA PATIL
5	1KS20CS005	ANIRUDHA.K.K
6	1KS20CS006	ANKITA CHOUDHARY
7	1KS20CS007	ANUPRIYA C
8	1KS20CS008	ANUSHREE G M
9	1KS20CS009	ANUSHREE H
.0	1KS20CS010	APEKSHA M
.1	1KS20CS011	ARCHIT GANAPATI AVADHANI
.2	1KS20CS012	B JAIDEV
.3	1KS20CS013	BASAVESH V L
.4	1KS20CS014	BHUMIKA MAHADEVAPPA UMACHAGI
.5	1KS20CS015	BHUVAN N GOWDA
.6	1KS20CS016	BOMMINENI TEJASWINI
.7	1KS20CS017	BRUNDA B
.8	1KS20CS018	CHAITRA R
.9	1KS20CS019	CHETHAN S
.0	1KS20CS020	DARSHAN M S
.1	1KS20CS021	DHANUSH Y
2	1KS20CS022	DHANVIN C BHARGAV
3	1KS20CS023	DHANYA SHARANYA SHREE R
4	1KS20CS024	DIVAKAR M
5	1KS20CS025	DIVYA VEERAYYA CHIKKAMATH
6	1KS20CS026	EDUMUDI ABHINAYA
7	1KS20CS027	G SANJANA RAJU
8	1KS20CS028	GAGANA C L NAIK
9	1KS20CS029	GAGANA R

SL.NO	USN	NAME OF THE STUDENT
30	1KS20CS030	GANASHREE G M
31	1KS20CS031	GANASHREE K
32	1KS20CS032	GIRISH G
33	1KS20CS033	GOEL ANANYA DEVENDRA
34	1KS20CS034	GURU KASHYAP N S
35	1KS20CS035	GURU KIRAN S
36	1KS20CS036	H A SANKEERTHAN
37	1KS20CS037	H A TRISHALA
38	1KS20CS038	HARSHITHA B R
39	1KS20CS039	HONOKSHARATHNA B
40	1KS20CS040	HRITHIKA.S
41	1KS20CS041	JAHNAVI P
42	1KS20CS042	JEEVAN
43	1KS20CS043	JNANESH A S
44	1KS20CS044	JONNA DILEEP
45	1KS20CS045	KAVITHA R
46	1KS20CS046	KAVYA R
47	1KS20CS047	KUSHAL.K
48	1KS20CS048	LISHA NIDHI A M
49	1KS20CS049	M SANTOSHKUMAR M HAMPANNA
50	1KS20CS050	MAHIM SUBHASH AKHAWAT
51	1KS20CS051	MANDARA K S
52	1KS20CS052	MANISH PIKHAN
53	1KS20CS053	MANISHA G N
54	1KS20CS054	MANJUNATH R
55	1KS20CS055	MONICA C S
56	1KS20CS056	MONIESH.S
57	1KS20CS057	MONIKA N

K.S.INSTITUTE OF TECHNOLOGY
LIST OF STUDENTS STUDYING IN II SEMESTER
FOR THE ACADEMIC YEAR 2020-2021
COMPUTER SCIENCE & ENGINEERING
CHEMISTRY CYCLE - SECTION B

ass Teacher: Mrs.LAKSHMI.C

..NO	USN	NAME OF THE STUDENT
1	1KS20CS058	N KEERTHANA
2	1KS20CS059	NAJEEB MUTHAHEED ARIN UL HAQ
3	1KS20CS060	NAMRATHA R
4	1KS20CS061	NARASIMHA N
5	1KS20CS062	NEHA REDDY S
6	1KS20CS063	NIDHI K V
7	1KS20CS064	NIRMITHA N
8	1KS20CS065	N NITHESH KUMAR
9	1KS20CS066	NUTHANAPATI DEVITHA
10	1KS20CS067	PARVA SHREE..H M
.1	1KS20CS068	PARVATHY P S
.2	1KS20CS069	PAVAN C
.3	1KS20CS070	PAVAN KUMAR S
.4	1KS20CS071	PAVAN M
.5	1KS20CS072	PAVAN P
.6	1KS20CS073	PAVITHRA R
.7	1KS20CS074	POOJITHA Y
.8	1KS20CS075	POONAM
9	1KS20CS076	PRADHYUMNA K
0	1KS20CS077	PRAJWAL NAIK U
1	1KS20CS078	R.KUSHAL SAI
2	1KS20CS079	RAGHAVI C S
3	1KS20CS080	RAKSHITH.C MAHALADKAR
4	1KS20CS081	RAKSHITHA P
5	1KS20CS082	ROSHAN KUMAR.B
6	1KS20CS083	S.SAI SHANKARI
7	1KS20CS084	SAAHIL BHUJANG DHARMAJI
8	1KS20CS085	SABHAREESH BALAJI P
9	1KS20CS086	SAHANA R

SL.NO	USN	NAME OF THE STUDENT
30	1KS20CS087	SAMEER KULKARNI
31	1KS20CS088	SANKET GANAPATI HEGDE
32	1KS20CS089	SHASHIKANTH N G
33	1KS20CS090	SHASHWATHA H M
34	1KS20CS091	SHILPA M
35	1KS20CS092	SHRAVYA M R
36	1KS20CS093	SINDHURA H
37	1KS20CS094	SIRIPIREDDY THULASI
38	1KS20CS095	SKANDA SWAROOPA B V
39	1KS20CS096	SPOORTHY.N
40	1KS20CS097	SRISHTI SRIVASTAVA
41	1KS20CS098	SUDEEP D M
42	1KS20CS099	SUSHMA SRIKANTA KURANDWAD
43	1KS20CS100	TAHREEM IMAD PASHA
44	1KS20CS101	TALIB MUKHTAR CHODA
45	1KS20CS102	TANVI KAMATH
46	1KS20CS103	THANUSHA K
47	1KS20CS104	TRUPTHI G B
48	1KS20CS105	TUSHAR S
49	1KS20CS106	V ARVIND
50	1KS20CS107	VAISHNAVI M
51	1KS20CS108	VANDANA N
52	1KS20CS109	VANDANA.N
53	1KS20CS110	VIBHAV KAUSHIK V
54	1KS20CS111	VIKAS KASHYAP R
55	1KS20CS112	VISHAL N KORABU
56	1KS20CS113	VUMMANENI CHARAN
57	1KS20CS114	Y JHANSI

K.S.INSTITUTE OF TECHNOLOGY
LIST OF STUDENTS STUDYING IN II SEMESTER
FOR THE ACADEMIC YEAR 2020-2021
ARTIFICIAL INTELLIGENCE & MACHINE LEARNING / MECHANICAL ENGINEERING
CHEMISTRY CYCLE - SECTION C

ss Teacher: Mrs.RADHIKA N.P

.NO	USN	NAME OF THE STUDENT
1	1KS20AI001	ABHISHEK A
2	1KS20AI002	AMITH MAIYA G
3	1KS20AI003	ANANYA P
4	1KS20AI004	ANUSHA PHANIRAJ
5	1KS20AI005	BHAVANASHREE K S
6	1KS20AI006	C.M.RITHIKA
7	1KS20AI007	CHANDAN V K
8	1KS20AI008	CHETAN MUDIGOUDRA
9	1KS20AI009	DHANUSH P
0	1KS20AI010	DHARMAVARAPU LAKSHMI AARADHYA
1	1KS20AI011	DISHA GUPTA
2	1KS20AI012	GURUDEEP R
3	1KS20AI013	HARSHITH RAM NARAYAN
4	1KS20AI014	KANDRA AKASH
5	1KS20AI015	KARTIK BHATT
6	1KS20AI016	LASYA BABU K M
7	1KS20AI017	LIKHITH V
8	1KS20AI018	LITHEESH V R
9	1KS20AI019	LOKESH N
0	1KS20AI020	M DIVYA SHREE
1	1KS20AI021	M V VARUN
2	1KS20AI022	MADHU S SALIMATH
3	1KS20AI023	MEDI VINAY
4	1KS20AI024	MOHAMMED ZEESHAN
5	1KS20AI025	MONISH M
6	1KS20AI026	NETHRANAND P S
7	1KS20AI027	NIRIKSHA D
8	1KS20AI028	NISHITHA S

SL.NO	USN	NAME OF THE STUDENT
29	1KS20AI029	PAVAN A
30	1KS20AI030	PAVAN KALYAN N
31	1KS20AI031	POORNIMA M C
32	1KS20AI032	PRIYANKA A H
33	1KS20AI033	RAKSHITA PANDURANG KULKARNI
34	1KS20AI034	RUPA RAJASRI PUTHINEEDI
35	1KS20AI035	SAGAR P
36	1KS20AI036	SAHITHI BHASHYAM
37	1KS20AI037	SHRUTHI.K
38	1KS20AI038	SINDHUJA CHINDIBALA
39	1KS20AI039	SNEHA G PALANKER
40	1KS20AI040	SYED AASIM HUBAIRA
41	1KS20AI041	TANMAYEE R
42	1KS20AI042	TEJASWINI L
43	1KS20AI043	V PREETHI
44	1KS20AI044	VIPUL KANT TRIPATHI
45	1KS20AI045	VISHISTA VUPPALAPATI
46	1KS20AI046	YASHILA R
47	1KS20AI047	YOGITHA S
48	**1KS20ME001**	**DARSHAN S**
49	**1KS20ME002**	**HARSHAVARDHAN.V**
50	**1KS20ME003**	**HARYANK V KASHYAP**
51	**1KS20ME004**	**KUSHAL KADAM**
52	**1KS20ME005**	**PRANITHA.R**
53	**1KS20ME006**	**SHALINI D S**
54	**1KS20ME007**	**SHREYAS.S.K**
55	**1KS20ME008**	**SUPRITH GOWDA J**

K.S.INSTITUTE OF TECHNOLOGY,BENGALURU-109

TIME -TABLE FOR I SEMESTER (2020-2021)

PHYSICS CYCLE

SUB: ENGG.PHYSICS / ENGG. PHYSICS LAB

W.E.F:20.01.2021

Period Time Day	SEC	1 8.30-9.25 AM	2 9.25-10.20 AM	10.20-10.35	3 10.35-11.30 AM	4 11.30-12.25 PM	12.25-1.15 PM	5 1.15-2.10 PM	6 2.10-3.05 PM	7 3.05-4.00 PM
MON	A			TEA BREAK		RC	LUNCH BREAK			
	B					NS		← B1 (NS + RC) →		
	C	RC								
TUE	A					RC		← A1 (RC + NS) →		
	B		NS							
	C	C1 (NS + RC) ←								
WED	A	RC								
	B	NS						← B2 (NS + RC) →		
	C				RC					
THU	A	RC						← A2 (RC + NS) →		
	B					NS				
	C		NS							
FRI	A				RC					
	B									
	C	NS						← C2 (RC + NS) →		
SAT	A									
	B		NS							
	C		RC							

NS=Mr.SUNIL KUMAR.N

RC=Dr.RENUKA.C

HOD 27/1/2021

K. S. INSTITUTE OF TECHNOLOGY

#14, Raghuvanahalli, Kanakapura Main Road, Bengaluru-5600109

DEPARTMENT OF PHYSICS

Course: ENGINEERING PHYSICS			
Type: Core CSE		**Course Code:** 18PHY12	
No of Hours per week			
Theory (Lecture Class)	Tutorial	Total/Week	Total teaching hours
4	1	5	50
Marks			
Internal Assessment	Examination	Total	Credits
40	60	100	4

Aim/Objective of the Course:

The objectives of this course is to will enable students to

- Learn the basic concepts in physics which are very much essential in understanding and solving engineering related challenges.
- Gain Knowledge of newer concepts in modern physics for better appreciation of modern technology.

Course Learning Outcomes:

The students will be able to,

18PHY12.1	Build the concept of shock waves; discover the role of shock waves in various fields.Understand the various types of oscillations and their implications.
18PHY12.2	Identify the elastic properties of materials; impart the knowledge to understand its engineering applications.
18PHY12.3	Obtain the knowledge of Quantum Mechanics; compute Eigen values, Eigen function, momentum of atomic and sub atomic particles. Apprehend theoretical background of laser, construction and working of different types of lasers and its application in different fields.
18PHY12.4	Make use of different theoretical models to study the electrical and thermal properties of materials like conductors, semi conductors and dielectrics to understand its use in engineering applications.
18PHY12.5	Establish the interrelation between time varying electric and magnetic field, transverse nature of electromagnetic waves and realize their role in optical fiber communication.

Course: ENGINEERING PHYSICS 18 PHY 12	
Syllabus Content:	
Module 1: <u>Oscillations and Waves</u> **Free Oscillations**: Definition of SHM, derivation of equation for SHM, Mechanical and electrical simple harmonic oscillators (mass suspended to spring oscillator), complex notation and phasor representation of simple harmonic motion. Equation of motion for free oscillations, Natural frequency of oscillations. **Damped and forced oscillations**: Theory of damped oscillations: over damping, critical & under damping, quality factor. Theory of forced oscillations and resonance, Sharpness of resonance. One example for mechanical resonance. **Shock waves**: Mach number, Properties of Shock waves, control volume. Laws of conservation of mass, energy and momentum. Construction and working of Reddy shock tube, applications of shock waves. LO: At the end of this session the student will be able to, 1. Outline different types of oscillations and relate it to study different oscillators, natural frequency of oscillators 2. Explain the theory of damped and forced oscillations to understand different types of damping, quality factor and resonance 3. Identify the application of shock waves in various fields by studying its properties, different and conservation laws	10hrs PO1-3 PO2-2 PO3-1 PO6-2 PO12-2 PSO1-2

Module 2: <u>Elastic properties of materials:</u> **Elasticity:** Concept of elasticity, plasticity, stress, strain, tensile stress, shear stress, compressive stress, strain hardening and strain softening, failure (fracture/fatigue), Hooke's law, different elastic moduli: Poisson's ratio, Expression for Young's modulus (Y), Bulk modulus (K) and Rigidity modulus (n) in terms of α and β. Relation between Y, n and K, Limits of Poisson's ratio. **Bending of beams**: Neutral surface and neutral plane, Derivation of expression for bending moment. Bending moment of a beam with circular and rectangular cross section. Single cantilever, derivation of expression for young's' modulus **Torsion of cylinder**: Expression for couple per unit twist of a solid cylinder (Derivation), Torsional pendulum-Expression for period of oscillation. Numerical problems LO: At the end of this session the student will be able to, 1. Summarize different elastic properties of materials to understand elastic moduli and to arrive at the relation between them 2. Utilize the knowledge of elasticity to understand various engineering applications like bending of beams and torsion of cylinder 3. Experimenting with different types of materials and understand their moduli of elasticity	10hrs. PO1-3 PO2-3 PO3-2 PO6-2 PO7-2 PO12-2
Module 3: <u>Quantum Mechanics and Lasers</u> **Quantum mechanics:** Introduction to Quantum mechanics, Wave nature of particles, Heisenberg's uncertainty principle and applications (non confinement of electron in the nucleus), Schrodinger time independent wave equation, Significance of Wave function, Normalization, Particle in a box, Energy eigen values of a particle in a box and probability densities **Lasers**: Review of spontaneous and stimulated processes, Einstein's coefficients (derivation of expression for energy density). Requisites of a Laser system. Conditions for laser action. Principle, Construction and working of CO2 and semiconductor Lasers. Application of Lasers in Defense (Laser range finder) and Engineering (Data storage) Numerical problems	10hrs PO1-3 PO2-3 PO3-2 PO12-2

(RBT Levels L1, L2, L3)

Numerical problems

LO: At the end of this session the student will be able to,

1. Outline the Planck's equation for energy density to understand the need of quantum mechanics
2. Make use of Heisenberg Uncertainty Principle to show non existence of electron inside the nucleus
3. Utilize Schrödinger wave equation to obtain the Eigen functions and Eigen values for particles
4. Make use of the concepts of interaction of radiation with matter to understand different LASERs and their engineering applications

Module 4: Material science

Quantum Free electron theory of metals: Review of classical free electron theory, mention of failures. Assumptions of Quantum Free electron theory,Mention of expression for density of states, Fermi-Dirac statistics (qualitative), Fermi factor, Fermi level, Derivation of the expression for Fermi energy, Success of QFET.

Physics of Semiconductor: Fermi level in intrinsic semiconductors, Expression for concentration of electrons in conduction band, Hole concentration in valance band (only mention the expression), Conductivity of semiconductors(derivation), Hall effect, Expression for Hall coefficient(derivation)

Dielectric materials:polar and non-polar dielectrics, internal fields in a solid, Clausius-Mossotti equation(Derivation), mention of solid, liquid and gaseous dielectrics with one example each. Application of dielectrics in transformers.

Numerical problems

10hrs

PO1-3
PO2-2
PO3-3
PO7-2
PO12-2

LO: At the end of this session the student will be able to,

1 Summarize classical free electron theory and its failure to understand the need of quantum theory and its success
2 Utilize the basics of semiconductor physics to understand various concepts like conductivity, Hall effect, Hall field, Hall coefficient in semiconductors
3 Outline the fundamentals of dielectrics, polarization to understand types of dielectrics, types of polarization, internal field and applications of dielectrics in various fields

Module 5: Maxwell's equations, EM waves and Optical fibers **Maxwell's equations:** Fundamentals of vector calculus. Divergence and curl of electric field and magnetic field (static), Gauss' divergence theorem and Stokes' theorem. Description of laws of electrostatics, magnetism and Faraday's laws of EMI. Current density & equation of Continuity; displacement current (with derivation) Maxwell's equations in vacuum **EM Waves**: The wave equation in differential form in free space (Derivation of the equation using Maxwell's equations), Plane electromagnetic waves in vacuum, their transverse nature, polarization of EM waves(Qualitative) **Optical fibers:** Propagation mechanism, angle of acceptance. Numerical aperture. Modes of propagation and Types of optical fibers. Attenuation: Causes of attenuation and Mention of expression for attenuation coefficient. Discussion of block diagram of point to point communication. Merits and demerits Numerical problems LO: At the end of this session the student will be able to, 1. Recall fundamentals of vector calculus to realize interrelation between varying electric and magnetic fields 2. Description of various laws of electrostatics and magnetism and understand transverse nature of EM waves 3. Make use of total internal reflection and the of role of EM waves in optical fiber communication	10hrs PO1-3 PO2-2 PO3-3 PO7-2 PO12-2 PSO1-2

Text Books: - (specify minimum two foreign authors text books)

1. *M.N. Avadhanulu and P.G. Kshirsagar: A Text book of Engineering Physics, Ed, S. Chand & Company Ltd, New Delhi, 10th revised Ed., 2015.*
2. *Arthur Beiser: Concepts of Modern Physics, Ed;Tata McGraw Hill Edu Pvt Ltd, 6th Ed,2006*
3. *David Griffiths: Introduction to Electrodynamics, Cambridge University Press, 4th Ed2017*
4. *BB laud: Lasers and Non Linear Optics, New Age International Publishers, 3rd Ed 201*

Reference Books:

1. *Gaur and Gupta: Engineering Physics, Dhanpat Rai Publications-2017*
2. *MK Verma: Introduction to Mechanics, University Press(India) Pvt Ltd, Hyderabad, 2nd Ed, 2009*
3. *S O Pillai: Solid State Physics, New Age International Publishers, 8th Ed2018*
4. *Chintoo S Kumar, K Takayama and KPJ Reddy: Shock waves made simple, Willey India Pvt. Ltd. New Delhi2014*

Useful Websites

- ocwhttp://semesters.in/engineering-physics-1st-year-syllabus-notes-pdf-btech/
- http://semesters.in/what-is-laser-for-btech-1st-year-physics/
- http://semesters.in/bardeen-cooper-schriffer-bcs-theory-qualitative-notes-for-engineering-physics-btech/
- http://semesters.in/engineering-physics-1st-year-syllabus-notes-pdf-btech/

Useful Journals

- Journal of Material Science
- Journal of Applied Physics
- American journal of Physics

Teaching and Learning Methods:

1. Lecture class: 40 hrs.
2. Tutorial: 10hrs.

Assessment:

Type of test/examination: Written examination

Continuous Internal Evaluation(CIE) : 40 marks (Average of all the three tests will be considered)
Semester End Exam(SEE) : 100 marks (students have to answer all main questions)

Internal Test duration: 1 :30 hr
Examination duration: 3 hrs

CO to PO Mapping

PO1: Science and engineering Knowledge **PO2:** Problem Analysis **PO3:** Design & Development **PO4:**Investigations of Complex Problems **PO5:** Modern Tool Usage **PO6:** Engineer & Society	**PO7:**Environment and Society **PO8:**Ethics **PO9:**Individual & Team Work **PO10:** Communication **PO11:**Project Mngmt & Finance **PO12:**Life long Learning

PSO1: Ability to apply the concepts of physics to design a process to address the real world challenges.

PSO2: Ability to develop effective communication team work and computational skills

CO	PO	PO1	PO2	PO3	PO 4	PO 5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
18PHY12	K-level														
18PHY12.1	K3	3	2	1	-	-	2	-	-	-	-	-	2	2	-
18PHY12.2	K3	3	3	2	-	-	2	2	-	-	-	-	2	-	-
18PHY12.3	K3	3	3	2	-	-	-	-	-	-	-	-	2	-	-
18PHY12.4	K3	3	2	3	-	-	-	2	-	-	-	-	2	-	-
18PHY12.5	K3	3	2	3	-	-	-	2	-	-	-	-	2	2	-
Average		3	2.4	2.2			2	2					2	2	

Course In charge Module Coordinator HOD BS & H Principal

K. S. INSTITUTE OF TECHNOLOGY

#14, Raghuvanahalli, Kanakapura Main Road, Bengaluru-5600109

DEPARTMENT OF PHYSICS

Subject Code:18PHY12	**Subject**: Engineering Physics
Fcaulty : Sunil Kumar N, Dr Renuka C	**Academic Year** : 2020-2021
Class: I semester	**Department:** ME

No of Hours per week

Theory (Lecture Class)	Tutorial	Total/Week	Total teaching hours
4	1	5	50

Marks

Internal Assessment	Examination	Total	Credits
40	60	100	4

Aim/Objective of the Course:

The objectives of this course is to will enable students to

- Learn the basic concepts in physics which are very much essential in understanding and solving engineering related challenges.
- Gain Knowledge of newer concepts in modern physics for better appreciation of modern technology.

Course Learning Outcomes:

The students will be able to,

CO1	Obtain the knowledge of Quantum Mechanics; compute Eigen values, Eigen function, momentum of atomic and sub atomic particles. Apprehend theoretical background of laser, construction and working of different types of lasers and its application in different fields.	K3-Applying
CO2	Make use of different theoretical models to study the electrical and thermal properties of materials like conductors, semiconductors and dielectrics to understand its use in engineering applications.	K3-Applying
CO3	Build the concept of shock waves; discover the role of shock waves in various fields. Understand the various types of oscillations and their implications.	K3-Applying
CO4	Identify the elastic properties of materials; impart the knowledge to understand its engineering applications.	K3-Applying
CO5	Establish the inter-relation between time varying electric and magnetic field, transverse nature of electromagnetic waves and realize their role in optical fiber communication.	K3-Applying

Syllabus Content:	
Module 1: <u>Quantum Mechanics and Lasers</u> **Quantum mechanics:** Introduction to Quantum mechanics, Wave nature of particles, Heisenberg's uncertainty principle and applications (non confinement of electron in the nucleus), Schrodinger time independent wave equation, Significance of Wave function, Normalization, Particle in a box, Energy eigen values of a particle in a box and probability densities **Lasers**: Review of spontaneous and stimulated processes, Einstein's coefficients (derivation of expression for energy density). Requisites of a Laser system. Conditions for laser action. Principle, Construction and working of CO2 and semiconductor Lasers. Application of Lasers in Defense (Laser range finder) and Engineering (Data storage) ` Numerical problems **(RBT Levels L1, L2, L3)** LO: At the end of this session the student will be able to, 1. Outline the Planck's equation for energy density to understand the need of quantum mechanics 2. Make use of Heisenberg Uncertainty Principle to show non existence of electron inside the nucleus 3. Utilize Schrödinger wave equation to obtain the Eigen functions and Eigen values for particles 4. Make use of the concepts of interaction of radiation with matter to understand different LASERs and their engineering applications	10hrs PO1-3 PO2-2 PSO1-2 PSO2-1

Module 2: Material science **Quantum Free electron theory of metals:** Review of classical free electron theory, mention of failures. Assumptions of Quantum Free electron theory,Mention of expression for density of states, Fermi-Dirac statistics (qualitative), Fermi factor, Fermi level, Derivation of the expression for Fermi energy, Success of QFET. **Physics of Semiconductor**: Fermi level in intrinsic semiconductors, Expression for concentration of electrons in conduction band, Hole concentration in valance band (only mention the expression), Conductivity of semiconductors(derivation), Hall effect, Expression for Hall coefficient(derivation) **Dielectric materials:**polar and non-polar dielectrics, internal fields in a solid, Clausius-Mossotti equation(Derivation), mention of solid, liquid and gaseous dielectrics with one example each. Application of dielectrics in transformers. Numerical problems LO: At the end of this session the student will be able to, 1. Summarize classical free electron theory and its failure to understand the need of quantum theory and its success 2. Utilize the basics of semiconductor physics to understand various concepts like conductivity, Hall effect, Hall field, Hall coefficient in semiconductors 3. Outline the fundamentals of dielectrics, polarization to understand types of dielectrics, types of polarization, internal field and applications of dielectrics in various fields	10hrs. PO1-3 PO2-2 PSO1-2 PSO2-1
Module 3: Oscillations and Waves **Free Oscillations**: Definition of SHM, derivation of equation for SHM, Mechanical and electrical simple harmonic oscillators (mass suspended to spring oscillator), complex notation and phasor representation of simple harmonic motion. Equation of motion for free oscillations, Natural frequency of oscillations. **Damped and forced oscillations**: Theory of damped oscillations: over damping, critical & under damping, quality factor. Theory of forced oscillations and	10hrs

resonance, Sharpness of resonance. One example for mechanical resonance. **Shock waves**: Mach number, Properties of Shock waves, control volume. Laws of conservation of mass, energy and momentum. Construction and working of Reddy shock tube, applications of shock waves. Numerical problems LO: At the end of this session the student will be able to, 1. Outline different types of oscillations and relate it to study different oscillators, natural frequency of oscillators 2. Explain the theory of damped and forced oscillations to understand different types of damping, quality factor and resonance 3. Identify the application of shock waves in various fields by studying its properties, different and conservation laws	PO1-3 PO2-2 PSO1-1 PSO2-1
Module 4: <u>Elastic properties of materials:</u> **Elasticity:** Concept of elasticity, plasticity, stress, strain, tensile stress, shear stress, compressive stress, strain hardening and strain softening, failure (fracture/fatigue), Hooke's law, different elastic moduli: Poisson's ratio, Expression for Young's modulus (Y), Bulk modulus (K) and Rigidity modulus (n) in terms of α and β. Relation between Y, n and K, Limits of Poisson's ratio. **Bending of beams**: Neutral surface and neutral plane, Derivation of expression for bending moment. Bending moment of a beam with circular and rectangular cross section. Single cantilever, derivation of expression for young's' modulus **Torsion of cylinder**: Expression for couple per unit twist of a solid cylinder (Derivation), Torsional pendulum-Expression for period of oscillation. Numerical problems LO: At the end of this session the student will be able to, 1. Summarize different elastic properties of materials to understand elastic moduli and to arrive at the relation between them 2. Utilize the knowledge of elasticity to understand various engineering applications like bending of beams and torsion of cylinder 3. Experimenting with different types of materials and understand their moduli	10hrs PO1-3 PO2-2 PSO1-2 PSO2-1

of elasticity	
Module 5: **Maxwell's equations, EM waves and Optical fibers** **Maxwell's equations:** Fundamentals of vector calculus. Divergence and curl of electric field and magnetic field (static), Gauss' divergence theorem and Stokes' theorem. Description of laws of electrostatics, magnetism and Faraday's laws of EMI. Current density & equation of Continuity; displacement current (with derivation) Maxwell's equations in vacuum **EM Waves**: The wave equation in differential form in free space (Derivation of the equation using Maxwell's equations), Plane electromagnetic waves in vacuum, their transverse nature, polarization of EM waves(Qualitative) **Optical fibers:** Propagation mechanism, angle of acceptance. Numerical aperture. Modes of propagation and Types of optical fibers. Attenuation: Causes of attenuation and Mention of expression for attenuation coefficient. Discussion of block diagram of point to point communication. Merits and demerits Numerical problems LO: At the end of this session the student will be able to, 1. Recall fundamentals of vector calculus to realize interrelation between varying electric and magnetic fields 2. Description of various laws of electrostatics and magnetism and understand transverse nature of EM waves 3. Make use of total internal reflection and the of role of EM waves in optical fiber communication	10hrs PO1-3 PO2-2 PSO1-2 PSO2-1

Text Books: - (specify minimum two foreign authors text books)

1. M.N. Avadhanulu and P.G. Kshirsagar: A Text book of Engineering Physics, Ed, S. Chand & Company Ltd, New Delhi, 10th revised Ed., 2015.

2. Arthur Beiser: Concepts of Modern Physics, Ed;Tata McGraw Hill Edu Pvt Ltd, 6th Ed,2006

3. David Griffiths: Introduction to Electrodynamics, Cambridge University Press, 4th Ed2017

4. *BB laud: Lasers and Non Linear Optics, New Age International Publishers, 3rd Ed 201*

Reference Books:

1. *Gaur and Gupta: Engineering Physics, Dhanpat Rai Publications-2017*
2. *MK Verma: Introduction to Mechanics, University Press(India) Pvt Ltd, Hyderabad, 2nd Ed, 2009*
3. *S O Pillai: Solid State Physics, New Age International Publishers, 8th Ed2018*
4. *Chintoo S Kumar, K Takayama and KPJ Reddy: Shock waves made simple, Willey India Pvt. Ltd. New Delhi2014*

Useful Websites

- ocwhttp://semesters.in/engineering-physics-1st-year-syllabus-notes-pdf-btech/
- http://semesters.in/what-is-laser-for-btech-1st-year-physics/
- http://semesters.in/bardeen-cooper-schriffer-bcs-theory-qualitative-notes-for-engineering-physics-btech/
- http://semesters.in/engineering-physics-1st-year-syllabus-notes-pdf-btech/

Useful Journals

- Journal of Material Science
- Journal of Applied Physics
- American journal of Physics

Teaching and Learning Methods:

1. Lecture class: 40 hrs.
2. Tutorial: 10hrs.

Assessment:

Type of test/examination: Written examination

Continuous Internal Evaluation(CIE) : 40 marks (Average of all the three tests will be considered)
Semester End Exam(SEE) : 100 marks (students have to answer all main questions)

Internal Test duration: 1 :30 hr
Examination duration: 3 hrs

CO to PO Mapping

PO1: Science and engineering Knowledge	**PO7:**Environment and Society
PO2: Problem Analysis	**PO8:**Ethics
PO3: Design & Development	**PO9:**Individual & Team Work
PO4: Investigations of Complex Problems	**PO10:** Communication
PO5: Modern Tool Usage	**PO11:**Project Mngmt & Finance
PO6: Engineer & Society	**PO12:**Life long Learning

PSO1: Ability to apply concepts of mechanical engineering to design a system, a component or a process / system to address real world challenges

PSO2: Ability to develop effective communication, team wok entrepreneurial and computational skills.

CO	PO	PO1	PO 2	PO 3	PO 4	PO5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2
18PHY 12	K-level														
CO1	K3	2	2	2	-	-	-	-	-	-	-	-	2	2	-
CO2	K3	3	2	2	-	-	-	-	-	-	-	-	2	-	-
CO3	K3	3	2	2	-	-	-	-	-	-	-	-	2	-	-
CO4	K3	3	3	2	-	-	-	-	-	-	-	-	2	-	-
CO5	K3	3	3	3	-	-	-	-	-	-	-	-	2	-	-
Averag		2.80	2.40	2.20	-	-	-	-	-	-	-	-	2	2	-

JUSTIFICATION FOR CO-PO MAPPING

CO1	PO1- Moderately mapped. Since the knowledge obtained in oscillation and waves is helpful to greater extent to realize the engineering applications. PO2-Moderately agreed, as the concept involves identifying and realizing engineering problems. PO3- Moderately attained, as the knowledge gained through the concepts is helpful in developing a solutions for complex engineering problems.

	PO12-Attained Moderately, as the knowledge obtained will certainly helpful through the career or life. PSO1- Moderately achieved as the student can only apply concepts of mechanical engineering to design a system, a component or a process but cannot system to address real world challenges
CO2	PO1-Strongly matched, the knowledge obtained is helpful in realizing the complex engineering problems. PO2-Moderately relevant as it provides the basic knowledge to analyse an engineering problem. PO3-Moderately agreed. Since it helps in designing new solutions complex engineering problems. PO12-weakly agreed. Since it has got scope for a life-long learning while in the context of technological changes it doesn't contribute much.
CO3	PO1-Strongly mapped. The information obtained is helpful in realizing the recent engineering applications. PO2-Moderately matched. The complex engineering problems can be analysed using the knowledge gained. PO3-The probability of approaching to the solution through the knowledge earned is moderate. PO12- Weakly attained as the obtained knowledge have relevant contribution for technological changes.
CO4	PO1-Strongly matches as the knowledge obtained used in a wide range of complex engineering problems to understand. PO2- Strongly agreed, provides essential information in understanding to analysing the engineering problems. PO3- Moderately attained, the knowledge gained through the concepts is helpful in designing new solutions for complex problems. PO12-Moderately matched as it has got a great technological advancement though once individual interest.
CO5	PO1- strongly matched. Because, it is relatable to the advanced engineering concepts and helpful to understand. PO2- strongly agreed. The knowledge gained is utilized in obtaining new solutions for engineering problems. PO3-strongly attained. The solutions regarding an engineering problems can be designed using the knowledge gained. PO12- weakly agreed, it has got scope for a life-long learning and as well as in the context of technological changes.

Course In charge

Module Coordinator

HOD BS & H

K. S. INSTITUTE OF TECHNOLOGY

Affiliated to VTU, Belagavi& Approved by AICTE, New Delhi, Accredited by NAAC & IEI
No.14, Raghuvanahalli, Kanakapura Main Road, Bengaluru - 560109

Department of Science and Humanities

NBA

CO's & CO –PO MAPPING

SUBJECT/ CODE: Engineering Physics Lab/ 18PHYL16

COURSE INCHARGE: Sunil Kumar N, **Sem/Branch:** I , CSE, ME **Year:** 2020-2021

ENGG PHYSICS Lab (18PHYL16)

COURSE CODE	COURSE OUTCOME	Level
18PHYL16.1	CO1: Analysis the concepts of quantum mechanics to understand Fermi energy in metals.	K3 -Applying
18 PHYL16.2	CO2: Examine the characteristics of photo diode, transistor by utilizing the concepts of semiconductors physics.	K3 -Applying
18 PHYL16.3	CO3: Discover the ability to use various passive electrical components, determine Dielectric constant and electrical resonance.	K3 -Applying
18 PHYL16.4	CO4: Analysis the concepts of diffraction and interference of light by using diffraction grating and Newton's ring.	K3 -Applying
18 PHYL16.5	CO5: Inspect the modulus of elasticity for various rigid bodies by setting up torsional pendulum and uniform bending.	K3 -Applying

CO PO Mapping

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	1	_	_	2	_	2	_	_	2	2	_
CO2	3	3	2	1	_	_	2	_	2	_	_	2	2	_
CO3	3	3	2	1	_	_	_	_	_	_	_	2	2	_
CO4	3		2	1	_	_	2	_	2	_	_	2	2	_
CO5	3	2	2	1	_	_	_	_	_	_	_	2	2	_
AVG	3	2.5	2	1	_	_	2	_	2	_	_	2	2	_

JUSTIFICATION FOR CO-PO MAPPING

CO1	PO1-Strongly mapped. Since the knowledge obtained in matter waves is helpful to greater extent to realize the wave particle dualism and conductivity in metals PO2-Moderately agreed, as the concept involves identifying and realizing engineering problems. PO3-Moderately attained, as the knowledge gained through the concepts is helpful in developing a solutions for complex engineering problems. PO4- Weakly mapped as the investigation on problems are very partial. PO7-Moderately mapped as the knowledge can help the society partially. PO9- Moderately mapped as the knowledge as the team work and individual effort is seen partially. PO12-Attained moderately, as the knowledge obtained will certainly helpful through the career or life but not on large extent. PSO1- Partially mapped as ability to develop effective communication, team wok entrepreneurial and computational skills is seen moderately.
CO2	PO1-Strongly mapped. Since the knowledge obtained in matter waves is helpful to greater extent to realize the wave particle dualism and conductivity in metals PO2- Strongly agreed, as the concept involves identifying and realizing engineering problems. PO3-Moderately attained, as the knowledge gained through the concepts is helpful in developing a solutions for complex engineering problems. PO4- Weakly mapped as the investigation on problems are very partial. PO7-Moderately mapped as the knowledge can help the society partially. PO9- Moderately mapped as the knowledge as the team work and individual effort is seen partially. PO12-Attained moderately, as the knowledge obtained will certainly helpful through the career or life but not on large extent. PSO1- Partially mapped as ability to develop effective communication, team wok entrepreneurial and computational skills is seen moderately.
CO3	PO1-Strongly mapped. Since the knowledge obtained in matter waves is helpful to greater extent to realize the wave particle dualism and conductivity in metals PO2- Strongly agreed, as the concept involves identifying and realizing engineering problems. PO3-Moderately attained, as the knowledge gained through the concepts is helpful in developing a solutions for complex engineering problems. PO4- Weakly mapped as the investigation on problems are very partial. PO12-Attained moderately, as the knowledge obtained will certainly helpful through the career or life but not on large extent. PSO1- Partially mapped as ability to develop effective communication, team wok entrepreneurial and computational skills is seen moderately.

CO4	PO1-Strongly mapped. Since the knowledge obtained in matter waves is helpful to greater extent to realize the wave particle dualism and conductivity in metals PO3-Moderately attained, as the knowledge gained through the concepts is helpful in developing a solutions for complex engineering problems. PO4- Weakly mapped as the investigation on problems are very partial. PO7-Moderately mapped as the knowledge can help the society partially. PO9- Moderately mapped as the knowledge as the team work and individual effort is seen partially. PO12-Attained moderately, as the knowledge obtained will certainly helpful through the career or life but not on large extent. PSO1- Partially mapped as ability to develop effective communication, team wok entrepreneurial and computational skills is seen moderately.
CO5	PO1-Strongly mapped. Since the knowledge obtained in matter waves is helpful to greater extent to realize the wave particle dualism and conductivity in metals PO2-Moderately agreed, as the concept involves identifying and realizing engineering problems. PO3-Moderately attained, as the knowledge gained through the concepts is helpful in developing a solutions for complex engineering problems. PO4- Weakly mapped as the investigation on problems are very partial. PO7-Moderately mapped as the knowledge can help the society partially. PO9- Moderately mapped as the knowledge as the team work and individual effort is seen partially. PO12-Attained moderately, as the knowledge obtained will certainly helpful through the career or life but not on large extent. PSO1- Partially mapped as ability to develop effective communication, team wok entrepreneurial and computational skills is seen moderately.

COURSE IN-CHARGE

HOD

K S INSTITUTE OF TECHNOLOGY BANGALORE

#14, Raghuvanahalli, Kanakapura Main Road, Bengaluru-5600109

DEPARTMENT OF PHYSICS

NAME OF THE FACULTY : SUNIL KUMAR N

SUBJECT CODE/NAME : 18PHY22/ Engineering Physics

SEMISTER/YEAR/ BRANCH : I / 1 / CSE, AIML & ME / B-C sec

ACADEMIC YEAR : 2020-2021

Sl. No	Topic to be covered	Mode of Delivery	Teaching Aid	No. of Periods	Cumulative No. of Periods	Proposed Date
	MODULE 1 : Oscillations and Waves					
1	Definition of SHM, Characteristics, Examples and Derivation of differential equation of motion.	L+ D	BB	1	1	28-12-2020
2	Mechanical simple harmonic oscillator, Expression for time period/frequency, Definition of force constant and its significance	L+ D	BB	1	2	29-12-2020
3	Derivation of expressions for force constants for series and parallel combination of springs. Complex notation of simple harmonic motion Phasor representation of simple harmonic motion	L+ D	BB	1	3	30-12-2020
4	Definition of free oscillations with examples, equation of motion, Natural frequency of vibration – Qualitative discussion.	L+ D	BB	1	4	31-12-2020
5	Damped oscillations Derivation of decaying amplitude, Discussion of over damping, critical damping and underdamping.	L+ D	BB	1	5	01-01-2021
6	Forced oscillations Derivation of expressions for amplitude and phase of forced vibrations Discussion of (i) $p<<\omega$, (ii) $p=\omega$ and (iii) $p>>\omega$	L+ D	BB	1	6	02-01-2021
7	Resonance, Condition for resonance & expression for maximum amplitude, Sharpness of Resonance: Definition and significance	L+ D	BB	1	7	03-01-2021
8	Helmholtz Resonator- Description and mention of expression for resonant frequency	L+ D	BB	1	8	04-01-2021
9	Definition of Mach number, classification of objects based on Mach number Definition and properties of shock waves	L+ AV+D	BB+LCD	1	9	05-01-2021

10	Definition of control volume, Laws of conservation of mass, energy and momentum	L+ D	BB	1	10	05-01-2021
11	Construction and working of Reddy shock tube Applications of shock waves	L+ D	BB	1	11	07-01-2021
12	Tutorial classes	T+ PS	BB	1	12	07-01-2021
	MODULE 2: Elastic properties of materials					
13	Elasticity and plasticity, stress and strain. Discuss two types of stresses namely tensile stress and compressive stress.effect of stress, temperature, annealing and impurities on elasticity, Strain hardening and softening	L+ D	BB	1	13	08-01-2021
14	Hookes' law, stress strain curve, elastic and plastic limits. Elastic modulus	L+ D	BB	1	14	09-01-2021
15	Lateral strain, linear strain & Poisson's ratio, Relation between shear strain, longitudinal and compression strain	L+ D	BB	1	15	11-01-2021
16	Derive the relation between Y, η and σ, Derive the relation between K, Y and σ	L+ D	BB	1	16	12-01-2021
17	Derive the relation between K, η and Y, Discuss the limiting values of σ and limitations of Poisson's ratio	L+ D	BB	1	17	13-01-2021
18	different types of beams and mention their Engineering applications. Definition of neutral surface/plane and neutral axis	L+ D	BB	1	18	13-01-2021
19	Bending moment. Derive the expression for bending moment in terms of moment of inertia	L+ D	BB	1	19	15-01-2021
20	Bxpression for bending moment for circular and rectangular cross sections, Describe a single cantilever and hence derive the expression for Y	L+ I+D	BB	1	20	16-01-2021
21	Twisting couple, torsional oscillations, derive the expression for couple per unit twist for a solid cylinder	L+ D	BB	1	21	18-01-2021
22	Time period of torsional oscillations, applications of torsional pendulum.	L+ D	BB	1	22	19-01-2021
23	Tutorial classes	T+ PS	BB	1	23	20-01-2021
	MODULE - 3 : Quantum Mechanics and Lasers					
24	Introduction to Engineering Physics	L+ D	BB	1	24	21-01-2021
25	Introduction to quantum mechanics with Planck's law of energy density	L+ AV	LCD	1	25	22-01-2021
26	Wave nature of particles–De Broglie hypothesis, equation accelerated electron	L+ D	BB	1	26	23,25-01-2021
27	Heisenberg's uncertainty principle-Statement and the three uncertainty relations	L+ D	BB	1	27	01-02-2021
28	Application of uncertainty principle (Non-existence of electron in the nucleus).	L+ D	BB	1	28	02-02-2021
29	Wave function. Properties and Physical significance of a wave function.	L+ D	BB	1	29	03-02-2021

30	Probability density,Normalization of wave function. Eigen values and functions.	L+ D	BB	1	30	04-02-2021
31	Setting up of a one dimensional time independent Schrödinger wave equation	L+ D	BB	1	31	05-02-2021
32	Application Schrodinger's wave equation to particle in 1-D infinite potential well.	L+ D	BB	1	32	06-02-2021
33	Discussion on the energy Eigen values and eigen functions. Probability densities	L+ D	BB	1	33	06-02-2021
34	Explanation of induced absorption, spontaneous and stimulated emission.Einstein's coefficients (expression for energy density)	L+ D+AV	BB+LCD	1	34	08-02-2021
35	Requisites of a Laser system. Condition for Laser action.	L+ D	BB	1	35	09-02-2021
36	Principle, Construction and working of CO2 Laser	L+ D	BB	1	36	10-02-2021
37	Principle, Construction and working of semiconductor	L+ D	BB	1	37	11,12-02-2021
38	Applications of Laser-Laser range finder,Data storage	L+ D	BB	1	38	13-02-2021
39	Tutorial classes	T+PS	BB	1	39	15-02-2021
	MODULE 4 : Material Science					
40	Review of classical free electron theory , Failures of CFET,Assumptions of quantum free electron theory, Density of states	L+ D	BB	1	40	16-02-2021
41	Fermi level, Fermi energy, F-D statistics, Fermi factor at different temp	L+ D	BB	1	41	17-02-2021
42	Derivation of Expression for Fermi energy, Fermi velocity & Fermi temperature. Expression or Electrical conductivity (No derivation).	L+ D	BB	1	42	18-02-2021
43	Success of quantum free electron theory.	L+ D	BB	1	43	19-02-2021
44	Fermi level in intrinsic semiconductor, expression for n & h concentration Derivation of relation between Fermi energy and energy gap	L+ D	BB	1	44	20-02-2021
45	Introduction to Semiconductors. Derivation of the expression for electrical conductivity of semiconductors	L+AV+ D	BB+LCD	1	45	22-02-2021
46	Explanation of Hall effect with Hall voltage and Hall field, derivation of the expression for Hall coefficient.	L+ D	BB	1	46	23-02-2021
47	Fundamentals of dielectrics. Polarization, mention the relation between dielectric constant and polarization, Polar and non-polar dielectrics	L+ D	BB	1	47	24-02-2021
48	Definition of internal field in case of solids and mention of its expression for one dimensional,	L+ D	BB	1	48	25-02-2021
49	Mention the expressions for internal field for three dimensional cases and Lorentz field. Derivation of Clausius-Mossotti equation.	L+ D	BB	1	49	01-03-2021
50	Description of solid, liquid and gaseous dielectrics with one example each. Applications of dielectrics in transformers.	L+ D	BB	1	50	02-03-2021
51	Tutorial classes	T+ PS	BB	1	51	02-03-2021

MODULE 5: Maxwell's equations, EM waves and Optical fibers						
52	Fundamentals of vector calculus, scalar product, vector product, ∇ operation	L+ D	BB	1	52	03-03-2021
53	divergence, gradient and curl along with physical significance, the three different types of integrations	L+ D	BB	1	53	04-03-2021
54	Derivation of Gauss divergence theorem, mention Stokes' theorem	L+ D	BB	1	54	05-03-2021
55	Gauss flux theorem in electrostatics and magnetism, Ampere's law, Biot-Savart's law and Faraday's laws of electromagnetic induction	L+ D	BB	1	55	06-03-2021
56	continuity equation, definition of displacement current(Id), expression for displacement current, Maxwell-Ampere's law	L+ D	BB	1	56	08-03-2021
57	List of four Maxwell's equations in differential form and in vacuum	L+ D	BB	1	57	09-03-2021
58	Derive wave equation in terms of electric field using Maxwell's equations electromagnetic waves in vacuum along with the equations.	L+ D	BB	1	58	10-03-2021
59	Explain the transverse nature of electromagnetic waves, three types of polarization	L+ D	BB	1	59	12,13-03-2021
60	propagation mechanism in optical fiber Angle of acceptance and numerical aperture(NA)	L+ D+I	BB	1	60	19-03-2021
61	Modes of propagation and V number and types of optical fibers	L+ D		1	61	20-03-2021
62	Three types of attenuation, Point to point communication: Explain with the help of block diagram, Merits and de merits.	L+ D	BB	1	61	20-03-2021
63	Tutorial classes	T+ PS	BB	1	62	25-03-2021

Signature of the faculty **Module coordinator** **Signature of the HOD**

Principal

K S I T

K. S. Institute of Technology Bangalore
DEPARTMENT OF PHYSICS (BS & H)
ASSIGNMENT QUESTIONS

Academic Year	2020-2021		
Batch	2020-2024		
Year/Semester/section	I/I/ A, B & C		
Subject Code-Title	18PHY12-ENGG. PHYSICS		
Name of the Instructor	Sunil kumar N Dr Renuka C	Dept	PHY

Assignment No: 1
Date of Issue:20 – 01 – 2019

Total marks: 10
Date of Submission: 28– 1 – 2021

Sl.No	Assignment Questions	K Level	CO	Marks
1.	**What** are damped oscillations? Give the theory. Discuss the case of critical damping.	Applying (K3)	CO1	1
2.	**What** are forced oscillations? Give the theory and hence arrive at the expression for amplitude.	Applying (K3)	CO1	1
3.	**Define** Shock waves. Mention the properties of shock waves.	Understanding (K2)	CO1	1
4.	**Discuss**the basiclaws of conservation of mass, momentum and energy.	Applying (K3)	CO1	1
5.	**Write** about Mach Number and its unit. Distinguish between acoustic, ultrasonic, subsonic and supersonic waves.	Applying (K3)	CO1	1
6.	Explain restore force springs in series and parallel combination with neat diagram	Understanding (K2)	CO1	1
7.	**Define** Poisson's ratio. Obtain the relation between shear strain, elongation strain and compression strain.	Applying (K3)	CO2	1
8.	**Derive** the relation between Bulk Modulus (K), Young's Modulus (Y) and Poisson's Ratio (σ).	Applying (K3)	CO2	1
9.	**Explain** the terms Stress and Strain. What are the types of Elastic Moduli?	Understanding (K2)	CO2	1
10.	Calculate the force required to produce an extension of 1mm in steel of length 2m and diameter 1mm ($Y=2\times10^{11}$ N/m^2).	Applying (K3)	CO2	1

Course incharge

Module Coordinator(HOD)

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

I Assignment 2020 – 21 ODD SEMESTER

SCHEME AND SOLUTION

Degree : **B.E**
Branch : **CSE ,AI&ML, ME**
Course Title : **Engg. PHYSICS**

Semester : **I**
Course Code : **18PHY12**
Max Marks : **10**

Q.NO.	POINTS	MARKS
1	Define damped oscillation. Restoring force and resultant force. $$m\frac{d^2x}{dt^2} + r\frac{dx}{dt} + kx = 0$$ $x = Ae^{\alpha t}$ general equation. $\alpha = -b \pm \sqrt{b^2 - \omega^2}$ Final equation $x = Ce^{(-b+\sqrt{b^2-\omega^2})t} + De^{(-b-\sqrt{b^2-\omega^2})t}$	2 2
2	State forced oscillation, $m\frac{d^2x}{dt^2} + r\frac{dx}{dt} + kx = F\,Sinpt$ General solution $x = a\,sin\,(pt - \alpha)$ $a = \frac{(F/m)}{\sqrt{4b^2p^2+(\omega^2-p^2)^2}}$ $\quad x = \frac{(F/m)}{\sqrt{4b^2p^2+(\omega^2-p^2)^2}}\,Sin(pt - \alpha)$	2
3	Shock waves. Mention the properties of shock waves	2
4.	Mach Number and its unit. Distinguish between acoustic, ultrasonic, subsonic and supersonic waves.	
5	Conservation laws 1. Law of conservation of mass: $$\rho_1 U_1 = \rho_2 U_2$$ 2. Law of conservation of momentum: $$p_1 + \rho_1 U_1^2 = p_2 + \rho_2 U_2^2$$ 3. Law of conservation of energy: $$h_1 + \frac{U_1^2}{2} = h_2 + \frac{U_2^2}{2}$$	2 2
6	Explain restore force springs in series and parallel combination with neat diagram $k_s = \frac{k_1 k_2}{k_1+k_2}$ $k_p = k_1 + k_2$	

7.	Explain elongation and contraction with coefficients α and β $2(\alpha + \beta) = \frac{x}{TL}$ Young's modulus $Y = 2n(1 + \sigma)$ $Y = \frac{9nK}{3K+n}$ $\sigma = \frac{3k-2n}{2n+6k}$	2
8	Young's modulus $Y = 2n(1 + \sigma)$ $Y = \frac{9nK}{3K+n}$ $\sigma = \frac{3k-2n}{2n+6k}$	2
9.	State Hooke's law explain nature of elasticity and plasticity nature stress and strain curve with neat diagram	1
10	Relation between Bulk Modulus (K), Young's Modulus (Y) and Poisson's Ratio (σ). formula $\therefore Y = \frac{FL}{xa}$	1

Course incharge

HOD

Head of the Department
Dept. of Science and Humanities
K.S. Institute of Technology
Bengaluru - 560 109

K. S. Institute of Technology Bangalore
DEPARTMENT OF PHYSICS (BS & H)
ASSIGNMENT QUESTIONS

Academic Year	2020-2021		
Batch	2020-2024		
Year/Semester/section	I/I/ A, B & C		
Subject Code-Title	18PHY12-ENGG. PHYSICS		
Name of the Instructor	Sunil Kumar N	Dept	PHY

Assignment No: 2 **Total marks:10**
Date of Issue: 21 – 02 – 2021 **Date of Submission: 26– 02 – 2021**

Sl.No	Assignment Questions	K Level	CO	Marks
1.	Explain the construction and working of CO_2 Laser with the help of suitable diagrams	Applying (K3)	CO3	1
2.	Using time-independent Schrodinger's equation, Find the Eigen value and Eigen function for a particle in a one dimensional potential well of infinite height. Discuss for 2 solutions	Applying (K3)	CO3	1
3.	Interpretation of wave functions? Mention their properties & physical significance	Understanding (K2)	CO3	1
4.	Set up time-independent one dimensional Schrodinger's equation	Applying (K3)	CO3	1
5.	State Heisenberg's uncertainty principle. show that, a free electron cannot exist within the nucleus of an atom	Applying (K3)	CO3	2
6.	Describe single cantilever and hence derive the expression for Y	Understanding (K2)	CO2	1
7.	Explain torsional oscillations and derive the expression for couple per unit twist for a solid cylinder	Applying (K3)	CO2	1
8.	What is polarization? Explain different types of polarization	Applying (K3)	CO4	1
9.	What are dielectric materials? Explain polar and non-polar dielectrics	Understanding (K2)	CO4	1

Course incharge

HOD/BS&H
Head of the Department
Dept. of Science and Humanities
K.S. Institute of Technology
Bengaluru - 560 109

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

II Assignment 2020 – 2021 ODD SEMESTER

SCHEME AND SOLUTION

Degree : **B.E**
Branch : **CSE ,AI&ML, ME**
Course Title : **Engg. PHYSICS**

Semester : **I**
Course Code : **18PHY12**
Max Marks : **10**

Q.NO.	POINTS	MARKS
1	* A wave traveling along x-axis can be represented by the equation $\Psi(x, t) = A\, e^{-i(\omega t - kx)}$ * Equation for a travelling wave is given by $\frac{d^2\Psi}{dx^2} = \frac{-\omega^2}{v^2}\Psi$ * The Schrodinger equation $\frac{d^2\Psi}{dx^2} + \frac{8\pi^2 m}{h^2}(E - V)\Psi = 0$	1
2	*Heisenberg's uncertainty Principle statement $\Delta x \times \Delta p_x = \frac{h}{4\pi}$ *Non existing of electron in the nucleus $E = \frac{p^2}{2m}$ $\Delta p_x \geq \frac{h}{4\pi \times \Delta x}$ $E \geq 85MeV$ Conclusion	1
3	Principle, neat diagram, construction and working of semiconductorlaser	
4.	**CO_2 Laser** *Construction diagram, *Energy level diagram *Explanation *Working with equations of collision	1 2 1
5	* Ψ should be single valued. * Ψ should be finite everywhere. * Ψ and its first derivative with respect to its variables are continuous everywhere. * Ψ & Ψ Ψ* must vanish at boundary. * Diagrams	1
6	*The Schrodinger's wave equation representing the motion of the particle $\frac{d^2\Psi}{dx^2} + \frac{8\pi^2 m}{h^2}(E - 0)\Psi = 0 \; (\because V = 0)$ *Solution of the equation $\Psi = A \sin kx + B \cos kx$ *Applying boundary conditions the wave function is $\Psi n = A \sin \frac{n\pi}{a} x$ *Energy Eigen value eq	

K. S. Institute of Technology Bangalore
DEPARTMENT OF PHYSICS (BS & H)
ASSIGNMENT QUESTIONS

Academic Year	2020-2021		
Batch	2020-2024		
Year/Semester/section	I/I/ A, B & C		
Subject Code-Title	18PHY12-ENGG. PHYSICS		
Name of the Instructor	Sunil Kumar N	Dept	PHY

Assignment No: 3 **Total marks:10**
Date of Issue: 18 – 03 – 2021 **Date of Submission: 26– 03 – 2021**

Sl.No	Assignment Questions	K Level	CO	Marks
1.	Explain hall effect and Obtain the expression for Hall coefficient.	Applying (K3)	CO4	1
2.	Derive an expression for electrical conductivity of intrinsic semiconductor and obtain the relation between Fermi energy and energy gap.	Applying (K3)	CO4	1
3.	Derive the expression for Fermi energy at zero Kelvin.	Understanding (K2)	CO4	1
4.	Derive an expression for Fermi energy at zero Kelvin. Make use of Fermi factor and summarize the variation of Fermi factor with temperature and energy	Applying (K3)	CO4	1
5.	Construct the merits of quantum free electron theory of electrons.	Applying (K3)	CO5	1
6.	With a neat diagram derive an expression for numerical aperture in an optical fiber. Write a note on attenuation affecting factors.	Understanding (K2)	CO5	1
7.	Derive wave equation in terms of electric & magnetic field using Maxwell's equations	Applying (K3)	CO5	1
8.	Explain transverse nature of EM waves and different types of polarization.	Applying (K3)	CO5	1
9.	Explain briefly Gauss flux theorem, Ampere's law, Biot-Savart's law and Faraday's law of electromagnetic induction.	Understanding (K2)	CO5	1
10.	Define displacement current (I_d) and give the expression for displacement current and Maxwell's Ampere's law.	Applying (K3)	CO5	1

Course Incharge

Module Coordinator

HOD/BS & H
Head of the Department
Dept. of Science and Humanities
K.S. Institute of Technology
Bengaluru - 560 109

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

III Assignment 2020 – 2021 ODD SEMESTER

SCHEME AND SOLUTION

Degree	:	**B.E**	**Semester**	:	**I**
Branch	:	**CSE ,AI&ML, ME**	**Course Code**	:	**18PHY12**
Course Title	:	**Engg. PHYSICS**	**Max Marks**	:	**15**

Q.NO.	POINTS	MARKS
1	Explanation of Hall effect with diagram The expression for Hall coefficient is given by, $R_H = \frac{1}{\rho}$	1
2	$\sigma = n_i e(\mu_e + \mu_h)$ $E_F = ½(E_g)$	
3	Explain different types of polarization Diagram Equations	1
	The expression for internal field is $E_i = E + \gamma \frac{P}{\varepsilon_0}$ Clausius – Mossotti equation $\frac{(\varepsilon_r - 1)}{(\varepsilon_r - 2)} = \frac{N\alpha_e}{3\varepsilon_0}$	1
4.	note on the application of dielectrics in transforms Discussion of polar and non-polar dielectrics.	1
5	3 conservation laws with equations Definition Control volume	
6	specific heat of the Solids Dependence of T on σ Dependence of σ on n	1

7.	$N(E)dE = g(E)dE \times f(E)$ $\therefore n = \int_0^{E_{max}} g(E)\, dE \times 1$ $\therefore E_{F_0} = \frac{h^2}{(8m)}\left(\frac{3n}{\pi}\right)^{2/3}$ Fermi Factor $f_E = \frac{1}{e^{\frac{E-E_F}{kT}}-1}$ * At T=0k E<E_f f_E=1 At T>0k E<E_f $1/2 < f_E < 11$ * At T=0k E>E_f f_E=0 At T>0k E=E_f $f_E = 1/2$ At T>0k E>E_f $0 < f_E < 1/2$	2
8	* specific heat of the Solids According to QFeT $C_v = \frac{2k}{E_F}RT \rightarrow C_v = 10^{-4}RT$ * Dependence of T on σ According to QFeT $\sigma = \frac{ne^2}{m^*}\frac{\lambda}{v_f} \rightarrow \sigma_{QFeT} \alpha \frac{1}{T}$ * Dependence of σ on n According to QFeT $\sigma = \frac{ne^2}{m^*}\frac{\lambda}{v_f}$ σ not only depends on n but also on $\frac{\lambda}{v_f}$ & m^* which explains the Dependence of σ on n	2 2
9.	Acoustic, Ultrasonic, Subsonic, Supersonic waves Shock waves –Properties 3 Applications	2
10	Diagram of Shock tube with explanation Working	

Course incharge

HOD/BS&H
Head of the Department
Dept. of Science and Humanities
K.S. Institute of Technology
Bengaluru - 560 109

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE -560109
SESSION: 2020 – 2021 (ODD SEMESTER)
I SESSIONAL TEST QUESTION PAPER
SET-A

USN										

Degree	:	**B.E**	**Semester**	:	**I**
Branch	:	**CSE,AIML & ME**	**Date**	:	**28-01-2021**
Course Title	:	**Engineering Physics**	**Course Code**	:	**18PHY12**
Duration	:	**90 Minutes**	**Max Marks**	:	**30**

Note: Answer ONE full question from each part

Q. No.	Question	Marks	CO mapping	K-Level
	PART-A			
1(a)	**What** are damped oscillations? Give the theory. Discuss the case of critical damping.	6	**CO1**	Applying (K3)
(b)	**Define** Shock waves. Mention the properties of shock waves.	6	**CO1**	Understanding (K2)
(c)	A 20 gm oscillator with natural angular frequency 10 rad/sec is vibrating in damping medium. The damping force is proportional to the velocity of the vibrator. If the damping coefficient is 0.7, how does the oscillation decay?	6	**CO1**	Applying (K3)
	OR			
2(a)	**What** are forced oscillations? Give the theory and hence arrive at the expression for amplitude.	6	**CO1**	Applying (K3)
(b)	**Discuss** the basic laws of conservation of mass, momentum and energy.	6	**CO1**	Understanding (K2)
(c)	For a particle executing SHM, its acceleration is found to be $15 cm/s^2$ when it is at 3cm from its mean position. Calculate time period.	6	**CO1**	Applying (K3)
	PART-B			
3(a)	**State** and **Explain** Hooke's law and different moduli of Elasticity.	6	**CO2**	Understanding (K2)
(b)	**Derive** the relation between Bulk Modulus (K), Young's Modulus (Y) and Poisson's Ratio (σ).	6	**CO2**	Applying (K3)
	OR			
4(a)	**Define** the terms Stress and Strain.	6	**CO2**	Understanding (K2)
(b)	**Derive** the relation between Young's Modulus (Y), Rigidity Modulus (n) and Poisson's Ratio (σ).	6	**CO2**	Applying (K3)

Course In charge **Head - Dept** 23/1/2021 **Principal**

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE -560109
SESSION: 2020 – 2021 (ODD SEMESTER)
I SESSIONAL TEST QUESTION PAPER
SET-A

SCHEME AND SOLUTIONS

Degree	: **B.E**	**Semester**	: **I**
Branch	: **CSE,AIML & ME**	**Course Code**	: **18PHY12**
Course Title	: **Engineering Physics**	**Max Marks**	: **30**

Q. No.	PART-A	Marks
1(a)	Theory: differential equation $\frac{d^2x}{dt^2} + 2b\frac{dx}{dt} + \omega^2 x = 0$	2
	Finding the value for α, $\alpha = -b \pm \sqrt{b^2 - \omega^2}$	2
	Case study of $b^2=\omega^2$	2
(b)	The equation of damped oscillations, $\frac{d^2x}{dt^2} + 2b\frac{dx}{dt} + \omega^2 x = 0$	2
	b=175	2
(c)	$b^2>\omega^2$, hence over damping	2
	OR	
2(a)	Arriving at, $m\frac{d^2y}{dt^2} = -r\frac{dy}{dt} - ky + Fsinpt$	3
	Using $y = Asin(pt - \theta)$ Arrive at $A = \frac{f}{\sqrt{(\omega^2-p^2)+4b^2p^2}}$ $\theta = \tan^{-1}\left[\frac{2bp}{(\omega^2-p^2)}\right]$	3
(b)	Law of conservation of mass. $\rho_1 U_1 = \rho_2 U_2$	2
	Law of conservation of momentum. $P_1^2 + \rho_1 U_1^2 = P_2^2 \ \rho_2 U_2^2$	2
	Law of conservation of energy. $h_1 + \frac{U_1^2}{2} = h_2 + \frac{U_2^2}{2}$	2
(c)	Amplitude=15 cm/s^2, x=3 cm, a= $-\omega^2 x$, $\lvert a\rvert = \omega^2 x$, $\omega^2=5$, ω=2.24 rad/s	3
	$T = \frac{2\pi}{\omega}$, T= 2.8 s	3
	PART-B	
3(a)	Definition of Stress and Strain. What are the types of Elastic Moduli? Types : Young's Modulus(Y), Bulk Modulus(K) and Rigidity modulus (n)	3 3
(b)	Diagram	2

	PART-B	
3(a)	Definition of Stress and Strain. What are the types of Elastic Moduli? Types : Young's Modulus(Y), Bulk Modulus(K) and Rigidity modulus (n)	3 3
(b)	Diagram New volume 1+3T(α-2β) $K = \frac{Y}{3(1-2\sigma)}$	2 2 2
	OR	
4(a)	**Explanation of** the terms Stress. **Explanation of** the terms Strain.	3 3
(b)	Diagram, Explanation, $n = \frac{1}{2\alpha(1++\beta)}$ $Y = 2n(1+\sigma)$	3 3

Course In charge **Head - Dept.**

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE -560109
SESSION: 2020 – 2021 (ODD SEMESTER)
I SESSIONAL TEST QUESTION PAPER
SET-B

USN										

Degree	:	**B.E**	**Semester**	:	**I**
Branch	:	**CSE,AIML & ME**	**Date**	:	**28-01-2021**
Course Title	:	**Engineering Physics**	**Course Code**	:	**18PHY12**
Duration	:	**90 Minutes**	**Max Marks**	:	**30**

Note: Answer ONE full question from each part

Q. No.	Question	Marks	CO mapping	K-Level
	PART-A			
1(a)	**What** are damped oscillations? Give the theory. Discuss the case of critical damping.	6	**CO1**	Applying (K3)
(b)	**Write** about Mach Number and its unit. Distinguish between acoustic, ultrasonic, subsonic and supersonic waves.	6	**CO1**	Understanding (K2)
(c)	A 20 gm oscillator with natural angular frequency 10 rad/sec is vibrating in damping medium. The damping force is proportional to the velocity of the vibrator. If the damping coefficient is 0.7, how does the oscillation decay?	6	**CO1**	Applying (K3)
	OR			
2(a)	**What** are forced oscillations? Give the theory and hence arrive at the expression for amplitude.	6	**CO1**	Applying (K3)
(b)	**Discuss** the basic laws of conservation of mass, momentum and energy.	6	**CO1**	Understanding (K2)
(c)	For a particle executing SHM, its acceleration is found to be $15 cm/s^2$ when it is at 3cm from its mean position. Calculate time period.	6	**CO1**	Applying (K3)
	PART-B			
3(a)	**Define** Poisson's ratio. Obtain the relation between shear strain, elongation strain and compression strain.	6	**CO2**	Understanding (K2)
(b)	**Derive** the relation between Bulk Modulus (K), Young's Modulus (Y) and Poisson's Ratio (σ).	6	**CO2**	Applying (K3)
	OR			
4(a)	**Define** the terms Stress and Strain. What are the types of Elastic Moduli?	6	**CO2**	Understanding (K2)
(b)	**Calculate** the force required to produce an extension of 1mm in steel of length 2m and diameter 1mm ($Y=2\times10^{11}$ N/m^2).	6	**CO2**	Applying (K3)

Course In charge **Head - Dept** 28/1/2021 **Principal**

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE -560109
SESSION:2020 – 2021 (ODD SEMESTER)
I SESSIONAL TEST QUESTION PAPER
SET-B

SCHEME AND SOLUTIONS

Degree	:	**B.E**	**Semester**	:	**I**
Branch	:	**CSE,AIML & ME**	**Course Code**	:	**18PHY12**
Course Title	:	**Engineering Physics**	**Max Marks**	:	**30**

SL. No.		Marks
	PART-A	
1(a)	Definition	1
	Theory: differential equation $\frac{d^2x}{dt^2} + 2b\frac{dx}{dt} + \omega^2 x = 0$	2
	Finding the value for α, α= $-b \pm \sqrt{b^2 - \omega^2}$	1
	Case study of $b^2=\omega^2$	2
(b)	Mach number, definition.	2
	Acoustic waves.	1
	Ultrasonic waves.	1
	Subsonic waves.	1
	Supersonic waves.	1
(c)	The equation of damped oscillations, $\frac{d^2x}{dt^2} + 2b\frac{dx}{dt} + \omega^2 x = 0$	2
	b=175	2
	$b^2>\omega^2$, hence underdamping	2
	OR	
2(a)	Arriving at, $m\frac{d^2y}{dt^2} = -r\frac{dy}{dt} - ky + Fsinpt$	3
	Using $y = Asin(pt - \theta)$ Arrive at $A = \frac{f}{\sqrt{(\omega^2-p^2)+4b^2p^2}}$ $\theta = \tan^{-1}\left[\frac{2bp}{(\omega^2-p^2)}\right]$	3
(b)	Law of conservation of mass. $\rho_1 U_1 = \rho_2 U_2$	2
	Law of conservation of momentum. $P_1^2 + \rho_1 U_1^2 = P_2^2 \ \rho_2 U_2^2$	2
	Law of conservation of energy. $h_1 + \frac{U_1^2}{2} = h_2 + \frac{U_2^2}{2}$	2
(c)	Amplitude=15 cm/s^2, x=3 cm, a= $-\omega^2 x$, $\lvert a\rvert = \omega^2 x$, $\omega^2=5$, $\omega=2.24$ rad/s	3
	$T = \frac{2\pi}{\omega}$, $T = 2.8$ s	3

	PART-B	
3(a)	Poisson's ratio, $\frac{\beta}{\alpha} = \sigma$	2
	Diagram	2
	$\frac{\theta}{2} + \frac{\theta}{2} = \theta$, Elongation starin+lateral starin=shearing starin	2
(b)	Diagram	2
	New volume 1+3T(α-2β)	2
	$K = \frac{Y}{3(1-2\sigma)}$	
	OR	**2**
4(a)	Definition of Stress and Strain. What are the types of Elastic Moduli?	3
	Types : Young's Modulus(Y), Bulk Modulus(K) and Rigidity modulus (n)	3
(b)	$F = \frac{Y\Delta LA}{L}$	3
	78.54 N	3

Course In charge **Head - Dept**

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE -560109
SESSION: 2020 – 2021 (ODD SEMESTER)
II SESSIONAL TEST QUESTION PAPER
SET-A

USN									

Degree	:	**B.E**	**Semester**	:	**I**
Branch	:	**CSE,AIML& ME**	**Date**	:	**26-02-2021**
Course Title	:	**Engineering Physics**	**Course Code**	:	**18PHY12**
Duration	:	**90 Minutes**	**Max Marks**	:	**30**

Note: Answer ONE full question from each part

Q. No.	Question	Marks	CO napping	K-Level
	PART-A			
1(a)	Set up time-independent one dimensional Schrodinger's equation	6	CO3	Applying (K3)
(b)	State Heisenberg's uncertainty principle. show that, a free electron cannot exist within the nucleus of an atom	6	CO3	Understanding (K2)
(c)	Explain the principle, construction and working of semiconductor Laser with the help of suitable diagrams	6	CO3	Applying (K3)
	OR			
2(a)	Explain the construction and working of CO_2 Laser with the help of suitable diagrams	6	CO3	Applying (K3)
(b)	Using time-independent Schrodinger's equation, Find the Eigen value and Eigen function for a particle in a one dimensional potential well of infinite height. Discuss for 2 solutions	6	CO3	Understanding (K2)
(c)	Interpretation of wave functions? Mention their properties & physical significance	6	CO3	Applying (K3)
	PART-B			
3(a)	Describe single cantilever and hence derive the expression for Y	6	CO2	Understanding (K2)
(b)	What is polarization? Explain different types of polarization	6	CO4	Understanding (K2)
	OR			
4(a)	Explain torsional oscillations and derive the expression for couple per unit twist for a solid cylinder	6	CO2	Understanding (K2)
(b)	What are dielectric materials? Explain polar and non-polar dielectrics	6	CO4	Understanding (K2)

Course In charge **Head - Dept** **Principal**

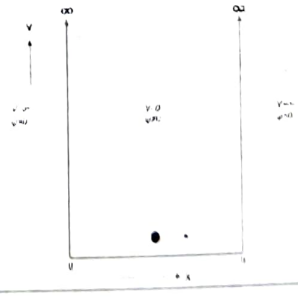
K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

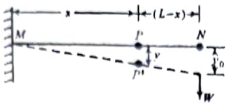
II SESSIONAL TEST QUESTION PAPER 2020 – 2021 ODD SEMESTER

SCHEME AND SOLUTION

Degree : **B.E**
Branch : **CSE,AIML & ME**
Course Title : **Engg. PHYSICS**

Semester : **I**
Course Code : **18 PHY 12**
Max Marks : **30**

Q.NO.	POINTS	MARKS
1(a)	* A wave traveling along x-axis can be represented by the equation $\Psi(x, t) = A\, e^{-i(\omega t - kx)}$ * Equation for a travelling wave is given by $\frac{d^2\Psi}{dx^2} = \frac{-\omega^2}{v^2}\Psi$ * The Schrodinger equation $\frac{d^2\Psi}{dx^2} + \frac{8\pi^2 m}{h^2}(E - V)\Psi = 0$	2 2 2 2
1(b)	*Heisenberg's uncertainty Principle statement $\Delta x \times \Delta p_x = \frac{h}{4\pi}$ *Non existing of electron in the nucleus $E = \frac{p^2}{2m}$ $\Delta p_x \geq \frac{h}{4\pi \times \Delta x}$ $E \geq 85MeV$ Conclusion	2 2
1(c)	Principle, neat diagram, construction and working of semiconductorlaser	2,2,2 2
2(a)	**CO_2 Laser** *Construction diagram, *Energy level diagram *Explanation *Working with equations of collision	4
2(b)	* Ψ should be single valued. * Ψ should be finite everywhere. * Ψ and its first derivative with respect to its variables are continuous everywhere. * Ψ & Ψ Ψ* must vanish at boundary. * Diagrams *The Schrodinger's wave equation representing the motion of the particle $\frac{d^2\Psi}{dx^2} + \frac{8\pi^2 m}{h^2}(E - 0)\Psi = 0 \; (\because V = 0)$ *Solution of the equation $\Psi = A \sin kx + B \cos kx$ *Applying boundary conditions the wave function is $\Psi n = A \sin \frac{n\pi}{a} x$ *Energy Eigen value eq $E_n = \frac{n^2 h^2}{8ma^2}$ 	2 2 2 2

2(c)	Solutions: ground state and first excited state Probability Density and Normalization $\lvert\psi\rvert^2\, d\tau.$ $\int_0^\tau \lvert\psi\rvert^2\, d\tau = 1$	2 2
Q.NO.	POINTS	MARKS
3(a)	 DEPRESSION OF A CANTILEVER $Bending\ moment = \frac{Y}{R} I_g$ $\frac{1}{R} = \frac{d^2y}{dx^2}$ $\left(\frac{dy}{dx}\right) = \frac{W}{YI_g}\left(Lx - \frac{x^2}{2}\right) + C_1$ $y = \frac{W}{YI_g}\left(\frac{Lx^2}{2} - \frac{x^3}{6}\right) + C_2$ $Y = \frac{WL^3}{3y_0 I_g}$ $Y = \frac{4WL^3}{y_0 bd^3}$	2 2 2 2,4 1
3(b)	Define polarization Explain 3 types of polarizations. Electronic, ionic, orientation.	1 2
4(a)	**couple per unit twist for a solid cylinder** $\emptyset = \frac{r\theta}{L}$ $T = n\emptyset = \frac{nr\theta}{L}$ Final expression $C = \frac{\pi n R^4}{2L}$	2
4(b)	Define dielectric materials Explain polar and non polar dielectric materials.	2 2,2

Signature of Course Incharge **Signature of HOD/BS & H**

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE -560109
SESSION: 2020 – 2021 (ODD SEMESTER)
II SESSIONAL TEST QUESTION PAPER
SET-B

USN										

Degree	:	**B.E**	**Semester**	:	**I**
Branch	:	**CSE,AIML& ME**	**Date**	:	**26-02-2021**
Course Title	:	**Engineering Physics**	**Course Code**	:	**18PHY12**
Duration	:	**90 Minutes**	**Max Marks**	:	**30**

Note: Answer ONE full question from each part

Q. No.	Question	Marks	CO mapping	K-Level
	PART-A			
1(a)	State Heisenberg's uncertainty principle. show that, a free electron cannot exist within the nucleus of an atom	6	CO3	Applying (K3)
(b)	Set up time-independent one dimensional Schrodinger's equation	6	CO3	Understanding (K2)
(c)	Explain the principle, construction and working of semiconductor Laser with the help of suitable diagrams	6	CO3	Applying (K3)
	OR			
2(a)	Interpretation of wave functions? Mention their properties & physical significance	6	CO3	Applying (K3)
(b)	Using time-independent Schrodinger's equation, Find the Eigen value and Eigen function for a particle in a one dimensional potential well of infinite height. Discuss for 2 solutions	6	CO3	Understanding (K2)
(c)	Explain the construction and working of CO_2 Laser with the help of suitable diagrams	6	CO3	Applying (K3)
	PART-B			
3(a)	Explain torsional oscillations and derive the expression for couple per unit twist for a solid cylinder	6	CO2	Understanding (K2)
(b)	What is polarization? Explain different types of polarization	6	CO4	Understanding (K2)
	OR			
4(a)	Describe single cantilever and hence derive the expression for Y	6	CO2	Understanding (K2)
(b)	What are dielectric materials? Explain polar and non-polar dielectrics	6	CO4	Understanding (K2)

Course In-charge Head - Dept 24/2/2021 Principal

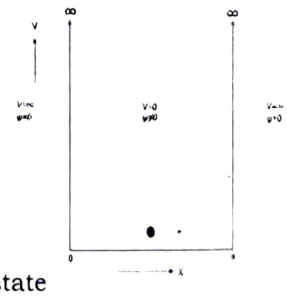
K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

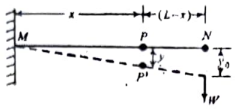
II SESSIONAL TEST QUESTION PAPER 2020 – 2021 ODD SEMESTER

SCHEME AND SOLUTION

Degree : **B.E**
Branch : **CSE,AIML & ME**
Course Title : **Engg. PHYSICS**

Semester : **I**
Course Code : **18 PHY 12**
Max Marks : **30**

Q.NO.	POINTS	MARKS
1(a)	*Heisenberg's uncertainty Principle statement $\Delta x \times \Delta p_x = \frac{h}{4\pi}$ *Non existing of electron in the nucleus $E = \frac{p^2}{2m}$ $\Delta p_x \geq \frac{h}{4\pi \times \Delta x}$ $E \geq 85MeV$ Conclusion	2 2 2
1(b)	* A wave traveling along x-axis can be represented by the equation $\Psi(x, t) = A\, e^{-i(\omega t - kx)}$ * Equation for a travelling wave is given by $\frac{d^2\Psi}{dx^2} = \frac{-\omega^2}{v^2}\Psi$ * The Schrodinger equation $\frac{d^2\Psi}{dx^2} + \frac{8\pi^2 m}{h^2}(E - V)\Psi = 0$	2 2 2
1(c)	Principle, neat diagram, construction and working of semiconductorlaser	2,2,2
2(a)	Probability Density and Normalization $\lvert\psi\rvert^2 d\tau.$ $\int_0^\tau \lvert\psi\rvert^2 d\tau = 1$ * Ψ should be single valued. * Ψ should be finite everywhere. * Ψ and its first derivative with respect to its variables are continuous everywhere. * Ψ & Ψ Ψ* must vanish at boundary. * Diagrams	2 4
2(b)	*The Schrodinger's wave equation representing the motion of the particle $\frac{d^2\Psi}{dx^2} + \frac{8\pi^2 m}{h^2}(E - 0)\Psi = 0\ (\because V = 0)$ *Solution of the equation $\Psi = A \sin kx + B \cos kx$ *Applying boundary conditions the wave function is $\Psi n = A \sin \frac{n\pi}{a} x$ *Energy Eigen value eq $E_n = \frac{n^2h^2}{8ma^2}$ Solutions: ground state and first excited state 	2 2 2
2(c)	**CO_2 Laser** *Construction diagram, *Energy level diagram	2

	*Explanation *Working with equations of collision	2 2
Q.NO.	POINTS	MARKS
3(a)	**couple per unit twist for a solid cylinder** $\emptyset = \frac{r\theta}{L}$ $T = n\emptyset = \frac{nr\theta}{L}$ Final expression $C = \frac{\pi n R^4}{2L}$	2 2 2
3(b)	Define polarization Explain 3 types of polarizations. Electronic, ionic, orientation.	2,4
4(a)	 DEPRESSION OF A CANTILEVER $Bending\ moment = \frac{Y}{R} I_g \quad \frac{1}{R} = \frac{d^2y}{dx^2}$ $\left(\frac{dy}{dx}\right) = \frac{W}{YI_g}\left(Lx - \frac{x^2}{2}\right) + C_1 \qquad y = \frac{W}{YI_g}\left(\frac{Lx^2}{2} - \frac{x^3}{6}\right) + C_2$ $Y = \frac{WL^3}{3y_0 I_g} \qquad Y = \frac{4WL^3}{y_0 b d^3}$	1 1 2 2
4(b)	Define dielectric materials Explain polar and non polar dielectric materials.	2 2,2

Signature of Course Incharge

Signature of HOD/BS & H

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

III SESSIONAL TEST QUESTION PAPER 2020 – 2021 ODD SEMESTER

SET- A

USN										

Degree	:	B.E	Semester	: I
Branch	:	CSE, AIML & ME	Course Code	: 18PHY12
Course Title	:	Engg. Physics	Date	: 25 – 03 – 2021
Duration	:	90 Minutes	Max Marks	: 30

Note: Answer ONE full question from each part

Q No.	Question	Marks	CO mapping	K-Level
	PART-A			
1(a)	With a neat diagram derive an expression for numerical aperture in an optical fiber.	6	CO5	Applying (K3)
(b)	Derive wave equation in terms of electric & magnetic field using Maxwell's equations	6	CO5	Applying (K3)
(c)	The refractive index of core and cladding are 1.50 and 1.48 respectively in an optical fiber. Calculate the numerical aperture and angle of acceptance.	6	CO5	Applying (K3)
	OR			
2(a)	Explain briefly Gauss flux theorem, Ampere's law, Biot-Savart's law and Faraday's law of electromagnetic induction.	6	CO5	Understanding (K2)
(b)	Write a note on attenuation affecting factors.	6	CO5	Understanding (K2)
(c)	Explain transverse nature of EM waves and different types of polarization.	6	CO5	Applying (K3)
	PART-B			
3(a)	Derive the expression for electrical conductivity in intrinsic semiconductor	6	CO4	Understanding (K2)
(b)	Make use of Fermi factor and summarize the variation of Fermi factor with temperature and energy.	6	CO4	Applying (K3)
	OR			
4(a)	Arrive the expression for Fermi energy at zero kelvin.	6	CO4	Applying (K3)
(b)	Obtain the expression for Hall coefficient for semiconductor and explain the Hall effect in brief.	6	CO4	Understanding (K2)

Incharge

Head of the Department
Dept. of Science and Humanities
K.S. Institute of Technology
Bengaluru - 560 109

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

III SESSIONAL TEST QUESTION PAPER 2020 – 21 ODD SEMESTER

SCHEME AND SOLUTION

SET-A

Degree : **B.E**
Branch : **CSE, AI&ML, ME**
Course Title : **Engg. PHYSICS**

Semester : **I**
Course Code : **18PHY12**
Max Marks : **30**

Q.NO.	POINTS	MARKS
1(a)	**Expression for Numerical Aperture**	
	$n_0 \sin\theta_0 = n_1 \sin\theta_1$	2
	$\cos\theta_1 = \frac{n_2}{n_1}$	
	$\theta_0 = Sin^{-1}\sqrt{n_1^2 - n_2^2}$	2
1(b)	Gauss flux theorem - Gauss' law in electrostatics	2
	ϕ = ∮ s D® .dS® = Õ q	2
	Gauss' law of Magnetostatics	
	∮ s B®.dS® = ∮ v (∇.B®) dv = 0	2
		2
1(c)	$\theta_0 = Sin^{-1}\sqrt{n_1^2 - n_2^2}$	3,3
2(a)	∮ s D® .dS® = ∮ v (∇.D®) dv (4.19) Thus Gauss divergence theorem ∇ × H® = J® (4.26) Thus Amperes circuital law ∇ × E® = – ∂B® ∂t (4.36) Thus Faraday's law	2,2,2
2(b)	**Attenuation**	2
	There are three mechanisms through which attenuation takes place	2
	1. Absorption Loss	
	2. Scattering Loss	2
	3. Radiation Loss	
2(c)	Transverse nature of electromagnetic waves	2
	1. Linearly Polarized EM waves	2
	2. Circularly Polarized EM waves	
	3. Electrically Polarized EM waves	2
Q.NO.	POINTS	MARKS

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

III SESSIONAL TEST QUESTION PAPER 2020 – 2021 ODD SEMESTER

SET - A

USN | | | | | | | | | |

Degree	: B.E	Semester	: I
Branch	: CSE, AIML & ME	Course Code	: 18PHY12
Course Title	: Engg. Physics	Date	: 25 – 03 – 2021
Duration	: 90 Minutes	Max Marks	: 30

Note: Answer ONE full question from each part

Q No.	Question	Marks	CO mapping	K-Level
	PART-A			
1(a)	With a neat diagram derive an expression for numerical aperture in an optical fiber.	6	CO5	Applying (K3)
(b)	Explain briefly Gauss flux theorem, Ampere's law, Biot-Savart's law and Faraday's law of electromagnetic induction.	6	CO5	Applying (K3)
(c)	The refractive index of core and cladding are 1.50 and 1.48 respectively in an optical fiber. Calculate the numerical aperture and angle of acceptance.	6	CO5	Applying (K3)
	OR			
2(a)	Derive wave equation in terms of electric & magnetic field using Maxwell's equations	6	CO5	Understanding (K2)
(b)	Write a note on attenuation affecting factors.	6	CO5	Understanding (K2)
(c)	Explain transverse nature of EM waves and different types of polarization.	6	CO5	Applying (K3)
	PART-B			
3(a)	Derive the expression for electrical conductivity in intrinsic semiconductor	6	CO4	Understanding (K2)
(b)	Arrive the expression for Fermi energy at zero kelvin.	6	CO4	Applying (K3)
	OR			
4(a)	Make use of Fermi factor and summarize the variation of Fermi factor with temperature and energy.	6	CO4	Applying (K3)
(b)	Obtain the expression for Hall coefficient for semiconductor and explain the Hall effect in brief.	6	CO4	Understanding (K2)

Course Incharge 24/3/2021

24/3/2021
Module Coordinator

HOD-BS&H 24/3/2021

Principal
PRINCIPAL
K.S. INSTITUTE OF TECHNOLOGY
BENGALURU - 560 109

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

III SESSIONAL TEST QUESTION PAPER 2020 – 2021 ODD SEMESTER

SET- B

USN										

Degree	:	B.E	Semester	: I
Branch	:	CSE, AIML & ME	Course Code	: 18PHY12
Course Title	:	Engg. Physics	Date	: 25 – 03 – 2021
Duration	:	90 Minutes	Max Marks	: 30

Note: Answer ONE full question from each part

Q No.	Question	Marks	CO mapping	K-Level
	PART-A			
1(a)	With a neat diagram derive an expression for numerical aperture in an optical fiber.	6	CO5	Applying (K3)
(b)	Derive wave equation in terms of electric & magnetic field using Maxwell's equations	6	CO5	Applying (K3)
(c)	The refractive index of core and cladding are 1.50 and 1.48 respectively in an optical fiber. Calculate the numerical aperture and angle of acceptance.	6	CO5	Applying (K3)
	OR			
2(a)	Explain briefly Gauss flux theorem, Ampere's law, Biot-Savart's law and Faraday's law of electromagnetic induction.	6	CO5	Understanding (K2)
(b)	Write a note on attenuation affecting factors.	6	CO5	Understanding (K2)
(c)	Explain transverse nature of EM waves and different types of polarization.	6	CO5	Applying (K3)
	PART-B			
3(a)	Derive the expression for electrical conductivity in intrinsic semiconductor	6	CO4	Understanding (K2)
(b)	Make use of Fermi factor and summarize the variation of Fermi factor with temperature and energy.	6	CO4	Applying (K3)
	OR			
4(a)	Arrive the expression for Fermi energy at zero kelvin.	6	CO4	Applying (K3)
(b)	Obtain the expression for Hall coefficient for semiconductor and explain the Hall effect in brief.	6	CO4	Understanding (K2)

24/3/2021
Course Incharge

24/3/2021
Module Coordinator

HOD/BS&H 24/3/2021

Principal

PRINCIPAL
K.S. INSTITUTE OF TECHNOLOGY
BENGALURU - 560 109

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

III SESSIONAL TEST QUESTION PAPER 2020 – 2021 ODD SEMESTER

SET-B

USN										

Degree	:	B.E	Semester	:	I
Branch	:	CSE, AIML & ME	Course Code	:	18PHY12
Course Title	:	Engg. Physics	Date	:	25 – 03 – 2021
Duration	:	90 Minutes	Max Marks	:	30

Note: Answer ONE full question from each part

Q No.	Question	Marks	CO mapping	K-Level
	PART-A			
1(a)	Explain briefly Gauss flux theorem, Ampere's law, Biot-Savart's law and Faraday's law of electromagnetic induction.	6	CO5	Applying (K3)
(b)	Write a note on attenuation affecting factors.	6	CO5	Applying (K3)
(c)	The refractive index of core and cladding are 1.50 and 1.48 respectively in an optical fiber. Calculate the numerical aperture and angle of acceptance.	6	CO5	Applying (K3)
	OR			
2(a)	Derive wave equation in terms of electric & magnetic field using Maxwell's equations	6	CO5	Understanding (K2)
(b)	With a neat diagram derive an expression for numerical aperture in an optical fiber.	6	CO5	Understanding (K2)
(c)	Explain transverse nature of EM waves and different types of polarization.	6	CO5	Applying (K3)
	PART-B			
3(a)	Derive the expression for electrical conductivity in intrinsic semiconductor	6	CO4	Understanding (K2)
(b)	Arrive the expression for Fermi energy at zero kelvin.	6	CO4	Applying (K3)
	OR			
4(a)	Make use of Fermi factor and summarize the variation of Fermi factor with temperature and energy.	6	CO4	Applying (K3)
(b)	Obtain the expression for Hall coefficient for semiconductor and explain the Hall effect in brief.	6	CO4	Understanding (K2)

Course Incharge

Head of the Department
Dept. of Science and Humanities
K.S. Institute of Technology
Bengaluru - 560 109

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

III SESSIONAL TEST QUESTION PAPER 2020 – 21 ODD SEMESTER

SET-B

SCHEME AND SOLUTION

Degree : **B.E**
Branch : **CSE, AI&ML, ME**
Course Title : **Engg. PHYSICS**

Semester : **I**
Course Code : **18PHY12**
Max Marks : **30**

Q.NO.	POINTS	MARKS
1(a)	$\oint_s D^{®} .dS^{®} = \oint_v (\nabla.D^{®})\, dv$ (4.19) Thus Gauss divergence theorem $\nabla \times H^{®} = J^{®}$ (4.26) Thus Amperes circuital law $\nabla \times E^{®} = -\partial B^{®} \partial t$ (4.36) Thus Faraday's law	2 2
1(b)	Attenuation There are three mechanisms through which attenuation takes place 1. Absorption Loss 2. Scattering Loss 3. Radiation Loss	2 2 2 2
1(c)	$$\theta_0 = Sin^{-1}\sqrt{n_1^2 - n_2^2}$$	2 3,3
2(a)	Gauss flux theorem - Gauss' law in electrostatics $\phi = \oint_s D^{®} .dS^{®} = \tilde{O}\, q$ Gauss' law of Magnetostatics $\oint_s B^{®}.dS^{®} = \oint_v (\nabla.B^{®})\, dv = 0$	2,2,2
2(b)	Expression for Numerical Aperture $$n_0 \sin\theta_0 = n_1 \sin\theta_1$$ $$\cos\theta_1 = \frac{n_2}{n_1}$$ $$\theta_0 = Sin^{-1}\sqrt{n_1^2 - n_2^2}$$	2 2 2
2(c)	Transverse nature of electromagnetic waves 1. Linearly Polarized EM waves 2. Circularly Polarized EM waves 3. Electrically Polarized EM waves	2 2 2
Q.NO.	POINTS	MARKS

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE -560109
SESSION:2020 – 2021 (ODD SEMESTER)

IMPROVEMENT TEST

USN										

Degree	:	B.E	Semester	:	I
Branch	:	CSE,AIML & ME	Date	:	06-04-2021
Course Title	:	Engineering Physics	Course Code	:	18PHY12
Duration	:	90 Minutes	Max Marks	:	30

Note: Answer ONE full question from each part

Q. No.	Question	Marks	CO mapping	K-Level
	PART-A			
1(a)	**What** are damped oscillations? Give the theory. Discuss the case of critical damping.	6	CO1	Applying (K3)
	Write about Mach Number and its unit. Distinguish between acoustic, ultrasonic, subsonic and supersonic waves.	6	CO1	Understanding (K2)
(c)	A 20 gm oscillator with natural angular frequency 10 rad/sec is vibrating in damping medium. The damping force is proportional to the velocity of the vibrator. If the damping coefficient is 0.17, how does the oscillation decay?	6	CO1	Applying (K3)
	OR			
2(a)	**What** are forced oscillations? Give the theory and hence arrive at the expression for amplitude.	6	CO1	Applying (K3)
(b)	**Discuss** the basic laws of conservation of mass, momentum and energy.	6	CO1	Understanding (K2)
(c)	For a particle executing SHM, its acceleration is found to be 15cm/s^2 when it is at 3cm from its mean position. Calculate time period.	6	CO1	Applying (K3)
	PART-B			
3(a)	**Define** Poisson's ratio. Obtain the relation between shear strain, elongation strain and compression strain.	6	CO2	Understanding (K2)
(b)	**Derive** the relation between Bulk Modulus (K), Young's Modulus (Y) and Poisson's Ratio (σ).	6	CO2	Applying (K3)
	OR			
4(a)	**Define** the terms Stress and Strain. What are the types of Elastic Moduli?	6	CO2	Understanding (K2)
(b)	**Calculate** the force required to produce an extension of 1mm in steel of length 2m and diameter 1mm ($Y=2\times10^{11}$ N/m^2).	6	CO2	Applying (K3)

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE -560109
SESSION:2020 – 2021 (ODD SEMESTER)

IMPROVEMENT TEST

SCHEME AND SOLUTIONS

Degree	: **B.E**	**Semester**	: **I**
Branch	: **CSE,AIML & ME**	**Course Code**	: **18PHY12**
Course Title	: **Engineering Physics**	**Max Marks**	: **30**

SL. No.		Marks
	PART-A	
1(a)	Definition	1
	Theory: differential equation $\frac{d^2x}{dt^2} + 2b\frac{dx}{dt} + \omega^2 x = 0$	2
	Finding the value for α, α= $-b \pm \sqrt{b^2 - \omega^2}$	1
	Case study of $b^2=\omega^2$	2
(b)	Mach number, definition.	2
	Acoustic waves.	1
	Ultrasonic waves.	1
	Subsonic waves.	1
	Supersonic waves.	1
(c)	The equation of damped oscillations, $\frac{d^2x}{dt^2} + 2b\frac{dx}{dt} + \omega^2 x = 0$	2
	b=18.5	2
	$b^2<\omega^2$, hence under damping	2
	OR	
2(a)	Arriving at, $m\frac{d^2y}{dt^2} = -r\frac{dy}{dt} - ky + Fsinpt$	3
	Using $y = Asin(pt - \theta)$ Arrive at $A = \frac{f}{\sqrt{(\omega^2-p^2)+4b^2p^2}}$ $\theta = \tan^{-1}\left[\frac{2bp}{(\omega^2-p^2)}\right]$	3
(b)	Law of conservation of mass. $\rho_1 U_1 = \rho_2 U_2$	2
	Law of conservation of momentum. $P_1^2 + \rho_1 U_1^2 = P_2^2 \ \rho_2 U_2^2$	2
	Law of conservation of energy. $h_1 + \frac{U_1^2}{2} = h_2 + \frac{U_2^2}{2}$	2
(c)	Amplitude=15 cm/s^2, x=3 cm, a= $-\omega^2 x$, $\lvert a\rvert = \omega^2 x$, $\omega^2=5$, $\omega=2.24$ rad/s	3

	$T = \frac{2\pi}{\omega}$, T= 2.8 s	3
	PART-B	
3(a)	Poisson's ratio, $\frac{\beta}{\alpha} = \sigma$ Diagram $\frac{\theta}{2} + \frac{\theta}{2} = \theta$, Elongation starin+lateral starin=shearing starin	2 2 2
(b)	Diagram New volume 1+3T(α-2β) $K = \frac{Y}{3(1-2\sigma)}$	2 2
	OR	**2**
4(a)	Definition of Stress and Strain. What are the types of Elastic Moduli? Types : Young's Modulus(Y), Bulk Modulus(K) and Rigidity modulus (n)	3 3
(b)	$F = \frac{Y\Delta LA}{L}$ 78.54 N	3 3

Course In-Charge **HoD**

Visvesvaraya Technological University

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE

Branch : CS Scheme : 2018 Semester : 2

Sl NO.	USN	18CHE22	18CHEL26	18CPL27	18CPS23	18EGH28	18ELN24	18MAT21	18ME25	STUDENT SIGNATURE
1	1KS20CS001	39	38	36	36	36	37	40	40	
2	1KS20CS002	38	36	39	33	36	37	39	37	
3	1KS20CS003	38	36	36	34	36	37	38	36	
4	1KS20CS004	40	39	40	36	37	40	40	40	
5	1KS20CS005	38	40	38	36	37	36	40	37	
6	1KS20CS006	40	40	40	40	40	40	40	40	
7	1KS20CS007	40	40	40	40	40	40	40	40	
8	1KS20CS008	40	40	40	40	40	40	40	40	
9	1KS20CS009	40	40	40	40	40	40	40	40	
10	1KS20CS010	40	40	40	40	40	40	40	40	
11	1KS20CS011	38	40	40	40	38	40	40	38	
12	1KS20CS012	40	40	40	40	40	40	40	39	
13	1KS20CS013	40	40	40	40	36	39	40	40	
14	1KS20CS014	40	40	40	39	40	40	40	40	
15	1KS20CS015	40	40	40	40	36	39	40	36	
16	1KS20CS016	40	40	40	39	36	36	40	40	
17	1KS20CS017	40	40	40	40	40	40	40	40	
18	1KS20CS018	40	39	40	37	36	37	40	40	
19	1KS20CS019	40	40	40	39	36	39	40	40	
20	1KS20CS020	40	39	40	40	37	38	38	36	
21	1KS20CS021	40	37	39	38	37	39	39	37	
22	1KS20CS022	40	40	40	39	37	40	40	39	
23	1KS20CS023	40	40	40	40	40	40	40	40	
24	1KS20CS024	36	39	39	37	35	40	38	37	
25	1KS20CS025	40	40	40	39	36	40	40	40	
26	1KS20CS026	40	38	40	38	36	38	40	39	
27	1KS20CS027	40	39	39	39	37	38	40	39	
28	1KS20CS028	40	39	40	37	37	38	40	38	
29	1KS20CS029	40	40	40	40	40	40	40	40	
30	1KS20CS030	40	40	40	40	40	40	40	40	
31	1KS20CS031	40	40	40	40	37	39	40	40	
32	1KS20CS032	40	39	40	39	37	40	39	37	
33	1KS20CS033	40	40	40	40	40	40	40	40	
34	1KS20CS034	39	39	40	37	36	38	40	37	
35	1KS20CS035	40	40	40	37	36	38	40	36	
36	1KS20CS036	40	40	40	39	36	39	40	38	
37	1KS20CS037	40	40	40	39	37	39	40	39	
38	1KS20CS038	40	40	40	39	37	40	40	40	
39	1KS20CS039	39	40	40	40	37	40	39	40	
40	1KS20CS040	40	39	40	39	37	39	40	38	
41	1KS20CS041	40	39	40	39	36	38	40	40	

Sl NO.	USN	18CHE22	18CHEL26	18CPL27	18CPS23	18EGH28	18ELN24	18MAT21	18ME25	STUDENT SIGNATURE
42	1KS20CS042	40	39	40	39	37	40	40	39	
43	1KS20CS043	40	39	40	37	36	37	40	36	
44	1KS20CS044	40	39	40	38	36	39	40	39	
45	1KS20CS045	40	39	40	40	36	39	40	40	
46	1KS20CS046	40	40	40	40	36	38	40	40	
47	1KS20CS047	40	39	38	37	36	37	40	38	
48	1KS20CS048	38	36	36	34	36	36	34	35	
49	1KS20CS049	37	39	40	39	36	37	40	36	
50	1KS20CS050	39	35	40	39	38	38	40	31	
51	1KS20CS051	40	39	40	38	36	40	40	37	
52	1KS20CS052	39	38	40	39	36	40	38	39	
53	1KS20CS053	40	40	40	40	40	40	40	40	
54	1KS20CS054	39	40	40	40	38	40	40	38	
55	1KS20CS055	40	40	38	38	36	36	40	40	
56	1KS20CS056	38	40	38	39	36	36	36	39	
57	1KS20CS057	40	40	40	39	36	39	40	40	
58	1KS20CS058	40	40	40	40	36	38	40	40	
59	1KS20CS059	40	37	39	39	35	30	38	38	
60	1KS20CS060	40	40	39	39	37	35	40	40	
61	1KS20CS061	40	40	40	40	36	36	39	39	
62	1KS20CS062	40	39	33	38	37	33	40	40	
63	1KS20CS063	40	40	40	40	37	36	40	40	
64	1KS20CS064	40	39	38	36	37	34	39	39	
65	1KS20CS065	40	39	39	38	37	37	39	39	
66	1KS20CS066	40	39	39	40	37	36	40	40	
67	1KS20CS067	40	38	39	35	36	37	40	40	
68	1KS20CS068	40	40	39	39	38	37	40	40	
69	1KS20CS069	40	39	38	37	37	32	40	39	
70	1KS20CS070	40	38	38	38	37	35	40	39	
71	1KS20CS071	40	39	38	40	36	36	40	40	
72	1KS20CS072	40	40	39	40	37	35	40	40	
73	1KS20CS073	40	39	40	39	37	30	40	40	
74	1KS20CS074	40	40	40	40	36	38	40	40	
75	1KS20CS075	40	39	39	40	37	39	40	40	
76	1KS20CS076	40	40	39	39	37	39	40	40	
77	1KS20CS077	40	38	38	37	36	33	40	39	
78	1KS20CS078	40	39	39	40	37	38	40	40	
79	1KS20CS079	40	40	37	39	37	32	38	40	
80	1KS20CS080	40	40	38	40	37	37	40	40	
81	1KS20CS081	40	39	40	40	37	34	40	39	
82	1KS20CS082	40	38	36	32	35	30	40	39	
83	1KS20CS083	40	38	39	39	36	33	40	39	
84	1KS20CS084	39	39	39	38	37	34	40	39	
85	1KS20CS085	40	39	39	39	36	34	40	40	
86	1KS20CS086	40	40	38	40	37	38	40	40	
87	1KS20CS087	40	40	39	40	37	36	40	40	
88	1KS20CS088	40	40	40	39	37	36	40	40	
89	1KS20CS089	40	40	39	40	37	37	40	40	
90	1KS20CS090	40	40	38	40	37	39	40	40	

Sl NO.	USN	18CHE22	18CHEL26	18CPL27	18CPS23	18EGH28	18ELN24	18MAT21	18ME25	STUDENT SIGNATURE
91	1KS20CS091	40	40	40	40	37	39	40	40	
92	1KS20CS092	39	40	38	39	37	35	40	40	
93	1KS20CS093	40	39	39	39	37	38	40	40	
94	1KS20CS094	40	40	40	40	37	39	40	40	
95	1KS20CS095	40	38	39	36	39	36	37	36	
96	1KS20CS096	40	39	38	38	37	38	40	40	
97	1KS20CS097	40	39	38	40	37	34	40	40	
98	1KS20CS098	40	39	38	39	36	35	40	40	
99	1KS20CS099	40	39	37	40	36	36	40	40	
100	1KS20CS100	40	39	38	40	36	36	40	39	
101	1KS20CS101	40	39	38	40	36	39	40	40	
102	1KS20CS102	40	39	40	40	37	36	40	40	
103	1KS20CS103	40	39	40	39	36	38	40	40	
104	1KS20CS104	40	38	39	40	36	35	40	40	
105	1KS20CS105	40	38	38	38	35	35	40	39	
106	1KS20CS106	40	39	39	40	37	38	40	40	
107	1KS20CS107	40	39	40	39	36	37	40	40	
108	1KS20CS108	40	40	40	40	40	40	40	40	
109	1KS20CS109	40	38	39	37	36	36	40	40	
110	1KS20CS110	40	39	39	40	37	37	40	40	
111	1KS20CS111	40	38	40	39	37	38	40	40	
112	1KS20CS112	40	40	40	39	38	40	40	40	
113	1KS20CS113	40	39	39	40	36	37	40	40	
114	1KS20CS114	40	40	40	40	40	36	40	40	
--x--	Faculty Signature									----xxxxxxx----

* - values are either optional subjects or the faculty has not yet entered the marks

HOD
Seal and Signature
Head of the Department
Dept. of Computer Science & Engg.
K.S. Institute of Technology
Bengaluru -560 109

PRINCIPAL
Seal and Signature
PRINCIPAL
K.S. INSTITUTE OF TECHNOLOGY
BENGALURU - 560 109.

Visvesvaraya Technological University

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE

Branch : ME Scheme : 2018 Semester : 2

Sl NO.	USN	18CHE22	18CHEL26	18CPL27	18CPS23	18EGH28	18ELN24	18MAT21	18ME25	STUDENT SIGNATURE
1	1KS20ME001	39	39	35	38	36	37	40	40	
2	1KS20ME002	36	39	33	35	35	37	40	40	
3	1KS20ME003	40	40	39	38	39	39	38	40	
4	1KS20ME004	40	39	35	38	37	37	39	39	
5	1KS20ME005	40	40	39	39	36	39	40	40	
6	1KS20ME006	40	39	34	39	36	38	40	40	
7	1KS20ME007	40	39	39	39	36	35	39	39	
8	1KS20ME008	40	39	36	38	36	39	40	39	
--x--	Faculty Signature									----XXXXXXX----

* - values are either optional subjects or the faculty has not yet entered the marks

HOD

Seal and Signature
Head of the Department
Dept. of Mechanical Engg.
K.S. Institute of Technology
Bengaluru - 560 109.

PRINCIPAL

Seal and Signature
PRINCIPAL
K.S. INSTITUTE OF TECHNOLOGY
BENGALURU - 560 109.

Visvesvaraya Technological University

K.S. INSTITUTE OF TECHNOLOGY BENGALURU

Branch : AI Scheme : 2018 Semester : 2

Sl NO.	USN	18CHE22	18CHEL26	18CPL27	18CPS23	18EGH28	18ELN24	18MAT21	18ME25	STUDENT SIGNATURE
1	1KS20AI001	40	40	39	39	35	38	39	39	
2	1KS20AI002	40	40	39	40	37	39	40	39	
3	1KS20AI003	40	40	37	37	36	38	40	40	
4	1KS20AI004	40	40	40	40	40	40	40	40	
5	1KS20AI005	40	40	39	40	37	40	38	40	
6	1KS20AI006	40	40	37	35	36	39	38	40	
7	1KS20AI007	40	40	40	35	36	39	39	39	
8	1KS20AI008	40	39	37	38	36	40	39	39	
9	1KS20AI009	40	39	38	38	37	39	38	39	
10	1KS20AI010	40	40	34	37	38	37	39	39	
11	1KS20AI011	40	40	40	38	37	38	40	40	
12	1KS20AI012	40	40	40	39	36	39	40	39	
13	1KS20AI013	36	37	33	29	34	35	40	30	
14	1KS20AI014	40	40	38	38	37	38	40	40	
15	1KS20AI015	40	40	40	39	36	40	39	40	
16	1KS20AI016	40	40	38	40	36	40	40	39	
17	1KS20AI017	40	39	36	38	36	39	38	40	
18	1KS20AI018	40	39	38	40	36	40	39	39	
19	1KS20AI019	40	39	34	38	35	39	40	38	
20	1KS20AI020	40	40	40	40	40	40	40	40	
21	1KS20AI021	40	39	40	38	37	38	40	40	
22	1KS20AI022	40	40	40	39	37	40	40	40	
23	1KS20AI023	40	39	37	40	36	40	40	40	
24	1KS20AI024	37	39	34	33	35	36	38	35	
25	1KS20AI025	40	39	40	39	36	39	40	39	
26	1KS20AI026	40	40	40	38	37	39	39	39	
27	1KS20AI027	40	40	33	39	36	40	40	40	
28	1KS20AI028	40	40	36	38	36	37	36	40	
29	1KS20AI029	38	39	35	37	37	36	34	39	
30	1KS20AI030	40	40	37	37	37	37	38	40	
31	1KS20AI031	40	40	39	40	36	38	38	40	
32	1KS20AI032	40	40	39	39	37	39	40	40	
33	1KS20AI033	40	39	38	39	37	39	40	40	
34	1KS20AI034	40	40	38	40	37	40	39	40	
35	1KS20AI035	40	39	35	38	36	39	40	40	
36	1KS20AI036	40	40	40	36	37	40	38	40	
37	1KS20AI037	40	40	40	40	40	40	40	40	
38	1KS20AI038	40	40	38	40	36	39	38	40	
39	1KS20AI039	40	40	38	35	36	39	40	40	
40	1KS20AI040	39	37	34	32	36	35	35	40	

Sl NO.	USN	18CHE22	18CHEL26	18CPL27	18CPS23	18EGH28	18ELN24	18MAT21	18ME25	STUDENT SIGNATURE
41	1KS20AI041	40	39	40	35	37	36	36	40	
42	1KS20AI042	37	39	33	32	36	36	36	36	
43	1KS20AI043	40	39	40	40	36	40	40	40	
44	1KS20AI044	40	39	34	38	36	37	38	39	
45	1KS20AI046	40	39	40	40	36	40	40	40	
46	1KS20AI047	40	39	36	38	36	39	34	37	
--x--	Faculty Signature									----XXXXXXX----

* - values are either optional subjects or the faculty has not yet entered the marks

HOD 15/10/21

Seal and Signature
Head of the Department
Dept. of Science and Humanities
K.S. Institute of Technology
Bengaluru - 560 109

PRINCIPAL

Seal and Signature
PRINCIPAL
K.S. INSTITUTE OF TECHNOLOGY
BENGALURU - 560 109.

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

DEPARTMENT OF BASIC SCIENCES AND HUMANITIES

Coaching Class Schedule, Academic Year-2020-2021, ODD Semester

DATE: 15-02-2021

CIRCULAR

All the students who have scored less than 50% of marks in first internals are strictly informed to attend the remedial classes for improving their performance as per the schedule mentioned below.

I Semester (Physics Cycle)

Subjects: Calculus and Linear Algebra, Eng. Physics, Basic Electric Eng, Elements of Civil Eng.

VENUE: Seminar hall(First floor, New block)

SI.NO	Date	Time	Subject	Code	SECTION	Signature
1	17-2-2021	4:00 PM to 5:00 PM	Calcus and Linear Algebra	18MAT11	Mr.Venkataramana	
2	18-2-2021	4:00 PM to 5:00 PM	Engineering Physics	18PHY12	Mr Sunil Kumar	
3	19-2-2021	4:00 PM to 5:00 PM	Basic Electrical Eng	18ELE13	Ms Priyadarshini Patil	Priyad
4	20-2-2021	4:00 PM to 5:00 PM	Elements of Civil Engineering & Mechanics	18CIV14	Ms. Tejaswini M L	Tejaswini ML

HOD/S&H

Principal

Principal
K.S. INSTITUTE OF TECHNOLOGY
BANGALORE - 560 062

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

DEPARTMENT OF BASIC SCIENCES AND HUMANITIES

Coaching Class Schedule, Academic Year-2020-2021, ODD Semester

CIRCULAR

DATE: 13-03-2021

All the students who have scored less than 50% of marks in Second internals are strictly informed to attend the remedial classes for improving their performance as per the schedule mentioned below.

I Semester (Physics Cycle)

Subjects: Calculus and Linear Algebra, Eng. Physics, Basic Electric Eng, Elements of Civil Eng.

VENUE: Seminar hall(First floor, New block)

SI.NO	Date	Time	Subject	Code	SECTION	Signature
1	16-3-2021	4:00 PM to 5:00 PM	Calcus and Linear Algebra	18MAT11	Mr. Chowdappa M R	
2	17-3-2021	4:00 PM to 5:00 PM	Engineering Physics	18PHY12	Dr. Renuka C	
3	18-3-2021	4:00 PM to 5:00 PM	Basic Electrical Eng	18ELE13	Ms Priyadarshini Patil	Priyad
4	19-3-2021	4:00 PM to 5:00 PM	Elements of Civil Engineering & Mechanics	18CIV14	Ms. Tejaswini M L	Tejaswini ML

HOD/S&H

Principal

K.S. INSTITUTE OF TECHNOLOGY
BANGALORE - 560 062

K.S.INSTITUTE OF TECHNOLOGY

DEPARTMENT OF BASIC SCIENCE AND HUMANITIES

LIST OF SLOW LEARNERS FOR ALL SUBJECTS-I SEMESTER 2020-21

PHYSICS CYCLE

SL NO	NAME OF THE STEUDENT	IA-I				IA-II				IA-III			
		18MAT11	18PHY12	18ELE13	18CIV14	18MAT11	18PHY12	18ELE13	18CIV14	18MAT11	18PHY12	18ELE13	18CIV14
1	ANAND V S	13	5	9	4	21	13	9	19				
2	B TEJASWINI	14	12	9	5	11	19	16	24				
3	LISHA NIDHI A M	6	7	9	3	14	24	12	20				
4	MANISH PIKHAN	11	12	18	9	30	18	23	24				
5	DIWAKAR M	12	6	8	1	27	18	11	19				
6	MONIESH S	10	8	8	15	27	21	10	21				
7	TUSHAR S	13	4	9	5	17	17	16	13				
8	C M RITHIKA	7	20	6	6	25	16	7	17				
9	MOHAMMED ZEESHAN	6	0	14	2	5	6	6	14				
10	PAVAN A	4	8	6	1	10	6	6	15				
11	HARSHITH RAM NARAYANA	12	0	2	0	8	11	0	3				
12	TEJASWINI	0	2	5	0	2	15	5	15				
13	DARSHAN S	2	8	7	2	16	12	11	10				
14	HARSHAVARDAN V	4	2	2	4	1	10	0	10				
15	KUSHAL KADAM	5	0	6	4	7	15	12	15				

Signature of the HOD

Signature of the Principal

Principal
K.S. INSTITUTE OF TECHNOLOGY
BANGALORE - 560 062

K S INSTITUTE OF TECHNOLOGY BANGALORE

Department of Physics

Unit wise Challenging questions for toppers with reference

SUB: 18 PHY 12 /ENGINEERING PHYSICS **YEAR/SEM: I(2020-2021) / I**

MODULE: 1
QUANTUM MECHANICS AND LASERS

1. One cannot determine the wave function φ experimentally. Justify
   Ref: T2, page no: 446
2. What do you understand by wave packet?
   Ref: T1, page no: 561. T2, page no: 429
   Problem: A wave travelling along a string is described by Y(x, t) = 0.00427sin (82.1x-3.27t) in which the numerical constants are in S I units
   a. what is amplitude of this wave
   b. what are the wave length, period and frequency of the wave?
   c. what is the velocity of this wave
   Ref: T2, page no: 437
3. Discuss the excitation mechanism and explain the lasing action in CO2 LASER.
   Ref: T1, page no: 726. T2 page no: 262
4. Outline the different pumping mechanism in laser
   Ref: T1 page no: 713
   Problem: Find the wavelength at which at the rate of spontaneous and stimulated emission become equal at temperature of 500K Ref: T2 page no: 275

MODULE: 2
MATERIALS SCIENCE

1. What are energy bands in solids? Discuss
   Ref: T1, page no : 838. T2, page no: 519
2. Explain briefly electron – lattice – electron interaction in phonon field.
   Ref: T2, page no: 197
3. Discuss the features of superconductors
   Ref: T2, page no: 197
   Problem: Calculate the wavelength of light emitted by LED with an energy band gap of 1.8eV.
   Ref: T2 page no: 225

MODULE: 3
OSCILLATION AND WAVES

1. Make use of conservation laws and obtain shock relations
   Ref: R1 page no: 506
2. Using the quantum model discuss the various density of states for various quantum structures
   Ref: T2 page no: 371. R1, page no: 527
   Problem: Evaluate the speed of sound in helium gas at 350k. Given, γ for helium = 1.667, R=2008Jkg/k Ref: R1, page no: 514

MODULE: 4

ELASTIC PROPERTIES OF MATERIALS

1. Explain the process of Hooke's law in elastics and its limitations?
   Ref: R1 page no: 94-95
2. Applications of torsional pendulum?
   Ref : R1 Page no: 127

MODULE: 5

MAXWELL EQUATIONS, EM WAVES AND OPTICAL FIBER

1. Give the physical significance of Maxwell's equations
   Ref: T2 page no: 19-21
2. Explain the role of optical fiber in sensors.
   Ref: T2 Page no: 306-307

TEXT BOOK:

T1: *Dr. M.N. Avadhanulu, Dr. P.G.Kshirsagar, Text Book of Engineering Physics, S Chand Publishing, New Delhi - 2012*
T2: *Wiley precise Text, Engineering Physics, Wiley India Private Ltd., New Delhi.*

REFERENCES:

R1: *Prof. S. P. Basavaraju, Engineering Physics, Subhas Stores, Bangalore.*
R2: *S.O.Pillai, Solid State Physics, New Age International. Sixth Edition*

Course In-charge **Module Coordinator**

HOD

K S INSTITUTE OF TECHNOLOGY BANGALORE

Question Bank for each unit

SUB: 18 PHY 12/ ENGINEERING PHYSICS

YEAR/SEM: I (2020-2021)/ I BRANCH: CSE, ME & AIML

MODULE: 1
QUANTUM MECHANICS AND LASERS

1. Mention the assumptions of quantum theory of radiation.
2. State Planck's radiation law? Show how Planck's law could be reduced to Wien's law and Rayleigh – Jeans Law.
3. State and explain de Broglie hypothesis.
4. State and explain Heisenberg's uncertainty principle. Mention its physical significance. As an application of HUP show that, a free electron cannot exist within the nucleus of an atom.
5. What are wave functions? Mention their properties & physical significance.
6. Set up time-independent one dimensional Schrodinger's equation.
7. Explain the Eigen values and Eigen functions. Find the Eigen value and Eigen function for a particle in an one dimensional potential well of infinite height and finite width.
8. Derive an expression for energy density of radiation under thermal equilibrium condition in terms of Einstein coefficients.
9. Discuss the condition required for laser action and requisites of laser system.
10. Explain the construction and working of CO_2 Laser with the help of suitable diagrams.
11. Explain the principle, construction and working of semiconductor Laser with the help of suitable diagrams.
12. Explain the application of Lasers in defense and in data storage (CD, DVD).

PROBLEMS

1. A particle of mass $0.75MeV/C^2$ has a kinetic energy $75eV$. Calculate the de-Broglie wavelength, group velocity and phase velocity of the de-Broglie wave.
2. Compare the energy of a photon with that of an electron when both are associated with length of 0.2 nm.
3. A spectral line of wavelength 3995A° has a width of $7 \times 10^5 A^o$. Evaluate the minimum time spent by the electrons in the upper energy state between the excitation and deexcitation processes.
4. An electron has a speed of $5 \times 10^5 m/s$ with an inaccuracy of 0.02%. With what fundamental accuracy can we locate the position of the electron?
5. A quantum particle confined to one-dimensional box of width 'a' is known to be in its first exited state. What is the probability of the particle in central half?
6. A wave function is given by $\Psi = A\sin(n\pi x/L)$ for a motion of the particle in a zero potential well of breadth L. Calculate the value of A where x is the position of the particle along L.

MODULE: 2
MATERIAL SCIENCE

1. Explain the failure of classical free electron theory.
2. Mention the assumptions of quantum free electron theory. Write a note on density of states.
3. Define Fermi energy and Fermi factor. Discuss the variation of Fermi factor with temperature.
4. Derive the expression for Fermi energy at zero Kelvin.
5. Explain the merits of quantum free electron.
6. Write a note on Fermi level in intrinsic semiconductor and give the expressions for electron and hole concentration in an intrinsic semiconductor.
7. Derive the relation between Fermi energy and energy gap of an intrinsic semiconductor.
8. Explain Hall Effect and derive the expression for Hall coefficient.
9. What is polarization? Explain different types of polarization.
10. What are dielectric materials? Explain polar and non-polar dielectrics.
11. Define internal field. Mention the expression for internal field for 1-d and 3-d cases and explain Lorentz field.
12. Derive Clausius-Mossotti equation.
13. Describe solid, liquid and gaseous dielectrics with example. Explain the application of dielectrics in transformers.

PROBLEMS

1. Find the relaxation time for conduction electrons in a metal of resistivity $2.54 \times 10^{-8} \Omega m$. if the metal has 7.8×10^{28} conduction electrons per m^3.
2. Calculate the drift velocity and thermal energy of electrons in a metal of thickness 2 mm across which a potential difference of 3 volt is applied, at the temperature of 295K. The mobility of free electron is $35 cm^2/vs$.
3. Find the temperature at which there is 2 percent probability that a state with energy 0.8eV above the Fermi-energy will be occupied by an electron.
4. Calculate the Fermi energy of electrons of mass 9.1×10^{-31}kg, given that density=2.5×10^3 kg/m^3, Avogadro number = 6.02×10^{23} and atomic weight=$132.9 \times 10^3 kg/mol$ for mono valent metal.
5. The Fermi level in potassium is $1.1eV$. What are the energies for which the probability of occupancy at 290K is 0.99, 0.01 and 0.5?

MODULE: 3

1. Define SHM. Give examples. Derive the differential equation of motion for SHM and give its solution.
2. Define force constant and give its physical significance. Derive the expressions for force constants for series and parallel combination of springs.
3. Discuss free oscillation qualitatively with examples.
4. What are damped oscillations? Derive the expression for decaying amplitude and discuss the cases.
5. Define forced oscillation. Obtain the expression for amplitude and phase of forced oscillation.
6. What is resonance? Give the condition for resonance and expression for maximum amplitude.
7. What is the significance of sharpness of resonance? What are the effects of damping on it?
8. Describe Helmholtz resonator.
9. Define Mach number. Distinguish between subsonic, supersonic, transonic and hypersonic waves.

10. Write a note on shock waves and mention its applications.
11. State the basics of conservation of energy, mass and momentum (Explanation, equation & Diagram) and obtain Rankine-Hugonoit equation.
12. Describe the hand operated Reddy shock tube and mention its characteristics.

MODULE: 4
ELASTIC PROPERTIES OF MATERIALS

1. Explain elasticity and plasticity. Briefly discuss the effect of stress, temperature, annealing and impurities on elasticity.
2. Explain strain hardening and softening.
3. State and explain Hooke's law. Detail about stress-strain curve.
4. Explain three types of elastic moduli with equation.
5. Show that longitudinal strain + compression strain = Shear strain by considering cubic elastic body.
6. Derive the relation between Y, η and σ.
7. Derive the relation between Y, K and σ.
8. Derive the relation between K, η and Y.
9. Discuss limiting values of σ and limitations of poisson's ratio.
10. Define Beams and different types, neutral surface, plane and neutral axis, bending moment.
11. Derive the expression for bending moment in terms of moment of inertia.
12. Describe single cantilever and hence derive the expression for Y.
13. Explain torsional oscillations and derive the expression for couple per unit twist for a solid cylinder.
14. Briefly give the applications of torsional pendulum.

MODULE: 5
MAXWELL'S EQUATIONS, EM WAVES AND OPTICAL FIBERS

1. What are scalars and vectors? Briefly explain the concept of divergence, gradient and curl along with examples.
2. Discuss linear, planar and surface integrations.
3. Derive Gauss divergence theorem and mention Stroke's theorem.
4. Explain briefly Gauss flux theorem, Ampere's law, Biot-Savart's law and Faraday's law of electromagnetic induction.
5. Discuss continuity equation.
6. Define displacement current (I_d) and give the expression for displacement current and Maxwell's Ampere's law. List Maxwell's equation in differential form and in vacuum.
7. Derive wave equation in terms of electric field using Maxwell's equations.
8. Explain transverse nature of EM waves and different types of polarization.
9. Explain the propagation mechanism in optical fiber.
10. Explain the total internal reflection.
11. With a neat diagram derive an expression for numerical aperture in an optical fiber.
12. Explain the different types of optical fiber
13. Write a note on attenuation.
14. Explain point to point communication in optical fiber system with help of neat diagram.
15. What are the advantages of optical communications over other conventional types of communications?

TEXT BOOK:

T1: *Dr. M.N. Avadhanulu, Dr. P.G.Kshirsagar, Text Book of Engineering Physics, S Chand Publishing, New Delhi - 2012*

T2: *Wiley precise Text, Engineering Physics, Wiley India Private Ltd., New Delhi.*

REFERENCES:

R1: *Prof. S. P. Basavaraju, Engineering Physics, Subhas Stores, Bangalore.*

R2: *S.O.Pillai, Solid State Physics, New Age International. Sixth Edition*

K. S. INSTITUTE OF TECHNOLOGY

Affiliated to VTU, Belagavi & Approved by AICTE, New Delhi, Accredited by NAAC & IEI
No.14, Raghuvanahalli, Kanakapura Main Road, Bengaluru – 560109

QUESTION BANK

SUBJECT: ENGINEERING PHYSICS **SUBJECT CODE: 18PHY12/22**

MODULE – 1

OSCILLATIONS AND WAVES:

1. Define SHM. Give examples. Derive the differential equation of motion for SHM and give its solution.
2. Define force constant and give its physical significance. Derive the expressions for force constants for series and parallel combination of springs.
3. Discuss free oscillation qualitatively with examples.
4. What are damped oscillations? Derive the expression for decaying amplitude and discuss the cases.
5. Define forced oscillation. Obtain the expression for amplitude and phase of forced oscillation.
6. What is resonance? Give the condition for resonance and expression for maximum amplitude.
7. What is the significance of sharpness of resonance? What are the effects of damping on it?
8. Describe Helmholtz resonator.
9. Define Mach number. Distinguish between subsonic, supersonic, transonic and hypersonic waves.
10. Write a note on shock waves and mention its applications.
11. State the basics of conservation of energy, mass and momentum (Explanation, equation & Diagram) and obtain Rankine-Hugonoit equation.
12. Describe the hand operated Reddy shock tube and mention its characteristics.

MODULE – 2

ELASTIC PROPERTIES OF MATERIALS

1. Explain elasticity and plasticity. Briefly discuss the effect of stress, temperature, annealing and impurities on elasticity.
2. Explain strain hardening and softening.
3. State and explain Hooke's law. Detail about stress-strain curve.
4. Explain three types of elastic moduli with equation.
5. Show that longitudinal strain + compression strain = Shear strain by considering cubic elastic body.
6. Derive the relation between Y, η and σ.
7. Derive the relation between Y, K and σ.
8. Derive the relation between K, η and Y.
9. Discuss limiting values of σ and limitations of poisson's ratio.
10. Define Beams and different types, neutral surface, plane and neutral axis, bending moment.
11. Derive the expression for bending moment in terms of moment of inertia.

12. Describe single cantilever and hence derive the expression for Y.
13. Explain torsional oscillations and derive the expression for couple per unit twist for a solid cylinder.
14. Briefly give the applications of torsional pendulum.

MODULE – 3

MAXWELL'S EQUATIONS, EM WAVES AND OPTICAL FIBERS

1. What are scalars and vectors? Briefly explain the concept of divergence, gradient and curl along with examples.
2. Discuss linear, planar and surface integrations.
3. Derive Gauss divergence theorem and mention Stroke's theorem.
4. Explain briefly Gauss flux theorem, Ampere's law, Biot-Savart's law and Faraday's law of electromagnetic induction.
5. Discuss continuity equation.
6. Define displacement current (I_d) and give the expression for displacement current and Maxwell's Ampere's law. List Maxwell's equation in differential form and in vacuum.
7. Derive wave equation in terms of electric field using Maxwell's equations.
8. Explain transverse nature of EM waves and different types of polarization.
9. Explain the propagation mechanism in optical fiber.
10. Explain the total internal reflection.
11. With a neat diagram derive an expression for numerical aperture in an optical fiber.
12. Explain the different types of optical fiber
13. Write a note on attenuation.
14. Explain point to point communication in optical fiber system with help of neat diagram.
15. What are the advantages of optical communications over other conventional types of communications?

MODULE – 4

QUANTUM MECHANICS AND LASERS

1. Mention the assumptions of quantum theory of radiation.
2. State Planck's radiation law? Show how Planck's law could be reduced to Wien's law and Rayleigh – Jeans Law.
3. State and explain de Broglie hypothesis.
4. State and explain Heisenberg's uncertainty principle. Mention its physical significance. As an application of HUP show that, a free electron cannot exist within the nucleus of an atom.
5. What are wave functions? Mention their properties & physical significance.
6. Set up time-independent one dimensional Schrodinger's equation.
7. Explain the Eigen values and Eigen functions. Find the Eigen value and Eigen function for a particle in an one dimensional potential well of infinite height and finite width.
8. Derive an expression for energy density of radiation under thermal equilibrium condition in terms of Einstein coefficients.
9. Discuss the condition required for laser action and requisites of laser system.
10. Explain the construction and working of CO_2 Laser with the help of suitable diagrams.

CBCS SCHEME

USN | | | | | | | | | | 18PHY12/22

First/Second Semester B.E. Degree Examination, Dec.2019/Jan.2020

Engineering Physics

Time: 3 hrs. Max. Marks: 100

Note: *1. Answer any FIVE full questions, choosing ONE full question from each module.*
2. Physical constants : velocity of light $C = 3 \times 10^8$ m/s; Planck's constant $h = 6.63 \times 10^{-34}$ J-S : Mass of an electron $m = 9.11 \times 10^{-31}$ kg Beltzmann constant $K = 1.38 \times 10^{-23}$ J/K; Avagadro number $N_A = 6.02 \times 10^{26}$/K mole.

Module-1

1 a. Give the theory of forced vibrations and obtain the expression for amplitude. **(08 Marks)**
b. With a neat diagram, explain the construction and working of Reddy tube. Mention four applications of shock waves. **(08 Marks)**
c. Calculate the resonant frequency for a simple pendulum of length 1m. **(04 Marks)**

OR

2 a. Define force constant and mention its physical significance. Derive the expression for force constant for springs in series and parallel combination. **(08 Marks)**
b. Define simple harmonic motion. Derive the differential equation of motion for it using Hook's law. Mention the characteristics and examples of simple harmonic motion. **(08 Marks)**
c. The distance between the two pressure sensors in a shock tube is 150mm. The time taken by a shock wave to travel this distance is 0.3ms. If the velocity of sound under the same condition is 340m/s. Find the Mach number of the shock wave. **(04 Marks)**

Module-2

3 a. Explain longitudinal stress, longitudinal strain, volume stress and volume strain. Discuss the effect of stress, temperature, annealing and impurities on elasticity. **(08 Marks)**
b. Derive the relation between bulk modulus(k), Young's modulus (Y) and Poisson's ratio (σ), what are the limiting values of Poisson's ratio? **(08 Marks)**
c. Calculate the extension produced in a wire of length 2m and radius 0.013×10^{-2}m due to a force of 14.7 Newton applied along its length. Given, Young's modulus of the material of the wire $Y = 2.1 \times 10^{11}$ N/m^2. **(04 Marks)**

OR

4 a. Describe a single cantilever and derive the expression for Young's modulus of the material of rectangular beam. **(08 Marks)**
b. Derive an expression for couple per unit twist for a solid cylinder with a diagram. **(08 Marks)**
c. Calculate the angular twist of a wire of length 0.3m and radius 0.2×10^{-3}m when a torque of 5×10^{-2} Nm is applied. (Rigidity modulus of the martial is 8×10^{10} N/m^2). **(04 Marks)**

Module-3

5 a. Explain Divergence and curl. Derive Gauss Divergence theorem. **(08 Marks)**
b. Define V-number and fractional index change. With a neat diagrams, explain different types of optical fibers **(08 Marks)**
c. Find the divergence of the vector field $\vec{A}$ given by $\vec{A} = 6x^2\hat{a}_x + 3xy^2\hat{a}_y + xyz^3\hat{a}_z$ at a point P(1, 3, 6). **(04 Marks)**

OR

6 a. Derive the expression for displacement current. Mention 4 Maxwell's equations in differential form for time varying fields. (08 Marks)

b. Derive an expression for numerical aperture in an optical fiber and stain the condition for propagation. (08 Marks)

c. Find the attenuation in an optical fiber of length 500m When a light signal of power 100mw emerges out of the fiber with a power 90mw. (04 Marks)

Module-4

7 a. State and explain Heisenberg's Uncertainty Principle. Show that the electron cannot exist inside the nucleus. (08 Marks)

b. Define spontaneous emission and stimulated emission. Explain the construction and working semiconductor Laser. (08 Marks)

c. A partied of mass $0.5mev/C^2$ has kinetic energy 100eV. Find its de Broglie wavelength, where C is the velocity of light. (04 Marks)

OR

8 a. Assuming the time independent Schrödinger wave equation, discuss the solution for a particle in one dimensional potential well of infinite height. Hence obtain the normalized wave function. (08 Marks)

b. Derive the expression for energy density interms Eienstein's co-efficient. (08 Marks)

c. The ratio of population of two energy levels is 1.059×10^{-30}. Find the wavelength of light emitted by spontaneous emissions at 330K. (04 Marks)

Module-5

9 a. Give the assumptions of quantum free electron theory. Discuss two success of quantum free electron theory. (08 Marks)

b. What are polar and non-polar dielectrics? Explain types of polarization. (08 Marks)

c. Calculate the probability of an electron occupying an energy level 0.02ev above the Fermi level at 200K and 400K in a material. (04 Marks)

OR

10 a. Define internal field. Mention the expressions for internal field, for one dimension, for three dimensional, and Lorentz field for dialectics. Derive Clausius – Morsotti equation. (08 Marks)

b. Describe Fermi level in an intrinsic semi conductor and hence obtain the expression for Fermi energy in terms of energy gap of intrinsic semiconductor. (08 Marks)

c. An elemental solid dielectric material has polarizability $7 \times 10^{-40} Fm^2$. Assuming the internal field to be Lorentz field, calculate the dielectric constant for the material if the material has 3×10^{28} atom/m^3. (04 Marks)

* * * * *

K S INSTITUTE OF TECHNOLOGY

DEPARTMENT OF BASIC SCIENCES AND HUMANITIES

COURSE END SURVEY

ENGINEERING PHYSICS - 18PHY12, I SEMESTER 2020-2021

Timestamp	E mail address	USN	Name of the Student	How well are you in solving the schrodinger wave eaquation and in obtaining the Eigen function and Eigen values for atomic and sub atomic particles	How Clear are you in theoretical models the electrical , Dielectric and semiconductor materials and their properties and search new materials for applications.	How good are you in identifying the shock waves for recent and advanced applications.	How good are you in understanding the elastic properties of different materials and develop new materials for engineering applications.	How well are you into improving the communication systems to application level.
2021/04/06 12	anushaphaniraj1209@gmail.com	1KS20AI004	Anusha Phaniraj	Good	Satisfactory	Satisfactory	Good	Satisfactory
2021/04/06 12	nirikshanikku35@gmail.com	1KS20AI027	Niriksha D	Very Good	Very Good	Good	Very Good	Good
2021/04/06 12	amithmaiya3@gmail.com	1KS20AI002	Amith Maiya G	Very Good	Very Good	Very Good	Good	Satisfactory
2021/04/06 12	sagarsa1564@gmail.com	1KS20AI035	Sagar	Very Good	Very Good	Good	Very Good	Good
2021/04/06 12	rmanjunath7692@gmail.com	1ks20cs054	Manjunath R	Good	Very Good	Excellent	Excellent	Very Good
2021/04/06 12	Teju3534@gmail.com	1ks20cs016	Bommineni tejaswini	Good	Good	Satisfactory	Good	Good
2021/04/06 12	a.pavan2929@gmail.com	1KS20AI029	Pavan A	Good	Good	Very Good	Satisfactory	Good
2021/04/06 12	chellamuthuanupriya@gmail.com	1KS20CS007	ANUPRIYA C	Excellent	Very Good	Good	Satisfactory	Good
2021/04/06 1	ahpriyanka2002@gmail.com	1KS20AI032	Priyanka A H	Good	Satisfactory	Very Good	Good	Very Good
2021/04/06 1	divyanaidu720@gmail.com	1KS20AI020	M Divyashree	Very Good	Satisfactory	Very Good	Excellent	Satisfactory
2021/04/06 1	yashilaraju@gmail.com	1KS20AI046	YASHILA R	Good	Good	Satisfactory	Very Good	Very Good
2021/04/06 1	Tejasgowdag.com@gmail.com	1KS20CS030	Ganashree gm	Good	Good	Satisfactory	Satisfactory	Satisfactory
2021/04/06 1	salimathm2@gmail.com	1KS20AI022	MADHU S SALIMATH	Excellent	Good	Good	Very Good	Satisfactory
2021/04/06 1	chaitrarajappa04@gmail.com	1KS20CS018	Chaitra R	Good	Good	Good	Good	Good
2021/04/06 1	divyachikkamath2002@gmail.com	1KS20CS025	Divya V Chikkamath	Good	Good	Very Good	Good	Good
2021/04/06 1	Ganashreekrishna9666@gmail.com	1KS20CS031	Ganashree. K	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
2021/04/06 1	manishpikhan4@gmail.com	1KS20CS052	Manish pikhan	Very Good	Good	Very Good	Good	Very Good
2021/04/06 1	goeldevendra23@gmail.com	1KS20CS033	Goel Ananya Devendra	Very Good	Excellent	Good	Excellent	Excellent
2021/04/06 1	charanyapavan@gmail.com	1KS20AI030	Pavan Kalyan N	Very Good	Excellent	Very Good	Good	Excellent
2021/04/06 1	chethans290@gmail.com	1KS20CS019	CHETHAN S	Good	Good	Good	Good	Good
2021/04/06 1	apekshamaddi22@gmail.com	1KS20CS010	Apeksha	Satisfactory	Good	Satisfactory	Good	Satisfactory
2021/04/06 1	jaidev4680@gmail.com	1KS20CS012	B jaidev	Excellent	Excellent	Good	Good	Excellent
2021/04/06 1	saishankari123@gmail.com	1KS20CS083	Sai Shankari	Good	Good	Good	Good	Very Good
2021/04/06 1	harshithabr185@gmail.com	1KS20CS038	HARSHITHA B R	Satisfactory	Good	Good	Good	Good
2021/04/06 1	trupthibhogesh@gmail.com	1KS20CS104	Trupthi GB	Good	Excellent	Excellent	Excellent	Excellent
2021/04/06 1	pavanarnav@gmail.com	1KS20CS072	Pavan P	Very Good	Very Good	Very Good	Good	Good

2021/04/06 1:	tushar255@gmail.com	1KS20CS105	Tushar S	Satisfactory	Good	Good	Very Good	Very Good
2021/04/06 1:	vandukeerthi6055@gmail.com	1KS20CS109	Vandana.N	Excellent	Good	Excellent	Excellent	Excellent
2021/04/06 1:	vibhavkaushik07@gmail.com	1KS20CS110	Vibhav Kaushik V	Good	Good	Excellent	Good	Excellent
2021/04/06 1:	sweetypranitha128@gmail.com	1KS20ME005	Pranitha.R	Good	Satisfactory	Satisfactory	Very Good	Very Good
2021/04/06 1:	shilpashilu305@gmail.com	1KS20CS091	SHILPA M	Good	Good	Good	Good	Good
2021/04/06 1:	prajwal0608@gmail.com	1KS20CS077	Prajwal naik U	Excellent	Excellent	Very Good	Excellent	Very Good
2021/04/06 1:	sameerkulkarni517@gmail.com	1KS20CS087	Sameer	Good	Very Good	Satisfactory	Very Good	Very Good
2021/04/06 1:	shashikanthngshashi@gmail.com	1KS20CS089	Shashikanth N G	Good	Very Good	Excellent	Excellent	Very Good
2021/04/06 1:	shruthikandra123@gmail.com	1KS20AI037	Shruthi K	Good	Excellent	Good	Very Good	Excellent
2021/04/06 1:	pavan55pavi555@gmail.com	1KS20CS069	Pavan C	Good	Excellent	Good	Excellent	Very Good
2021/04/06 1:	saahild96@gmail.com	1KS20CS084	SAAHIL Dharmaji	Good	Good	Good	Very Good	Good
2021/04/06 1:	nethranandps2001@gmail.com	1KS20AI026	NETHRANAND P S	Satisfactory	Very Good	Excellent	Excellent	Very Good
2021/04/06 1:	manishagn02@gmail.com	1KS20CS053	Manisha G. N.	Good	Good	Good	Good	Good
2021/04/06 1:	sahithib.uni@gmail.com	1KS20AI036	Sahithi Bhashyam	Good	Satisfactory	Satisfactory	Good	Satisfactory
2021/04/06 1:	simha9424@gamail.com	1KS20CS061	Narasimha N	Satisfactory	Good	Satisfactory	Very Good	Very Good
2021/04/06 1:	morbagalshravya@gmail.com	1KS20CS092	SHRAVYA M R	Excellent	Very Good	Very Good	Very Good	Very Good
2021/04/06 1:	darshan240802@gmail.com	1KS20ME001	Darshan S	Good	Good	Good	Good	Satisfactory
2021/04/06 1:	vaishusuchith@gmail.com	1KS20CS107	Vaishnavi.m	Good	Good	Good	Good	Excellent
2021/04/06 1:	thulsireddy22@gmail.com	1KS20CS094	Siripireddy Thulasi	Good	Satisfactory	Very Good	Very Good	Satisfactory
2021/04/06 1:	dhanushnaidu05@gmail.com	ks2021009	dhanush p	Good	Very Good	Very Good	Excellent	Very Good
2021/04/06 1:	spoorthynaidu810@gmail.com	1KS20CS096	Spoorthy N	Good	Excellent	Good	Excellent	Good
2021/04/06 1:	vishalnk1234@gmail.com	1KS20CS112	Vishal N Korabu	Excellent	Good	Very Good	Excellent	Very Good
2021/04/06 1:	honoksharathna2002@gmail.com	1KS20CS039	Honoksharathna	Satisfactory	Good	Good	Good	Good
2021/04/06 1:	karthikshambhatt19@gmail.com	1KS20AI015	Kartik Bhatt	Good	Good	Very Good	Very Good	Good
2021/04/06 1:	dhanushy3@gmail.com	1KS20CS021	Dhanush Y	Excellent	Excellent	Excellent	Excellent	Excellent
2021/04/06 1:	asgnanesh125@gmail.com	1KS20CS043	JNANESH A S	Good	Very Good	Good	Good	Very Good
2021/04/06 2:	gaganaramesh005@gmail.com	1KS20CS029	Gagana.R	Satisfactory	Satisfactory	Good	Good	Good
2021/04/06 2:	poojithanaidu22@gmail.com	1KS20Cs074	Poojitha Y	Good	Good	Good	Good	Good
2021/04/06 2:	talib.choda@gmail.com	1KS20CS101	Talib mukhtar	Good	Excellent	Satisfactory	Excellent	Good
2021/04/06 2:	rithikamanjunath08@gmail.com	1KS20AI003	C.M.Rithika	Good	Good	Very Good	Satisfactory	Good
2021/04/06 2:	kushal.rks07@gmail.com	1KS20CS078	R Kushal Sai	Good	Satisfactory	Satisfactory	Satisfactory	Satisfactory
2021/04/06 2:	sankeerthankeerthi03@gmail.com	1KS20CS036	H A Sankeerthan	Good	Good	Very Good	Very Good	Satisfactory
2021/04/06 2:	medivinay27@gmail.com	1KS20AI023	MEDI VINAY	Very Good	Very Good	Excellent	Very Good	Excellent
2021/04/06 2:	nidhiii1416@gmail.com	1KS20CS063	Nidhi K V	Good	Very Good	Good	Very Good	Good
2021/04/06 2:	Anirudhakk450@gmail.com	1KS20CS005	Anirudha K k	Good	Good	Good	Good	Very Good
2021/04/06 2:	nirmithagowda29@gmail.com	1KS20CS064	Nirmitha.N	Satisfactory	Satisfactory	Good	Satisfactory	Satisfactory
2021/04/06 2:	vandana99722@gmail.com	1KS20CS108	VANDANA N	Very Good	Good	Good	Excellent	Good
2021/04/06 2:	mpavan232003@gmail.com	1KS20CS071	Pavan.M	Very Good	Excellent	Excellent	Excellent	Excellent
2021/04/06 2:	akashkandra18@gmail.com	1KS20AI014	KANDRA AKASH	Good	Very Good	Good	Excellent	Good
2021/04/06 2:	pillaiparvathy835@gmail.com	1KS20CS068	1KS20CS068	Good	Good	Good	Good	Good
2021/04/06 2:	tanmayeeramanath1508@gmail.com	1KS20AI041	Tanmayee	Satisfactory	Good	Good	Satisfactory	Good

2021/04/06 2:	chandanvkgowda006@gmail.com	1KS20AI007	Chandan vk	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
2021/04/06 3:	pavithraramesh990@gmail.com	1KS20CS073	Pavithra. R	Good	Excellent	Good	Excellent	Good
2021/04/06 3:	guptadisha512@gmail.com	1KS20AI011	Disha Gupta	Good	Good	Good	Good	Good
2021/04/06 3:	jaintrishala3@gmail.com	1KS20CS037	H A TRISHALA	Satisfactory	Good	Good	Excellent	Excellent
2021/04/06 3:	divakardivi156@gmail.com	1ks20CS024	Divakar M	Very Good	Very Good	Very Good	Good	Very Good
2021/04/06 3:	Thanushak2222@gmail.com	1KS20CS103	Thanusha k	Satisfactory	Good	Satisfactory	Good	Satisfactory
2021/04/06 3:	smoniesh85@gmail.com	1KS20CS056	Moniesh.s	Satisfactory	Good	Good	Good	Very Good
2021/04/06 3:	devithanuthanpati@gmail.com	1KS20CS066	Devitha Nuthanapati	Very Good	Good	Good	Good	Good
2021/04/06 3:	chowdaryreethi582@gmail.com	1KS20AI043	V.preethi	Excellent	Excellent	Excellent	Excellent	Excellent
2021/04/06 4:	Srikantsk26@gmail.com	1KS20CS099	Sushma srikanta Kurandv	Good	Very Good	Very Good	Good	Good
2021/04/06 4:	sahanasahar21@gmail.com	1KS20CS086	Sahana R	Good	Very Good	Satisfactory	Good	Good
2021/04/06 4:	namratharavi02@gmail.com	1KS20CS060	NamrathaR	Good	Very Good	Good	Good	Good
2021/04/06 4:	jhansiy1803@gmail.com	1KS20CS114	Y Jhansi	Good	Very Good	Good	Very Good	Good
2021/04/06 4:	abhinayachowdary8@gmail.com	1KS20CS026	EDIMUDI ABHINAYA	Excellent	Very Good	Very Good	Very Good	Excellent
2021/04/06 4:	Jahnavisathya31@gmail.com	1ks20cs041	Jahnavi p	Good	Good	Good	Good	Good
2021/04/06 4:	girish15012002@gmail.com	1KS20CS032	Girish G	Good	Good	Good	Good	Good
2021/04/06 4:	Yogithabharath@gmail.com	1KS20AI047	Yogitha.S	Good	Excellent	Good	Satisfactory	Good
2021/04/06 5:	chandrasekarpoornima6@gmail.com	1KS20AI031	Poornima MC	Good	Good	Good	Good	Good
2021/04/06 5:	likhithv02@gmail.com	1KS20AI017	Likhith V	Very Good	Very Good	Good	Very Good	Very Good
2021/04/06 5:	Ljeevan.4@gmail.com. 4@gmail.com	1KS20CS042	Jeevan	Excellent	Excellent	Excellent	Excellent	Excellent
2021/04/06 5:	mvvarun002@gmail.com	1KS20AI021	M V VARUN	Good	Good	Very Good	Excellent	Good
2021/04/06 5:	dhanya1929@gmail.com	1KS20CS023	Dhanya Sharanya Shree.	Excellent	Excellent	Very Good	Excellent	Excellent
2021/04/06 6:	brunda.bgowda369@gmail.com	1KS20CS017	Brunda.B	Good	Good	Good	Good	Good
2021/04/06 6:	vishista2002@gmail.com	1KS20AI045	Vishista Vuppulapati	Good	Very Good	Good	Good	Good
2021/04/06 6:	bhavanashree294@gmail.com	1KS20AI005	Bhavanashree ks	Good	Good	Good	Very Good	Very Good
2021/04/06 6:	rakshithmahaladkar16@gmail.com	1KS20CS080	Rakshith C Mahaladkar	Excellent	Satisfactory	Good	Very Good	Very Good
2021/04/06 7:	rakshita.kulkarni3487@gmail.com	1KS20AI033	Rakshita p Kulkarni	Very Good	Very Good	Good	Excellent	Very Good
2021/04/06 7:	Keenunani@gmail.com	1KS20CS058	N. Keerthana	Excellent	Very Good	Very Good	Very Good	Very Good
2021/04/06 7:	archit.avadhani@gmail.com	1KS20CS011	Archit G Avadhani	Very Good	Very Good	Excellent	Very Good	Very Good
2021/04/06 7:	Gurukirans2903@gmail.com	1KS20CS035	Guru kiran s	Good	Good	Good	Excellent	Good
2021/04/06 7:	Srivastavasrishti1000@gmail.com	1KS20CS097	Srishti srivastava	Excellent	Very Good	Excellent	Excellent	Excellent
2021/04/06 7:	vikasvik1828@gmail.com	1KS20CS111	Vikas Kashyap	Good	Excellent	Good	Good	Good
2021/04/06 7:	hmparvashree26@gmail.com	1KS20CS067	Parvashree H M	Excellent	Excellent	Excellent	Very Good	Very Good
2021/04/06 8:	hegdesanket7@gmail.com	1KS20CS088	Sanket G Hegde	Good	Good	Excellent	Good	Good
2021/04/06 8:	roshannaidu4693@gmail.com	1KS20CS082	Roshan Kumar B	Satisfactory	Satisfactory	Good	Good	Satisfactory
2021/04/06 8:	wadikarpoonam@gmail.com	1KS20CS075	Poonam	Very Good	Excellent	Excellent	Excellent	Excellent
2021/04/06 8:	lasyababu57@gmail.com	1KS20AI016	Lasya Babu km	Excellent	Excellent	Excellent	Excellent	Excellent
2021/04/06 8:	chetanmudigoudra@gmail.com	1KS20AI008	Chetan veeranagouda m	Very Good	Good	Good	Very Good	Good
2021/04/06 8:	abhishekgowda2002@gmail.com	1KS20AI001	Abhishek A	Satisfactory	Good	Satisfactory	Satisfactory	Satisfactory
2021/04/06 9:	ananyaanu1290@gmail.com	1KS20AI003	ANANYA .P	Very Good	Excellent	Very Good	Good	Very Good
2021/04/06 9:	mmonishp147@gmail.com	1KS20AI025	Monish M	Good	Good	Very Good	Good	Good

2021/04/06 9:	sindhurahb@gmail.com	1KS20CS093	Sindhura H	Good	Very Good	Good	Very Good	Excellent
2021/04/06 9:	asimsyed8095@gmail.com	1KS20AI40	SYED AASIM HUBAIRA	Satisfactory	Good	Good	Satisfactory	Good
2021/04/06 1(	aqibnengroo5@gmail.com	1KS20CS002	Nengroo Aqib	Good	Very Good	Good	Very Good	Excellent
2021/04/06 1(	lokesh02.n@gmail.com	1kS20AI019	Lokesh N	Very Good	Good	Good	Satisfactory	Very Good
2021/04/06 1:	ksmandara1@gmail.com	KS20CS051	MANDARA K S	Good	Good	Good	Good	Good
2021/04/07 4:	kushalkadam98765@gmail.com	1ks20me004	Kushal kadam	Excellent	Excellent	Excellent	Excellent	Excellent
2021/04/07 7:	rupaputhineedi@gmail.com	1KS20AI034	Rupa Rajasri Puthineedi	Good	Very Good	Very Good	Very Good	Very Good
2021/04/07 7:	kanathurpradhyumna@gmail.com	1KS20CS076	Pradhyumna K	Excellent	Excellent	Excellent	Excellent	Excellent
2021/04/07 8:	gurudeep70908@gmail.com	1KS20AI012	Gurudeeep R	Good	Excellent	Good	Good	Good
2021/04/07 8:	vrlitheesh2002@gmail.com	1KS20AI018	Litheesh.V.R	Good	Excellent	Good	Good	Excellent
2021/04/07 9:	Nishithagowda1002@gmail.com	1KS20AI027	Nishitha	Good	Good	Very Good	Very Good	Very Good
2021/04/08 5:	anushree1903@gmail.com	1KS20CS009	AnUSHREE H	Good	Good	Good	Good	Good
2021/04/08 1	darshandarshanms09@gmail.com	1KS20CS020	DARSHAN M S	Excellent	Excellent	Excellent	Excellent	Excellent
2021/04/08 1	Tanvikamath21@gmail.com	1KS20CS102	Tanvi kamath	Very Good	Good	Good	Very Good	Very Good
2021/04/08 5:	sabhareeshbalaji23n@gmail.com	1KS20CS085	Sabhareesh Balaji	Good	Good	Good	Good	Good
2021/04/08 5:	hankhavok16@gmail.com	1KS20ME003	Haryank V K	Excellent	Excellent	Excellent	Good	Excellent
2021/04/08 1	monikagowda2811@gmail.com	1KS20CS057	Monika N	Good	Excellent	Excellent	Excellent	Good

RESPONSE	CO1	CO2	CO3	CO4	CO5	AVERAGE
Excellent	21	28	22	32	26	26
Very Good	21	30	26	30	32	28
Good	65	54	60	49	49	55
Satisfactory	17	12	15	13	15	14

COURSE IN-CHARGE

(Dr. Renuka.C)

KSIT

DEPARTMENT OF BASIC SCIENCES AND HUMANITIES

COURSE END SURVEY

ENGINEERING PHYSICS LAB 18PHYL16 1SEM 2020-2021

Timestamp	E mail address	USN	Name of the Student	How well have you understood the practicalo correlate with theoritical studies.	How well you are clear with theoritical models to understand the elctrical , dielectric and magnetic properties different materials and to search new material engineering application.	how well have you gained the knowledge of ne w concepts in solution of practical oriented problems.	Retae your technical skills in designing new instruments and circuits using new technology, components with your practical knowledge.	How well have developed skill to impart practical knoeledge in real time.
2021/04/06 12:	anushaphaniraj	1KS20AI004	Anusha Phaniraj	Good	Satisfactory	Satisfactory	Good	Satisfactory
2021/04/06 12:	nirikshanikku3	1KS20AI027	Niriksha D	Very Good	Very Good	Good	Very Good	Good
2021/04/06 12:	amithmaiya3@	1KS20AI002	Amith Maiya G	Very Good	Very Good	Very Good	Good	Satisfactory
2021/04/06 12:	sagarsa1564@g	1KS20AI035	Sagar	Very Good	Very Good	Good	Very Good	Good
2021/04/06 12:	rmanjunath769	1ks20cs054	Manjunath R	Good	Very Good	Excellent	Excellent	Very Good
2021/04/06 12:	Teju3534@gm	1ks20cs016	Bommineni Tejaswini	Good	Good	Satisfactory	Good	Good
2021/04/06 12:	a.pavan2929@	1KS20AI029	Pavan A	Good	Good	Very Good	Satisfactory	Good
2021/04/06 12:	chellamuthuan	1KS20CS007	ANUPRIYA C	Excellent	Very Good	Good	Satisfactory	Good
2021/04/06 13:	ahpriyanka200	1KS20AI032	Priyanka A H	Good	Satisfactory	Very Good	Good	Very Good
2021/04/06 13:	divyanaidu720	1KS20AI020	M Divyashree	Very Good	Satisfactory	Very Good	Excellent	Satisfactory
2021/04/06 13:	yashilaraju@gr	1KS20AI046	YASHILA R	Good	Good	Satisfactory	Very Good	Very Good
2021/04/06 13:	Tejasgowdag.c	1KS20CS030	Ganashree gm	Good	Good	Satisfactory	Satisfactory	Satisfactory
2021/04/06 13:	salimathm2@g	1KS20AI022	MADHU S SALIMATH	Excellent	Good	Good	Very Good	Satisfactory
2021/04/06 13:	chaitrarajappa0	1KS20CS018	Chaitra R	Good	Good	Good	Good	Good
2021/04/06 13:	divyachikkama	1KS20CS025	Divya V Chikkamath	Good	Good	Very Good	Good	Good
2021/04/06 13:	Ganashreekrish	1KS20CS031	Ganashree. K	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
2021/04/06 13:	manishpikhan4	1KS20CS052	Manish pikhan	Very Good	Good	Very Good	Good	Very Good
2021/04/06 13:	goeldevendra2	1KS20CS033	Goel Ananya Devendra	Very Good	Excellent	Good	Excellent	Excellent
2021/04/06 13:	charanyapavan	1KS20AI030	Pavan Kalyan N	Very Good	Excellent	Very Good	Good	Excellent
2021/04/06 13:	chethans290@	1KS20CS019	CHETHAN S	Good	Good	Good	Good	Good
2021/04/06 12:	apekshamaddi2	1KS20CS010	Apeksha	Satisfactory	Good	Satisfactory	Good	Satisfactory
2021/04/06 12:	jaidev4680@gr	1KS20CS012	B jaidev	Excellent	Excellent	Good	Good	Excellent
2021/04/06 12:	saishankari123	1KS20CS083	Sai Shankari	Good	Good	Good	Good	Very Good
2021/04/06 12:	harshithabr185	1KS20CS038	HARSHITHA B R	Satisfactory	Good	Good	Good	Good
2021/04/06 12:	trupthibhogesh	1KS20CS104	Trupthi GB	Good	Excellent	Excellent	Excellent	Excellent
2021/04/06 12:	pavanarnav@g	1KS20CS072	Pavan P	Very Good	Very Good	Very Good	Good	Good
2021/04/06 12:	tushar255@gm	1KS20CS105	Tushar S	Satisfactory	Good	Good	Very Good	Very Good
2021/04/06 12:	vandukeerthi60	1KS20CS109	Vandana.N	Excellent	Good	Excellent	Excellent	Excellent
2021/04/06 12:	vibhavkaushik0	1KS20CS110	Vibhav Kaushik V	Good	Good	Excellent	Good	Excellent
2021/04/06 12:	sweetypranitha	1KS20ME005	Pranitha.R	Good	Satisfactory	Satisfactory	Very Good	Very Good
2021/04/06 13:	shilpashilu305	1KS20CS091	SHILPA M	Good	Good	Good	Good	Good
2021/04/06 13:	prajwal0608@	1KS20CS077	Prajwal naik U	Excellent	Excellent	Very Good	Excellent	Very Good
2021/04/06 13:	sameerkulkarn	1KS20CS087	Sameer	Good	Very Good	Satisfactory	Very Good	Very Good
2021/04/06 13:	shashikanthngs	1KS20CS089	Shashikanth N G	Good	Very Good	Excellent	Excellent	Very Good
2021/04/06 13:	shruthikandra1	1KS20AI037	Shruthi K	Good	Excellent	Good	Very Good	Excellent
2021/04/06 13:	pavan55pavi55	1KS20CS069	Pavan C	Good	Excellent	Good	Excellent	Very Good
2021/04/06 13:	saahil96@gm	1KS20CS084	SAAHIL Dharmaji	Good	Good	Good	Very Good	Good
2021/04/06 13:	nethranandps2	1KS20AI026	NETHRANAND P S	Satisfactory	Very Good	Excellent	Excellent	Very Good
2021/04/06 13:	manishagn02@	1KS20CS053	Manisha G. N.	Good	Good	Good	Good	Good
2021/04/06 14:	sahithib.uni@g	1KS20AI036	Sahithi Bhashyam	Good	Satisfactory	Satisfactory	Good	Satisfactory
2021/04/06 14:	simha9424@ga	1KS20CS061	Narasimha N	Satisfactory	Good	Satisfactory	Very Good	Very Good
2021/04/06 14:	morbagalshrav	1KS20CS092	SHRAVYA M R	Excellent	Very Good	Very Good	Very Good	Very Good
2021/04/06 14:	darshan240802	1KS20ME001	Darshan S	Good	Good	Good	Good	Satisfactory
2021/04/06 15:	vaishusuchith@	1KS20CS107	Vaishnavi.m	Good	Good	Good	Excellent	Excellent
2021/04/06 15:	thulsireddy22@	1KS20CS094	Siripireddy Thulasi	Good	Satisfactory	Very Good	Very Good	Satisfactory

2021/04/06 1:5	dhanushnaidu0	ks2021009	dhanush p	Good	Very Good	Very Good	Excellent	Very Good
2021/04/06 1:5	spoorthynaidu8	TKS20CS096	Spoorthy N	Good	Excellent	Good	Excellent	Good
2021/04/06 1:5	vishalnk1234@g	TKS20CS112	Vishal N Korabu	Excellent	Good	Very Good	Excellent	Very Good
2021/04/06 1:5	honoksharathna	TKS20CS039	Honoksharathna	Satisfactory	Good	Good	Good	Good
2021/04/06 1:5	karthikshambha	TKS20AI015	Kartik Bhatt	Good	Good	Very Good	Very Good	Good
2021/04/06 1:5	dhanushy3@gm	TKS20CS021	Dhanush Y	Excellent	Excellent	Excellent	Excellent	Excellent
2021/04/06 1:5	asgnanesh125@	TKS20CS043	JNANESH A S	Good	Very Good	Good	Good	Very Good
2021/04/06 2:0	gaganarameshu	TKS20CS029	Gagana.R	Satisfactory	Satisfactory	Good	Good	Good
2021/04/06 2:0	poojithanaidu2	TKS20CS074	Poojitha Y	Good	Good	Good	Good	Good
2021/04/06 2:1	talib.choda@gm	TKS20CS101	Talib mukhtar	Good	Excellent	Satisfactory	Excellent	Good
2021/04/06 2:1	rithikamanjuna	TKS20AI003	C.M.Rithika	Good	Good	Very Good	Satisfactory	Good
2021/04/06 2:2	kushal.rks07@	TKS20CS078	R Kushal Sai	Good	Satisfactory	Satisfactory	Satisfactory	Satisfactory
2021/04/06 2:2	sankeerthanked	TKS20CS036	H A Sankeerthan	Good	Good	Very Good	Very Good	Satisfactory
2021/04/06 2:2	medivinay27@	TKS20AI023	MEDI VINAY	Very Good	Very Good	Excellent	Very Good	Excellent
2021/04/06 2:2	nidhim1416@g	TKS20CS063	Nidhi K V	Good	Very Good	Good	Very Good	Good
2021/04/06 2:2	Anirudhakk450	TKS20CS005	Anirudha K k	Good	Good	Good	Good	Very Good
2021/04/06 2:2	nirmithagowda	TKS20CS064	Nirmitha.N	Satisfactory	Satisfactory	Good	Satisfactory	Satisfactory
2021/04/06 2:3	vandana997220	TKS20CS108	VANDANA N	Very Good	Good	Good	Excellent	Good
2021/04/06 2:3	mpavan232003	TKS20CS071	Pavan.M	Very Good	Excellent	Excellent	Excellent	Excellent
2021/04/06 2:4	akashkandra18	TKS20AI014	KANDRA AKASH	Good	Very Good	Good	Excellent	Good
2021/04/06 2:4	pillaiparvathy8	TKS20CS068	TKS20CS068	Good	Good	Good	Good	Good
2021/04/06 2:5	tanmayeeraman	TKS20AI041	Tanmayee	Satisfactory	Good	Good	Satisfactory	Good
2021/04/06 2:5	chandanvkgow	TKS20AI007	Chandan vk	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
2021/04/06 3:0	pavithraramesh	16	Pavithra. R	Good	Excellent	Good	Excellent	Good
2021/04/06 3:0	guptadisha512	TKS20AI011	Disha Gupta	Good	Good	Good	Good	Good
2021/04/06 3:1	jaintrishala5@g	TKS20CS037	H A TRISHALA	Satisfactory	Good	Good	Excellent	Excellent
2021/04/06 3:2	divakardivi156	TKS20CS024	Divakar M	Very Good	Very Good	Very Good	Good	Very Good
2021/04/06 3:2	Thanushak2222	TKS20CS103	Thanusha k	Satisfactory	Good	Satisfactory	Good	Satisfactory
2021/04/06 3:3	smonieshs8@g	TKS20CS056	Monieshs	Satisfactory	Good	Good	Good	Very Good
2021/04/06 3:5	devithanuthanp	TKS20CS066	Devitha Nuthanapati	Very Good	Good	Good	Good	Good
2021/04/06 3:5	chowdarypreeth	TKS20AI043	V.preethi	Excellent	Excellent	Excellent	Excellent	Excellent
2021/04/06 4:0	Srikantsk26@g	TKS20CS099	Sushma srikanta Kurandw	Good	Very Good	Very Good	Good	Good
2021/04/06 4:0	sahanasahar21	TKS20CS086	Sahana R	Good	Very Good	Satisfactory	Good	Good
2021/04/06 4:0	namratharavi02	TKS	NamrathaK	Good	Very Good	Good	Good	Good
2021/04/06 4:0	jhansiy1803@g	TKS20CS114	Y Jhansi	Good	Very Good	Good	Very Good	Good
2021/04/06 4:1	abhinayachowd	TKS20CS026	EDIMUDI ABHINAYA	Excellent	Very Good	Very Good	Very Good	Excellent
2021/04/06 4:2	Jahnavisathya3	Tks20cs041	Jahnavi p	Good	Good	Good	Good	Good
2021/04/06 4:3	girish15012002	TKS20CS032	Girish G	Good	Good	Good	Good	Good
2021/04/06 4:4	Yogithabharath	TKS20AI047	Yogitha.S	Good	Excellent	Good	Satisfactory	Good
2021/04/06 5:1	chandrasekarpo	TKS20AI031	Poornima MC	Good	Good	Good	Good	Good
2021/04/06 5:2	likhithv02@gm	TKS20AI017	Likhith V	Very Good	Very Good	Good	Very Good	Very Good
2021/04/06 5:5	Ljeevan.4@gm	TKS20CS042	Jeevan	Excellent	Excellent	Excellent	Excellent	Excellent
2021/04/06 5:5	mvvarun002@	TKS20AI021	M V VARUN	Good	Good	Very Good	Excellent	Good
2021/04/06 5:5	dhanya1929@g	TKS20CS023	Dhanya Sharanya Shree. K	Excellent	Excellent	Very Good	Excellent	Excellent
2021/04/06 6:1	brunda.bgowda	TKS20CS017	Brunda.B	Good	Good	Good	Good	Good
2021/04/06 6:2	vishista2002@	TKS20AI045	Vishista Vuppulapati	Good	Very Good	Good	Good	Good
2021/04/06 6:3	bhavanashree2	TKS20AI005	Bhavanashree ks	Good	Good	Good	Very Good	Very Good
2021/04/06 6:3	rakshithmahala	TKS20CS080	Rakshith C Mahaladkar	Excellent	Satisfactory	Good	Very Good	Very Good
2021/04/06 7:0	rakshita.kulkar	TKS20AI033	Rakshita p Kulkarni	Very Good	Very Good	Good	Excellent	Very Good
2021/04/06 7:0	keenunani@gm	TKS20CS058	N. Keerthana	Excellent	Very Good	Very Good	Very Good	Very Good
2021/04/06 7:0	archit.avadhani	TKS20CS011	Archit G Avadhani	Very Good	Very Good	Excellent	Very Good	Very Good
2021/04/06 7:0	Gurukirans290	TKS20CS035	Guru Kiran s	Good	Good	Good	Excellent	Good
2021/04/06 7:2	Srivastavasrish	TKS20CS097	Srishti srivastava	Excellent	Very Good	Excellent	Excellent	Excellent
2021/04/06 7:2	vikasvik1828@	TKS20CS111	Vikas Kashyap	Good	Excellent	Good	Good	Good
2021/04/06 7:5	hmparvashree2	TKS20CS067	Parvashree H M	Excellent	Excellent	Excellent	Very Good	Very Good
2021/04/06 8:0	hegdesanket7@	TKS20CS088	Sanket G Hegde	Good	Good	Excellent	Good	Good
2021/04/06 8:2	roshannaidu46	TKS20CS082	Roshan Kumar B	Satisfactory	Satisfactory	Good	Good	Satisfactory
2021/04/06 8:3	wadikarpoonam	TKS20CS075	Poonam	Very Good	Excellent	Excellent	Excellent	Excellent
2021/04/06 8:3	lasyababu57@g	TKS20AI016	Lasya Babu km	Excellent	Excellent	Excellent	Excellent	Excellent
2021/04/06 8:4	chetanmudigou	TKS20AI008	Chetan veeranagouda mud	Very Good	Good	Good	Very Good	Good
2021/04/06 8:4	abhishekgowda	TKS20AI001	Abhishek A	Satisfactory	Good	Satisfactory	Satisfactory	Satisfactory
2021/04/06 9:0	ananyaanu129	TKS20AI003	ANANYA .P	Very Good	Excellent	Very Good	Good	Very Good
2021/04/06 9:0	mmonishp147	TKS20AI025	Monish M	Good	Good	Very Good	Good	Good

2021/04/06 9:3	sindhurahh@gr	1KS20CS093	Sindhura H	Good	Very Good	Good	Very Good	Excellent
2021/04/06 9:5	asimsyed8095@	1KS20AI40	SYED AASIM HUBAIRA	Satisfactory	Good	Good	Satisfactory	Good
2021/04/06 10:	aqibnengroo5@	1KS20CS002	Nengroo Aqib	Good	Very Good	Good	Very Good	Excellent
2021/04/06 10:	lokesh02 n@gr	1KS20AI019	Lokesh N	Very Good	Good	Good	Satisfactory	Very Good
2021/04/06 11:	ksmandara1@g	1KS20CS051	MANDARA K S	Good	Good	Good	Good	Good
2021/04/07 4:2	kushalkadam98	1ks20me004	Kushal kadam	Excellent	Excellent	Excellent	Excellent	Excellent
2021/04/07 7:5	rupaputhineedi	1KS20AI034	Rupa Rajasri Puthineedi	Good	Very Good	Very Good	Very Good	Very Good
2021/04/07 7:5	kanathurpradhy	1KS20CS076	Pradhyumna K	Excellent	Excellent	Excellent	Excellent	Excellent
2021/04/07 8:0	gurudeep70908	1KS20AI012	Gurudeeep R	Good	Excellent	Good	Good	Good
2021/04/07 8:2	vritheesh2002	1KS20AI018	Litheesh.V.R	Good	Excellent	Good	Good	Excellent
2021/04/07 9:1	Nishithagowda	1KS20AI027	Nishitha	Good	Good	Very Good	Very Good	Very Good
2021/04/08 5:2	anushree1903@	1KS20CS009	ANUSHREE H	Good	Good	Good	Good	Good
2021/04/08 11:	darshandarshan	1KS20CS020	DARSHAN M S	Excellent	Excellent	Excellent	Excellent	Excellent
2021/04/08 12:	Tanvikamath21	1KS20CS102	Tanvi Kamath	Very Good	Good	Good	Very Good	Very Good
2021/04/08 5:1	sabhareeshbala	1KS20CS085	Sabhareesh Balaji	Good	Good	Good	Good	Good
2021/04/08 5:1	hankhavok16@	1KS20ME003	Haryank V K	Excellent	Excellent	Excellent	Good	Excellent
2021/04/08 11:	monikagowda2	1KS20CS057	Monika N	Good	Excellent	Excellent	Excellent	Good

RESPONSE	CO1	CO2	CO3	CO4	CO5
EXCELLENT	19	27	21	29	25
VERY GOOD	14	25	19	26	28
GOOD	56	45	54	41	42
SATISFACTORY	15	9	10	9	10

Course-In-charge
(Dr. Renuka.C)

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE
DEPARTMENT OF OF SCIENCE AND HUMANITIES

YEAR / SEMESTER	I / I
COURSE TITLE	ENGG PHYSICS
COURSE CODE	18PHY12
ACADEMIC YEAR	2020-2021
BATCH	2020-2024

CO Attainment	Significance
Level	60% and above students should have scored -- 60% of Total marks
Level	55% to 59% of students should have scored -- 60% of Total marks
Level	50% to 54% of students should have scored -- 60% of Total marks

For Direct attainment , 50% of CIE and 50% of SEE marks are considered.
For indirect attainment, Course and survey is considered.
CO attainment is 90%of direct attainment + 10% of indirect atttainment.
PO attainment = CO-PO mapping strength/3 * CO attainment .

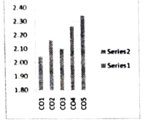
SI. NO.	USN	NAME	IA1							Assignment 1							IA2								Assignment 2								IA3							Assignment 3						EXTERNAL MARKS		
			IA1	CO1	Scores	Target 60%	CO2	Scores	Target 60%	A1	CO1	Scores	Target 60%	CO2	Scores	Target 60%	IA2	CO2	Scores	Target 60%	CO3	Scores	Target 60%	CO4	Scores	Target 60%	A2	CO2	Scores	Target 60%	CO3	Scores	Target 60%	CO4	Scores	Target 60%	IA3	CO4	Scores	Target 60%	CO4	Scores	Target 60%	A3	CO4	Scores	Target 60%	CO4	Scores	Target 60%	SEE	Scores	Target 60%
		Maximum Marks	30	18			12			10	6			4			30	6			18			6			10	2			6			2			30	12			18			10	6			4			60		
1	1KS20CS001	A AKASH	8	6	0	N	2	0	N	10	6	3	Y	4	3	Y	22	4	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	AB	NA	NA
2	1KS20CS002	AAQIB BASHIR	15	12	3	Y	3	0	N	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	18	6	1	N	12	3	Y	10	6	3	Y	4	3	Y	21	9	N
3	1KS20CS003	ANAND V.S	5	5	0	N	0	0	N	10	6	3	Y	4	3	Y	13	3	1	N	4	0	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	AB	NA	NA
4	1KS20CS004	ANANYA PATIL	18	6	0	N	12	3	Y	10	6	3	Y	4	3	Y	26	6	3	Y	14	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	45	3	Y
5	1KS20CS005	ANIRUDHA.K.K	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	28	6	3	Y	16	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	33	2	N
6	1KS20CS006	ANKITA CHOUDHARY	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	35	2	N
7	1KS20CS007	ANUPRIYA C	21	12	3	Y	9	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	28	12	3	Y	16	3	Y	10	6	3	Y	4	3	Y	AB	NA	NA
8	1KS20CS008	ANUSHREE.G.M	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	45	3	Y
9	1KS20CS009	ANUSHREE H	27	15	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	42	3	Y
10	1KS20CS010	APEKSHA.M	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	29	6	3	Y	17	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	45	3	Y
11	1KS20CS011	ARCHIT GANAPATI AVADHANI	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	38	3	Y
12	1KS20CS012	B.JAIDEV	29	17	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	27	12	3	Y	15	3	Y	10	6	3	Y	4	3	Y	47	3	Y
13	1KS20CS013	BASAVESH.V.L	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	25	6	3	Y	13	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	49	3	Y
14	1KS20CS014	BHUMIKA MAHADEVAPPA UMACHAGI	27	15	3	Y	12	3	Y	10	6	3	Y	4	3	Y	0	0	0	N	0	0	N	0	0	N	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	39	3	Y
15	1KS20CS015	BHUVAN.N.GOWDA	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	26	6	3	Y	14	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	6	1	N	18	3	Y	10	6	3	Y	4	3	Y	36	3	Y
16	1KS20CS016	BOMMINENI TEJASWINI	12	12	3	Y	0	0	N	10	6	3	Y	4	3	Y	19	6	3	Y	7	0	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	6	1	N	18	3	Y	10	6	3	Y	4	3	Y	34	9	N
17	1KS20CS017	BRUNDA.B	30	18	3	Y	12	3	Y	10	6	3	Y	4	3	Y	27	6	3	Y	15	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	53	3	Y
18	1KS20CS018	CHAITRA.R	20	12	3	Y	8	3	Y	10	6	3	Y	4	3	Y	19	6	3	Y	13	3	Y	0	0	N	10	2	3	Y	6	3	Y	2	3	Y	18	6	1	N	12	3	Y	10	6	3	Y	4	3	Y	27	9	N
19	1KS20CS019	CHETHAN.S	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	42	3	Y
20	1KS20CS020	DARSHAN.M.S	12	12	3	Y	0	0	N	10	6	3	Y	4	3	Y	12	1	0	N	11	3	Y	0	0	N	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	33	9	N
21	1KS20CS021	DHANUSH.Y	16	12	3	Y	4	0	N	10	6	3	Y	4	3	Y	25	6	3	Y	13	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	34	9	N
22	1KS20CS022	DHANVIN C BHARGAV	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	45	3	Y
23	1KS20CS023	DHANYA SHARANYA SHREE.R	30	18	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	55	3	Y
24	1KS20CS024	DIVAKAR.M	6	6	0	N	0	0	N	10	6	3	Y	4	3	Y	18	6	3	Y	6	0	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	18	12	3	Y	6	0	N	10	6	3	Y	4	3	Y	19	0	N
25	1KS20CS025	DIVYA VEERAYYA CHIKKAMATH	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	26	6	3	Y	16	3	Y	4	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	39	3	Y
26	1KS20CS026	EDIMUDI ABHINAYA	19	0	0	N	0	0	N	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	37	3	Y
27	1KS20CS027	G SANJANA RAJU	24	0	0	N	0	0	N	10	6	3	Y	4	3	Y	17	3	1	N	8	0	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	AB	NA	NA
28	1KS20CS028	GAGANA C L NAIK	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	22	0	N
29	1KS20CS029	GAGANA.R	30	18	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	44	3	Y
30	1KS20CS030	GANASHREE.G.M	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	26	6	3	Y	14	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	26	12	3	Y	14	3	Y	10	6	3	Y	4	3	Y	40	3	Y
31	1KS20CS031	GANASHREE.K	29	17	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	36	3	Y
32	1KS20CS032	GIRISH.G	9	6	0	N	3	0	N	10	6	3	Y	4	3	Y	16	5	3	Y	6	0	N	5	3	Y	10	2	3	Y	6	3	Y	2	3	Y	18	6	1	N	12	3	Y	10	6	3	Y	4	3	Y	23	0	N
33	1KS20CS033	GOEL ANANYA DEVENDRA	8	6	0	N	2	0	N	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	33	2	N
34	1KS20CS034	GURU KASHYAP.N.S	21	12	3	Y	9	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	38	0	N
35	1KS20CS035	GURU KIRAN.S	16	6	0	N	10	3	Y	10	6	3	Y	4	3	Y	11	0	0	N	5	0	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	17	5	0	N	12	3	Y	10	6	3	Y	4	3	Y	12	0	N
36	1KS20CS036	H.A.SANKEERTHAN	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	21	0	N
37	1KS20CS037	H.A. TRISHALA	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	39	3	Y
38	1KS20CS038	HARSHITHA.B.R	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	46	3	Y
39	1KS20CS039	HONOKSHARATHNA.B	15	6	0	N	9	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	44	3	Y
40	1KS20CS040	HRITHIKA.S	18	12	3	Y	6	1	N	10	6	3	Y	4	3	Y	28	6	3	Y	16	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	33	2	N
41	1KS20CS041	JAHNAVI P	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	44	3	Y
42	1KS20CS042	JEEVAN	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	26	6	3	Y	14	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	29	12	3	Y	17	3	Y	10	6	3	Y	4	3	Y	38	1	N
43	1KS20CS043	JNANESH.A.S	12	12	3	Y	0	0	N	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	39	3	Y
44	1KS20CS044	JONNA DILEEP	8	6	0	N	2	0	N	10	6	3	Y	4	3	Y	25	6	3	Y	13	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	29	12	3	Y	17	3	Y	10	6	3	Y	4	3	Y	30	1	N
45	1KS20CS045	KAVITHA.R	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	55	3	Y
46	1KS20CS046	KAVYA.R	27	15	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	51	3	Y
47	1KS20CS047	KUSHAL.K	18	12	3	Y	6	1	N	10	6	3	Y	4	3	Y	23	6	3	Y	12	3	Y	5	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	27	0	N

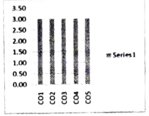
48	1KS20CS048	LISHA NIDHI.A.M	7	7	0	N	0	0	N	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	23	12	3	Y	11	3	Y	10	6	3	Y	4	3	Y	11	0	N
49	1KS20CS049	M.SANTHOSH KUMAR	9	9	1	N	0	0	N	10	6	3	Y	4	3	Y	11	4	3	Y	3	0	N	4	3	Y	10	2	3	Y	6	3	Y	2	3	Y	20	8	3	Y	12	3	Y	10	6	3	Y	4	3	Y	13	0	N
50	1KS20CS050	MAHIM SUBHASH AKHAWAT	20	12	3	Y	8	3	Y	10	6	3	Y	4	3	Y	22	6	3	Y	10	2	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	18	2	0	N	16	3	Y	10	6	3	Y	4	3	Y	24	0	N
51	1KS20CS051	MANDARA.K.S	20	8	0	N	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	33	2	N
52	1KS20CS052	MANISH PIKHAN	12	12	3	Y	0	0	N	10	6	3	Y	4	3	Y	18	6	3	Y	9	1	N	3	1	N	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	1	N
53	1KS20CS053	MANISHA.G.N	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	[illegible]	3	Y
54	1KS20CS054	MANJUNATH.R	18	10	2	N	8	3	Y	10	6	3	Y	4	3	Y	25	6	3	Y	13	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	1	N
55	1KS20CS055	MONICA.C.S	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	26	6	3	Y	14	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	34	2	N
56	1KS20CS056	MONIESH.S	8	5	0	N	3	0	N	10	6	3	Y	4	3	Y	21	5	3	Y	10	2	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	14	0	N
57	1KS20CS057	MONIKA.N	30	17	3	Y	4	0	N	10	6	3	Y	4	3	Y	22	6	3	Y	10	2	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	26	8	3	Y	18	3	Y	10	6	3	Y	4	3	Y	30	1	N
58	1KS20CS058	N.KEERTHANA	30	18	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	45	3	Y
59	1KS20CS059	NAJEEB MUTHAHEED	18	12	3	Y	6	1	N	10	6	3	Y	4	3	Y	29	6	3	Y	17	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	28	12	3	Y	16	3	Y	10	6	3	Y	4	3	Y	38	3	Y
60	1KS20CS060	NAMRATHA.R	26	18	3	Y	8	3	Y	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	40	3	Y
61	1KS20CS061	NARASIMHA.N	24	18	3	Y	6	1	N	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	27	0	N
62	1KS20CS062	NEHA REDDY.S	20	8	0	N	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	28	12	3	Y	16	3	Y	10	6	3	Y	4	3	Y	31	1	N
63	1KS20CS063	NIDHI K V	21	15	3	Y	6	1	N	10	6	3	Y	4	3	Y	26	6	3	Y	14	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	19	0	N
64	1KS20CS064	NIRMITHA.N	24	17	3	Y	7	2	N	10	6	3	Y	4	3	Y	25	6	3	Y	13	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	26	0	N
65	1KS20CS065	N.NITHESH KUMAR	21	12	3	Y	9	3	Y	10	6	3	Y	4	3	Y	26	6	3	Y	14	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	35	2	N
66	1KS20CS066	NUTHANAPATI DEVITHA	21	16	3	Y	5	0	N	10	6	3	Y	4	3	Y	15	3	1	N	6	0	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	23	0	N
67	1KS20CS067	PARVASHREE.H.M	15	11	3	Y	6	1	N	10	6	3	Y	4	3	Y	10	4	3	Y	3	0	N	3	1	N	10	2	3	Y	6	3	Y	2	3	Y	18	6	1	N	12	3	Y	10	6	3	Y	4	3	Y	30	1	N
68	1KS20CS068	PARVATHY.P.S	16	10	2	N	0	0	N	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	36	3	Y
69	1KS20CS069	PAVAN.C	23	16	3	Y	7	2	N	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	32	1	N
70	1KS20CS070	PAVAN KUMAR.S	20	14	3	Y	6	1	N	10	6	3	Y	4	3	Y	18	6	3	Y	6	0	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	25	0	N
71	1KS20CS071	PAVAN.M	25	18	3	Y	7	2	N	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	47	3	Y
72	1KS20CS072	PAVAN.P	28	18	3	Y	10	3	Y	10	6	3	Y	4	3	Y	26	6	3	Y	14	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	45	3	Y
73	1KS20CS073	PAVITHRA.R	23	18	3	Y	5	0	N	10	6	3	Y	4	3	Y	20	6	3	Y	8	0	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	23	9	3	Y	14	3	Y	10	6	3	Y	4	3	Y	23	0	N
74	1KS20CS074	POOJITHA.Y	30	18	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	[illegible]	3	Y
75	1KS20CS075	POONAM	22	10	2	N	12	3	Y	10	6	3	Y	4	3	Y	23	6	3	Y	14	3	Y	3	1	N	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	[illegible]	3	Y
76	1KS20CS076	PRADHYUMNA.K	30	18	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	[illegible]	3	Y
77	1KS20CS077	PRAJWAL NAIK U	30	18	3	Y	12	3	Y	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	18	12	3	Y	6	0	N	10	6	3	Y	4	3	Y	36	3	Y
78	1KS20CS078	R.KUSHAL SAI	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	39	3	Y
79	1KS20CS079	RAGHAVI.C.S	17	10	2	N	7	2	N	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	32	0	N
80	1KS20CS080	RAKSHITH.C.MAHALADKAR	19	18	3	Y	1	0	N	10	6	3	Y	4	3	Y	21	6	3	Y	9	1	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	27	12	3	Y	15	3	Y	10	6	3	Y	4	3	Y	31	0	N
81	1KS20CS081	RAKSHITHA.P	27	18	3	Y	9	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	[illegible]	3	Y
82	1KS20CS082	ROSHAN KUMAR.B	10	4	0	N	6	1	N	10	6	3	Y	4	3	Y	18	6	3	Y	6	0	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	18	6	1	N	12	3	Y	10	6	3	Y	4	3	Y	23	0	N
83	1KS20CS083	S.SAI SHANKARI	5	2	0	N	3	0	N	10	6	3	Y	4	3	Y	20	6	3	Y	8	0	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	23	0	N
84	1KS20CS084	SAAHIL BHUJANG DHARM	22	12	3	Y	10	3	Y	10	6	3	Y	4	3	Y	11	6	3	Y	5	0	N	0	0	N	10	2	3	Y	6	3	Y	2	3	Y	18	6	1	N	12	3	Y	10	6	3	Y	4	3	Y	28	2	N
85	1KS20CS085	SABHAREESH BALAJI.P	11	8	0	N	3	0	N	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	30	1	N
86	1KS20CS086	SAHANA.R	27	18	3	Y	9	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	[illegible]	3	Y
87	1KS20CS087	SAMEER.G.KULKARNI	30	18	3	Y	12	3	Y	10	6	3	Y	4	3	Y	25	6	3	Y	13	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	36	3	Y
88	1KS20CS088	SANKET GANAPATI HEGD	20	15	3	Y	5	0	N	10	6	3	Y	4	3	Y	25	6	3	Y	13	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	[illegible]	3	Y
89	1KS20CS089	SHASHIKANTH.N.G	22	16	3	Y	6	1	N	10	6	3	Y	4	3	Y	25	6	3	Y	13	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	35	2	N
90	1KS20CS090	SHASHWATHA.H.M	27	18	3	Y	9	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	30	1	N
91	1KS20CS091	SHILPA.M	30	18	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	[illegible]	3	Y
92	1KS20CS092	SHRAVYA.M.R	15	9	1	N	6	1	N	10	6	3	Y	4	3	Y	25	6	3	Y	13	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	33	2	N
93	1KS20CS093	SINDHURA.H	20	12	3	Y	8	3	Y	10	6	3	Y	4	3	Y	18	6	3	Y	6	0	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	23	0	N
94	1KS20CS094	SIRIPIREDDY THULASI	30	18	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	[illegible]	3	Y
95	1KS20CS095	SKANDA SWAROOPA.B.V	12	12	3	Y	0	0	N	10	6	3	Y	4	3	Y	16	6	3	Y	4	0	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	18	4	0	N	14	3	Y	10	6	3	Y	4	3	Y	23	0	N
96	1KS20CS096	SPOORTHY.N	16	12	3	Y	4	0	N	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	42	3	Y
97	1KS20CS097	SRISHTI SRIVASTAVA	22	0	0	N	0	0	N	10	6	3	Y	4	3	Y	24	0	0	N	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	35	2	N
98	1KS20CS098	SUDEEP.D.M	16	12	3	Y	4	0	N	10	6	3	Y	4	3	Y	26	6	3	Y	14	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	27	12	3	Y	15	3	Y	10	6	3	Y	4	3	Y	21	0	N
99	1KS20CS099	SUSHMA SRIKANTA	15	6	0	N	9	3	Y	10	6	3	Y	4	3	Y	22	4	3	Y	14	3	Y	4	3	Y	10	2	3	Y	6	3	Y	2	3	Y	23	11	3	Y	12	3	Y	10	6	3	Y	4	3	Y	23	0	N
100	1KS20CS100	TAHREEM IMAD PASHA	15	6	0	N	9	3	Y	10	6	3	Y	4	3	Y	12	6	3	Y	6	0	N	0	0	N	10	2	3	Y	6	3	Y	2	3	Y	22	10	3	Y	12	3	Y	10	6	3	Y	4	3	Y	15	0	N
101	1KS20CS101	TALIB MUKHTAR CHODA	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	36	3	Y
102	1KS20CS102	TANVI KAMATH	24	18	3	Y	6	1	N	10	6	3	Y	4	3	Y	25	6	3	Y	13	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	43	3	Y
103	1KS20CS103	THANUSHA.K	30	18	3	Y	12	3	Y	10	6	3	Y	4	3	Y	27	6	3	Y	15	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	40	3	Y
104	1KS20CS104	TRUPTHI.G.B	26	18	3	Y	8	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	38	3	Y
105	1KS20CS105	TUSHAR S	10	6	0	N	4	0	N	10	6	3	Y	4	3	Y	17	3	1	N	12	3	Y	2	0	N	10	2	3	Y	6	3	Y	2	3	Y	12	6	1	N	6	0	N	10	6	3	Y	4	3	Y	21	0	N
106	1KS20CS106	V.ARVIND	30	18	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	[illegible]	3	Y
107	1KS20CS107	VAISHNAVI.M	19	12	3	Y	7	2	N	10	6	3	Y	4	3	Y	26	6	3	Y	14	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	27	12	3	Y	15	3	Y	10	6	3	Y	4	3	Y	44	3	Y

108	1KS20CS108	VANDANA.N	30	4	0	N	1	0	N	10	6	3	Y	4	3	Y	22	6	3	Y	10	2	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	31	1	N
109	1KS20CS109	VANDANA.N	5	18	3	Y	12	3	Y	10	6	3	Y	4	3	Y	23	6	3	Y	11	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	26	0	N
110	1KS20CS110	VIBHAV KAUSHIK.V	24	18	3	Y	6	1	N	10	6	3	Y	4	3	Y	18	6	3	Y	6	0	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	44	3	Y
111	1KS20CS111	VIKAS KASHYAP	18	12	3	Y	6	1	N	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	28	12	3	Y	16	3	Y	10	6	3	Y	4	3	Y	14	0	N
112	1KS20CS112	VISHAL.N.KORABU	25	15	3	Y	10	3	Y	10	6	3	Y	4	3	Y	27	6	3	Y	15	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	55	3	Y
113	1KS20CS113	VUMMANENI CHARAN	24	18	3	Y	6	1	N	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	41	3	Y
114	1KS20CS114	Y.JHANSI	30	18	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	4	3	Y	35	2	N
	CO				CO1			CO2				CO1			CO2				CO2			CO3		CO4					CO2			CO3			CO4				CO4			CO5				CO4			CO5			SEE	
	Number of Not Attempted(NA)					0			0				0			0				0			0			0				0			0			0				0			0				0			0			4
	Score index & No of Y's				2.32	85		1.89	64			3.00	114		3.00	114			2.82	106		2.43	89			105			3.00	114		3.00	114		3	114			2.76	102		2.92	111			3.00	114		3.00	114		1.76	53
	No. of N's					29			50				0			0				8			25			9				0			0			0				12			3				0			0			57
	CO Attainment					74.56			56.14				100			100				92.98			78.07			92.11				100			100			100				89.47			97.37				100			100			48.18
	Level					3			2				3			3				3			3							3			3							3			3				3			3			0

CO	CIE	SEE	DIRECT ATTAINMENT	Level	T ATTA	Final Att
CO1	87.28	48.18	67.73	3.00	3.00	3.00
CO2	87.28	48.18	67.73	3.00	3.00	3.00
CO3	89.04	48.18	68.61	3.00	3.00	3.00
CO4	95.39	48.18	71.79	3.00	3.00	3.00
CO5	98.68	48.18	73.43	3.00	3.00	3.00
AVERAGE						3.00

CO	Score index out of 3
CO1	2.04
CO2	2.16
CO3	2.10
CO4	2.26
CO5	2.34





						Co-Po Mapping Table								
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	_	_	_	_	_	_	_	_	2	2	_
CO2	3	3	2	_	_	_	_	_	_	_	_	2	_	_
CO3	3	3	2	_	_	_	_	_	_	_	_	2	_	_
CO4	3	2	3	_	_	_	_	_	_	_	_	2	_	_
CO5	2	2	3	_	_	_	_	_	_	_	_	2	_	_
AVG	2.80	2.40	2.20	_	_	_	_	_	_	_	_	2.00	2.00	_

PO Attainment

CO'S	CO Attainment	CO RESU	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
18PHY12 CO1	3.00	Y	3.00	2.00	1.00	_	_	_	_	_	_	_	_	2.00	2.00	_
18PHY12 CO2	3.00	Y	3.00	3.00	2.00	_	_	_	_	_	_	_	_	2.00	_	_
18PHY12 CO3	3.00	Y	3.00	3.00	2.00	_	_	_	_	_	_	_	_	2.00	_	_
18PHY12 CO4	3.00	Y	3.00	2.00	3.00	_	_	_	_	_	_	_	_	2.00	_	_
18PHY12 CO5	3.00	Y	2.00	2.00	3.00	_	_	_	_	_	_	_	_	2.00	_	_
Average			2.80	2.40	2.20	_	_	_	_	_	_	_	_	2.00	2.00	_

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

YEAR / SEMESTER	I / I
COURSE TITLE	ENGG PHYSICS LAB
COURSE CODE	18 PHYL 16
ACADEMIC YEAR	2020-2021 ODD SEM

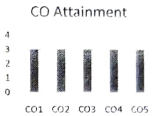
CO Attainment Level	Significance
Level 3	60% and above students should have scored >= 60% of Total marks
Level 2	55% to 59% of students should have scored >= 60% of Total marks
Level 1	50% to 55% of students should have scored >= 60% of Total marks

For Direct attainment , 50% of CIE and 50% of SEE marks are considered.
For indirect attainment, Course end survey is considered.
CO attainment is 90%of direct attainment + 10% of Indirect atttainment.
PO attainment = CO-PO mapping strength/3 * CO attainment .

SL. NO.	USN	NAME	CIE			SEE		
			IA	Scores	Target 60%	SEE (GP)	Scores	Target 60%
	Maximum Marks		40			60		
1	1KS20CS001	A AKASH	40	3	Y	48	3	Y
2	1KS20CS002	AAQIB BASHIR	38	3	Y	50	3	Y
3	1KS20CS003	ANAND V S	30	3	Y	34	2	N
4	1KS20CS004	ANANYA PATIL	39	3	Y	59	3	Y
5	1KS20CS005	ANIRUDHA.K.K	38	3	Y	57	3	Y
6	1KS20CS006	ANKITA CHOUDHARY	37	3	Y	50	3	Y
7	1KS20CS007	ANUPRIYA C	38	3	Y	57	3	Y
8	1KS20CS008	ANUSHREE G M	40	3	Y	57	3	Y
9	1KS20CS009	ANUSHREE H	40	3	Y	60	3	Y
10	1KS20CS010	APEKSHA M	29	3	Y	56	3	Y
11	1KS20CS011	ARCHIT GANAPATI AVADHANI	40	3	Y	53	3	Y
12	1KS20CS012	B JAIDEV	40	3	Y	50	3	Y
13	1KS20CS013	BASAVESH V L	40	3	Y	59	3	Y
14	1KS20CS014	BHUMIKA MAHADEVAPPA UMACHAGI	40	3	Y	58	3	Y
15	1KS20CS015	BHUVAN N GOWDA	39	3	Y	59	3	Y
16	1KS20CS016	BOMMINENI TEJASWINI	38	3	Y	54	3	Y
17	1KS20CS017	BRUNDA B	40	3	Y	60	3	Y
18	1KS20CS018	CHAITRA R	39	3	Y	50	3	Y
19	1KS20CS019	CHETHAN S	40	3	Y	48	3	Y
20	1KS20CS020	DARSHAN M S	40	3	Y	57	3	Y
21	1KS20CS021	DHANUSH Y	40	3	Y	55	3	Y
22	1KS20CS022	DHANVIN C BHARGAV	40	3	Y	55	3	Y
23	1KS20CS023	DHANYA SHARANYA SHREE R	40	3	Y	60	3	Y
24	1KS20CS024	DIVAKAR M	35	3	Y	54	3	Y
25	1KS20CS025	DIVYA VEERAYYA CHIKKAMATH	40	3	Y	52	3	Y
26	1KS20CS026	EDUMUDI ABHINAYA	40	3	Y	51	3	Y
27	1KS20CS027	G SANJANA RAJU	40	3	Y	53	3	Y
28	1KS20CS028	GAGANA C L NAIK	40	3	Y	54	3	Y
29	1KS20CS029	GAGANA R	40	3	Y	59	3	Y
30	1KS20CS030	GANASHREE G M	40	3	Y	50	3	Y
31	1KS20CS031	GANASHREE K	40	3	Y	60	3	Y
32	1KS20CS032	GIRISH G	39	3	Y	50	3	Y
33	1KS20CS033	GOEL ANANYA DEVENDRA	40	3	Y	56	3	Y
34	1KS20CS034	GURU KASHYAP N S	36	3	Y	54	3	Y
35	1KS20CS035	GURU KIRAN S	39	3	Y	38	3	Y
36	1KS20CS036	H A SANKEERTHAN	40	3	Y	58	3	Y
37	1KS20CS037	H A TRISHALA	40	3	Y	54	3	Y
38	1KS20CS038	HARSHITHA B R	40	3	Y	57	3	Y
39	1KS20CS039	HONOKSHARATHNA B	40	3	Y	56	3	Y
40	1KS20CS040	HRITHIKA.S	40	3	Y	54	3	Y
41	1KS20CS041	JAHNAVI P	40	3	Y	55	3	Y

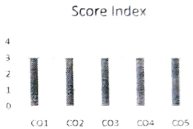
42	1KS20CS042	JEEVAN	40	3	Y	50	3	Y
43	1KS20CS043	JNANESH A S	39	3	Y	56	3	Y
44	1KS20CS044	JONNA DILEEP	40	3	Y	54	3	Y
45	1KS20CS045	KAVITHA R	40	3	Y	57	3	Y
46	1KS20CS046	KAVYA R	40	3	Y	56	3	Y
47	1KS20CS047	KUSHAL.K	38	3	Y	49	3	Y
48	1KS20CS048	LISHA NIDHI A M	40	3	Y	50	3	Y
49	1KS20CS049	M SANTOSHKUMAR M HAMPANNA	38	3	Y	53	3	Y
50	1KS20CS050	MAHIM SUBHASH AKHAWAT	38	3	Y	48	3	Y
51	1KS20CS051	MANDARA K S	40	3	Y	57	3	Y
52	1KS20CS052	MANISH PIKHAN	40	3	Y	54	3	Y
53	1KS20CS053	MANISHA G N	40	3	Y	60	3	Y
54	1KS20CS054	MANJUNATH R	40	3	Y	57	3	Y
55	1KS20CS055	MONICA C S	40	3	Y	56	3	Y
56	1KS20CS056	MONIESH.S	35	3	Y	50	3	Y
57	1KS20CS057	MONIKA N	40	3	Y	53	3	Y
58	1KS20CS058	N KEERTHANA	40	3	Y	57	3	Y
59	1KS20CS059	NAJEEB MUTHAHEED ARIN UL HAQ	40	3	Y	24	0	N
60	1KS20CS060	NAMRATHA R	40	3	Y	43	3	Y
61	1KS20CS061	NARASIMHA N	39	3	Y	54	3	Y
62	1KS20CS062	NEHA REDDY S	40	3	Y	54	3	Y
63	1KS20CS063	NIDHI K V	40	3	Y	54	3	Y
64	1KS20CS064	NIRMITHA N	39	3	Y	52	3	Y
65	1KS20CS065	N NITHESH KUMAR	38	3	Y	57	3	Y
66	1KS20CS066	NUTHANAPATI DEVITHA	39	3	Y	56	3	Y
67	1KS20CS067	PARVA SHREE..H M	39	3	Y	58	3	Y
68	1KS20CS068	PARVATHY P S	37	3	Y	58	3	Y
69	1KS20CS069	PAVAN C	39	3	Y	59	3	Y
70	1KS20CS070	PAVAN KUMAR S	38	3	Y	48	3	Y
71	1KS20CS071	PAVAN M	40	3	Y	59	3	Y
72	1KS20CS072	PAVAN P	40	3	Y	58	3	Y
73	1KS20CS073	PAVITHRA R	36	3	Y	39	3	Y
74	1KS20CS074	POOJITHA Y	40	3	Y	60	3	Y
75	1KS20CS075	POONAM	40	3	Y	59	3	Y
76	1KS20CS076	PRADHYUMNA K	40	3	Y	59	3	Y
77	1KS20CS077	PRAJWAL NAIK U	40	3	Y	54	3	Y
78	1KS20CS078	R.KUSHAL SAI	40	3	Y	57	3	Y
79	1KS20CS079	RAGHAVI C S	40	3	Y	54	3	Y
80	1KS20CS080	RAKSHITH.C MAHALADKAR	40	3	Y	58	3	Y
81	1KS20CS081	RAKSHITHA P	40	3	Y	59	3	Y
82	1KS20CS082	ROSHAN KUMAR.B	35	3	Y	33	2	N
83	1KS20CS083	S.SAI SHANKARI	40	3	Y	56	3	Y
84	1KS20CS084	SAAHIL BHUJANG DHARMAJI	39	3	Y	51	3	Y
85	1KS20CS085	SABHAREESH BALAJI P	39	3	Y	51	3	Y
86	1KS20CS086	SAHANA R	40	3	Y	48	3	Y
87	1KS20CS087	SAMEER KULKARNI	39	3	Y	53	3	Y
88	1KS20CS088	SANKET GANAPATI HEGDE	40	3	Y	59	3	Y
89	1KS20CS089	SHASHIKANTH N G	40	3	Y	54	3	Y
90	1KS20CS090	SHASHWATHA H M	40	3	Y	60	3	Y
91	1KS20CS091	SHILPA M	40	3	Y	60	3	Y
92	1KS20CS092	SHRAVYA M R	40	3	Y	53	3	Y
93	1KS20CS093	SINDHURA H	40	3	Y	35	2	N
94	1KS20CS094	SIRIPIREDDY THULASI	40	3	Y	58	3	Y
95	1KS20CS095	SKANDA SWAROOPA B V	40	3	Y	60	3	Y
96	1KS20CS096	SPOORTHY.N	40	3	Y	36	3	Y
97	1KS20CS097	SRISHTI SRIVASTAVA	40	3	Y	57	3	Y
98	1KS20CS098	SUDEEP D M	40	3	Y	56	3	Y
99	1KS20CS099	SUSHMA SRIKANTA KURANDWAD	40	3	Y	59	3	Y
100	1KS20CS100	TAHREEM IMAD PASHA	38	3	Y	53	3	Y
101	1KS20CS101	TALIB MUKHTAR CHODA	40	3	Y	60	3	Y
102	1KS20CS102	TANVI KAMATH	40	3	Y	60	3	Y

103	1KS20CS103	THANUSHA K	40	3	Y	57	3	Y
104	1KS20CS104	TRUPTHI G B	40	3	Y	51	3	Y
105	1KS20CS105	TUSHAR S	39	3	Y	60	3	Y
106	1KS20CS106	V ARVIND	40	3	Y	59	3	Y
107	1KS20CS107	VAISHNAVI M	40	3	Y	57	3	Y
108	1KS20CS108	VANDANA N	40	3	Y	59	3	Y
109	1KS20CS109	VANDANA.N	40	3	Y	56	3	Y
110	1KS20CS110	VIBHAV KAUSHIK V	40	3	Y	54	3	Y
111	1KS20CS111	VIKAS KASHYAP R	40	3	Y	53	3	Y
112	1KS20CS112	VISHAL N KORABU	40	3	Y	58	3	Y
113	1KS20CS113	VUMMANENI CHARAN	40	3	Y	60	3	Y
114	1KS20CS114	Y JHANSI	40	3	Y	59	3	Y
	CO			CO			SEE	
	Nuber of NA				0			0
	Score index & No of Y's			3	114		2.9474	110
	No. of N's				0.00			4
	CO Attainment				100			96.491
	Level				3			3



CO	CIE	SEE	DIRECT ATTAINMENT	level	INDIRECT ATTAINMENT	Final Att
CO1	100.00	96.49	98.25	3.00	3.00	3.00
CO2	100.00	96.49	98.25	3.00	3.00	3.00
CO3	100.00	96.49	98.25	3.00	3.00	3.00
CO4	100.00	96.49	98.25	3.00	3.00	3.00
CO5	100.00	96.491228	98.25	3.00	3.00	3.00
AVERAGE						3.00

CO	Score Index
CO1	2.97
CO2	2.97
CO3	2.97
CO4	2.97
CO5	2.97



CO PO Mapping														
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3		_	_	_	_	_	_	2	_	_	2	2	_
CO2	3	2	_	_	_	_	_	_	_	_	_	_	_	_
CO3	3	2	1	_	_	_	_	_	_	_	_	_	_	_
CO4	3	3	1	_	_	_	_	_	_	_	_	2	_	_
CO5	3	3	2	_	_	_	_	_	_	_	_	_	_	_
AVG	3	2.5	1.33	_	_	_	_	_	2	_	_	2	2	_

PO Attainment																
CO'S	CO Attainment	CO RESULT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
18 PHYL 16 CO1	3.00	Y	3.00		_	_	_	_	_	_	2.00	_	_	2.00	2.00	_
18 PHYL 16 CO2	3.00	Y	3.00	2.00	_	_	_	_	_	_	_	_	_	_	_	_
18 PHYL 16 CO3	3.00	Y	3.00	2.00	1.00	_	_	_	_	_	_	_	_	_	_	_
18 PHYL 16 CO4	3.00	Y	3.00	3.00	1.00	_	_	_	_	_	_	_	_	2.00	_	_
18 PHYL 16 CO5	3.00	Y	3.00	3.00	2.00	_	_	_	_	_	_	_	_	_	_	_
Average			3.00	2.50	1.33	_	_	_	_	_	2.00	_	_	2.00	2.00	_

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE

DEPARTMENT OF MECHANICAL ENGINEERING

YEAR / SEMESTER	I / I
COURSE TITLE	ENGG.PHYSICS
COURSE CODE	18PHY12
ACADEMIC YEAR	2020-2021
BATCH	2020-2024

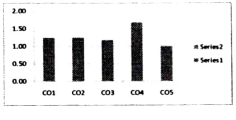
CO Attainment	Significance
Level	60% and above students should have scored >= 60% of Total marks
Level	55% to 59% of students should have scored >= 60% of Total marks
Level	50% to 54% of students should have scored >= 60% of Total marks

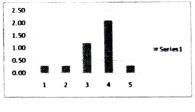
For Direct attainment , 50% of CIE and 50% of SEE marks are considered.
For indirect attainment, Course and survey is considered.
CO attainment is 80%of direct attainment + 10% of Indirect attainment.
PO attainment = CO-PO mapping strength/3 * CO attainment .

Sl. NO.	USN	NAME	IA1							Assignment 1							IA2									Assignment 2							IA3							Assignment 3							EXTERNAL MARKS		
			IA1	CO1	Scores	Target 60%	CO2	Scores	Target 60%	A1	CO1	Scores	Target 60%	CO2	Scores	Target 60%	IA2	CO2	Scores	Target 60%	CO3	Scores	Target 60%	CO4	Scores	Target 60%	A2	CO2	Scores	Target 60%	CO3	Scores	Target 60%	CO4	Scores	Target 60%	IA3	CO4	Scores	Target 60%	CO5	Scores	Target 60%	A3	CO5	Scores	Target 60%	CO5	Scores	Target 60%
		Maximum Marks	30	18			12			10	6			4			30	6			18			6			10	2			6			2			30	12			18			10	6			6			100		
1	1KS20ME001	DARSHAN S	8	6	0	N	2	0	N	10	6	3	Y	4	3	Y	12	0	0	N	8	0	N	4	3	Y	10	2	3	Y	6	3	Y	2	3	Y	12	6	1	N	6	0	N	10	6	3	Y	6	3	Y	25	0	N
2	1KS20ME002	HARSHA VARDHAN V	5	5	0	N	0	0	N	10	6	3	Y	4	3	Y	10	4	3	Y	6	0	N	0	0	N	10	2	3	Y	6	3	Y	2	3	Y	14	8	3	Y	6	0	N	10	6	3	Y	6	3	Y	8	0	N
3	1KS20ME003	HARYANK V KASHYAP	16	10	2	N	6	1	N	10	6	3	Y	4	3	Y	24	3	1	N	15	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	27	12	3	Y	15	3	Y	10	6	3	Y	6	3	Y	25	0	N
4	1KS20ME004	KUSHAL KADAM	4	3	0	N	1	0	N	10	6	3	Y	4	3	Y	15	4	3	Y	5	0	N	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	12	6	1	N	6	0	N	10	6	3	Y	6	3	Y	100	0	N
5	1KS20ME005	PRANITHA R	19	12	3	Y	7	2	N	10	6	3	Y	4	3	Y	24	6	3	Y	12	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	30	12	3	Y	18	3	Y	10	6	3	Y	6	3	Y	27	0	Y
6	1KS20ME006	SHALINI.D.S	24	12	3	Y	12	3	Y	10	6	3	Y	4	3	Y	30	6	3	Y	18	3	Y	6	3	Y	10	2	3	Y	6	3	Y	2	3	Y	18	12	3	Y	6	0	N	10	6	3	Y	6	3	Y	100	0	Y
7	1KS20ME007	SHREYAS S.K	20	12	3	Y	8	3	Y	10	6	3	Y	4	3	Y	14	2	0	N	12	3	Y	0	0	N	10	2	3	Y	6	3	Y	2	3	Y	25	12	3	Y	13	3	Y	10	6	3	Y	6	3	Y	27	0	N
8	1KS20ME008	SUPRITH GOWDA J	16	10	2	N	6	1	N	10	6	3	Y	4	3	Y	8	0	0	N	4	0	N	4	3	Y	10	2	3	Y	6	3	Y	2	3	Y	18	12	3	Y	6	0	N	10	6	3	Y	6	3	Y	8	0	N
		CO			CO1			CO2				CO1			CO2				CO2			CO3			CO4				CO2			CO3			CO4				CO4			CO5				CO5			CO5		
		Number of Not Attempted(NA)					0			0				0			0				0			0			0				0			0			0				0			0				0			0		
		Score Index & No of Y's			1.83	3		1.25	2			3.00	8		3.00	8			1.83	4		1.50	4			6			3.00	8		3.00	8		3	8			2.50	6		1.13	3			2.00	8		2.00	8		2.00	2
		No. of N's				5			6				0			0				4			4			2				0			0			0				2			5				0			0			5
		CO Attainment				97.5			25				100			100				50			50			75				100			100			100				75			37.5				100			100			28.07
		Level				0			0				3			3				1			1							3			3							3			0				3			3			0

CO	CIE	SEE	DIRECT ATTAINMENT	Level	I ATTA	Final Att
CO1	68.75	28.57	48.66	0.60	3.00	0.30
CO2	68.75	28.57	48.66	0.60	3.00	0.30
CO3	75.00	28.57	51.79	1.00	3.00	1.20
CO4	87.50	28.57	58.04	2.00	3.00	2.10
CO5	68.75	28.57	48.66	0.60	3.00	0.3
AVERAGE						0.84

CO	Score Index out of 3
CO1	1.24
CO2	1.24
CO3	1.16
CO4	1.68
CO5	0.89





Co-Po Mapping Table

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2									2	2	
CO2	3	2	2									2		
CO3	3	2	2									2		
CO4	3	3	2									2		
CO5	3	3	3									2		
AVG	2.80	2.40	2.20									2.00	2.00	

PO Attainment

CO'S	CO Attainment	CO REQ	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	0.30	N	0.20	0.20	0.20									0.20	0.20	
CO2	0.30	N	0.30	0.20	0.20									0.20		
CO3	1.20	N	1.20	0.80	0.80									0.80		
CO4	2.10	Y	2.10	2.10	1.40									1.40		
CO5	0.30	N	0.30	0.30	0.30									0.20		
Average			0.82	0.72	0.58									0.56	0.20	

K.S. INSTITUTE OF TECHNOLOGY, BANGALORE

DEPARTMENT OF MECHANICAL ENGINEERING

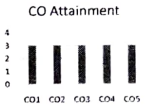
YEAR / SEMESTER	I/I
COURSE TITLE	ENGG. PHYSICS LAB
COURSE CODE	18PHYL16
ACADEMIC YEAR	2020- 2021 ODD SEM

CO Attainment Level	Significance
Level 3	60% and above students should have scored >= 60% of Total marks
Level 2	55% to 59% of students should have scored >= 60% of Total marks
Level 1	50% to 55% of students should have scored >= 60% of Total marks

For Direct attainment , 50% of CIE and 50% of SEE marks are considered.
For indirect attainment, Course end survey is considered.
CO attainment is 90%of direct attainment + 10% of Indirect atttainment.
PO attainment = CO-PO mapping strength/3 * CO attainment.

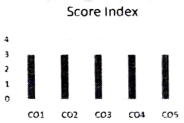
Sl. NO.	USN	NAME	CIE			SEE		
			IA	Scores	Target 60%	SEE (GP)	Scores	Target 60%
		Maximum Marks	40			60		
1	1KS20ME001	DARSHAN S	38	3	Y	54	3	Y
2	1KS20ME002	HARSHA VARDHAN V	35	3	Y	24	0	N
3	1KS20ME003	HARYANK V KASHYAP	40	3	Y	57	3	Y
4	1KS20ME004	KUSHAL KADAM	33	3	Y	40	3	Y
5	1KS20ME005	PRANITHA R	37	3	Y	38	3	Y
6	1KS20ME006	SHALINI D S	36	3	Y	56	3	Y
7	1KS20ME007	SHREYAS S K	39	3	Y	48	3	Y
8	1KS20ME008	SUPRITH GOWDA J	35	3	Y	45	3	Y

CO				SEE		
Nuber of NA			0			0
Score index & No of Y's		3	8		2.625	7
No. of N's			0.00			1
CO Attainment			100			87.5
Level			3			3



CO	CIE	SEE	DIRECT ATTAINMENT	level	INDIRECT ATTAINMENT	Final Att
CO1	100.00	87.50	93.75	3.00	3.00	3.00
CO2	100.00	87.50	93.75	3.00	3.00	3.00
CO3	100.00	87.50	93.75	3.00	3.00	3.00
CO4	100.00	87.50	93.75	3.00	3.00	3.00
CO5	100.00	87.5	93.75	3.00	3.00	3.00
AVERAGE						3.00

CO	Score Index
CO1	2.81
CO2	2.81
CO3	2.81
CO4	2.81
CO5	2.81



CO PO Mapping														
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	1	_	_	2	_	2	_	_	2	2	_
CO2	3	3	2	1	_	_	2	_	2	_	_	2	2	_
CO3	3	3	2	1	_	_	_	_	_	_	_	2	2	_
CO4	3	_	2	1	_	_	2	_	2	_	_	2	2	_
CO5	3	2	2	1	_	_	_	_	_	_	_	2	2	_
AVG	3	2.5	2	1	_	_	2	_	2	_	_	2	2	_

PO Attainment																
CO'S	CO Attainment	CO RESULT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
18 PHYL 26 CO1	3.00	Y	3.00	2.00	2.00	1.00	_	_	2.00	_	2.00	_	_	1.33	2.00	_
18 PHYL 26 CO2	3.00	Y	3.00	3.00	2.00	1.00	_	_	2.00	_	2.00	_	_	2.00	2.00	_
18 PHYL 26 CO3	3.00	Y	3.00	3.00	2.00	1.00	_	_	_	_	_	_	_	2.00	2.00	_
18 PHYL 26 CO4	3.00	Y	3.00	_	2.00	1.00	_	_	2.00	_	2.00	_	_	2.00	2.00	_
18 PHYL 26 CO5	3.00	Y	3.00	2.00	2.00	1.00	_	_	_	_	_	_	_	2.00	2.00	_
Average			3.00	2.50	2.00	1.00	_	_	2.00	_	2.00	_	_	1.87	2.00	_