

Shankarlal Khandelwal Arts, Science and Commerce College, Akola (MS)

REPORT

OF

Skill Based Certificate Course on **DESIGNING AND REPAIRING OF LED BULB** 5th to 9th May 2022

Academic year 2021-22

Submitted

By

Dr H J Kharat
Coordinator
Department of Physics
www.khandelwalcollege.edu.in

30th June 2022



Shankarlal Khandelwal Arts, Science and Commerce College, Akola (MS)

Department of Physics Skill Based Certificate Course on Designing and Repairing of LED Bulb 5th to 9th May 2022

Department of Physics and Career Katta of the college jointly organized Skill Based Certificate course on 'Designing and Repairing of LED Bulb' from 5th to 9th May 2022 in collaboration with ABS Foundation, Akola. The Guest Speaker and resource person was Dr. Durga Nachane, Director, ABS foundation, Akola. The course cum workshop or trining was inaugurated at the hands of Hon. Principal Dr. J. M. Saboo on 5th May 2022. The course is of 30 hours duration and completed on 9th May 2022. The Theory and Practicals were conducted in three sessions as per the syllabus and schedule. The quiz of 30 marks was organized on 9th May 2022. The certificates were issued after valedictory session to all the 50 participnts who completed assginemnts and qualified the quiz. The honorarium in the form of cheque of Bank of Maharashtra Rs. 12,500/-with no.004131 Dt.18th May 2022 was issued to Dr. Durga Nachane for successful completion of the course. Forty Eight students and two teachers paid Rs. 250/- online and registered their names trough the link https://forms.gle/q9hVwdiVedwCJJyq7.

Content and Schedule

DAY 1: 5/5/2022

Theory – Introduction to basic components – Resister, varistor, capacitor, power factor capacitor, transformer, PN diode, LED, SMD, Driver IC+Assignments

Practical – Identification of resistor, varistor, capacitor, transformer, diodes.

DAY 2: 6/5/2022

Theory – Construction, Working, application, uses of PN diode and LED.**+Assignments Practical** – Testing of resister, capacitor, transformer, diode.

DAY 3: 7/5/2022

Theory – Types of LED bulb 1) RC driver 2) DOB 3) Driver LED bulb.**+Assignments Practical** – Introduction to different type of LED bulb.

DAY 4: 8/5/2022

Theory – RC circuit, DOB circuit, rectifier, filter, LED driver IC (power regulator).**+Assignments Practical** – Mounting different type of circuit on breadboard.

DAY 5: 9/5/2022

Theory - Construction and working of LED bulb.+Assignments

Practical – Soldering of components on PCB and assembling of LED bulb and Repairing of different type of LED bulb.

Quiz - 30 Marks MCQ test

TIME

Theory session- 1) 9am to 10.30am 2) 10.35am to 12. 05pm Practical session- 12.30 pm to 3.30pm



Shankarlal Khandelwal Arts, Science and Commerce College, Akola (M5)

Department of Physics: 8.5c. III Sem. VI: 2021-22

Certificate Course in 'Designing and Repairing of LED Bulb' 5th May to 9th May 2022:

	The state of the s	Attenda	ance			
S.N	NAME OF THE STUDENT	5/5/2022	6/5/2022	7/5/2022	8/5/2022	9/5/2022
1,	Ku. Akansha Ashokrao Wadatkar		-			
2.	Ku. Ashwini Mahadeo Sable					
3.	Ku, Dhanashri Vinod Pajal					
4.	Ku. Gauri Rajesh Kasture	Partur	Basture	Larron	Dontes	gartue .
5.	Ku. Mukta Gajendra Punkar	Copuckon	whole	Christin	mountain	Greather-
6.	Ku. Neha Gajanan Metange	Cometrage	Moderate	Ometroge	1	Mallige
7,,	Ku. Nishika Sunil Hurpade	Whinfore	Chipado	Chungado		Chuende
8.	Ku. Prachi Ganesh Aghadate	(Flytaible	Pagnadal	Poloses	(property	Fillette
9,	Ku, Pranali Ravindra Ghumre	(Phints	(Slumb)	(Bhint)	Blumee	Chumes
10.	Ku. Pritee Dalaldhan Dhole	Photes	Phole	Thele	There	those
11	Ku. Roshani Ramdas Tekade	Presole_	OBirole_	Otkook	Procede	Ruack.
12.	Ku. Rutika Manoj Niwankar	Como	Driveton)	Mounten	()	District of the same of the sa
13.	Ku. Vaishnavi Prakash Shelke	A B B C CAG	THE REST	A Metri	Dhelle	Xhells.
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15.	Ku. Vaishnavi Ramrao Pingale				-	
16.	Mc Aachal Manish Wankhede	April	-Aggree		-1000	-pures
17.	Mr. Abhijit Gulabrao Bahute		-			
18.	Mr. Aniket Jitendra Kapate	2 Kodor	Akopos	Hopden	akapas	Hospor
19.	Mr. Chetan Rajkumar Miskin	GINDAND	विद्यार्थाद्वीयभा	心的图像	HEMILTIN	Emptin
20.	Mr. Govardhan Govinda Sapkal	of og koul	attag koul	o dap kad	Eifaplen	Tepyo
21	Mr. Hansh Pralhadrao Kharap	Harf	Hoop	Thep	ALUP .	Jul.
22	Mr. Harshal Gopal Sable	Hear	Hobe	4500	Habit	Hobe
23.	Mr. Kartik Shrikrishna Pawar	Frauer	Krawer	Floren	Toubar	15 Galler
24.	Mc Krisha Kartik Shah	BONLY.	@ Istal	@KX4L	DIMIL	Opplat
25:	Mr. Manisha Amar Pajai	1 Ages	"Chat	That	thai	Thai

Prof. R. K. Shiesut

Co-coordinator

Dr V D Mane

Coordinator

Organizers

Dr. H. J. Kharat Coordinator

HoD, Physics

Prigcipal



Shankarial Khandelwal Arts, Science and Commerce College, Akola (MS)

Department of Physics: B.Sc. III Sem. VI: 2021-22

Certificate Course in 'Designing and Repairing of LED Bulb' 5th May to 9th May 2022:

		Attendance				
S.N.	NAME OF THE STUDENT	5/5/2022	6/5/2022	7/5/2022	8/5/2022	9/5/2022
26	Mr. Manisha Pravin Ambarkar	Ma	al	(4)4	MA	MA
27	Mr. Nikita Madhukar Ujade	alligades	Mujes	Milled	Militar	Olying
28	Mr. Pavan Gajanan Nimbekar	-4	-0	U_		2
29	Mr. Pranav Najukrao Wankhade				-	-
30	Mr. Pranav Shrikrushna Bopulkar	Bepull and	Compos	Bopult 98	Sopultar	Sopular
31	Mr. Prathmesh Ashok Shirale			- 1		awal
32	Mr. Sakshi Kailas Wankhade	Saule	Sout	Struck	Sunt.	Sulate
33	Mr. Sarita Shankar Mahalle	Propale	Subalt	Schale	These	Breek
34	Mr. Sneha Devidas Dhore	Bleec	Ance	Genture	2)	Chris
35	Mr. Swapnil Prakash Kanhed				No.	
36	Mr. Swaraj Ganesh Sanap					-
	Mr. Tejas Pramod Lakkewar	- II al com		tehelbar	Mades	- Wallac
38	Mr. Trupti Panjabrao Telharkar	Chitagiran	September 2	0	3	- Constant
40	Mr. Vaibhav Sudhakar Satao	Whenh.	Abna.	(Walton 1	Chants	Olema-
41	Mr. Vaishnavi Nandkishor Chendalne	DYANK.	PLANE	PIANE	PYNHE	PSAHE
42	Ms. Rutuja Samadhan Jane	Aughorten				
43	Ms. Ashvini Vinod Ghatole	R.	0	8	(3)	0
44	Ms. Nikita Shivnath Gayakwad	(B)C	A.	(Gar)	1	OF.
45	Ms. Achal Dnyaneshwar Dorkar	z-wx/	Likel	start	Satisf	Auch
46	Ms. Vaishnavi Prashant Iche	Pres	CAPT 1	- 0		
47	Dr. S. K. Devade	Monh	dinal	die	5 2000	1000
48	Dr. H. J. Khazaf	Want	-17604	-A 3849 9	- Novemb	Mount
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Organizers

Co-coordinator

Dr V D Mane Coordinator

Dr. H. J. Kharat Coordinator

HoD, Physics

or. J.M Saboo Princ/pal



Shankarlal Khandelwal Arts, Science and Commerce College, Akola (MS)

Department of Physics: 8.5c. II 5em. IV: 2021-22

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s.N	NAME OF THE STUDENT	5/5/2022	6/5/2022	7/5/2022	8/5/2022	9/5/2022
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3.	Mr. GAYATRI SANIAY KHADSAN	Achoese	2	A LIST		
4	Ms. GAURI GANESH SHENDE		*			
4.1	MIS. JANHVI SURESH SHENDE					
6.	KM. DIKSHA ARVIND TAYADE		-			
7.	Ku. GOURI DIPAK SAIWAL		•			
. 8.	Ku. LAXMI SANTOSH PACHKAWADE	•				
9.	Ku. Mrunal Nilkanth Deshmukh			* ***********************************	-	
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11		The sale	Mr. Stark	IK SHIP	4 98%	H 900
12	Mr. DIPALI AJAY SONONE					
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15	Mr. Rushikesh Vijay Asare	ZV.Asa	BY ALD	-KA HOV	KILME	Ch
16	Mr. SAURABH SANTOSH KALE	State	Chair	Skale	52 hour	(C) Kare
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Prof. R. K. Shirsat Co-coordinator

OF V D Mane Coordinator Or. H. J. Kharat Coordinator

Organizers

Dr. S. M. Dawarde HoD, Physics Dr.T.N Saboo Principal



Shankarlal Khandelwal Arts, Science and Commerce College, Akola (MS)

Department of Physics: B.Sc. II Sem. IV: 2021-22
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Attendance

S.N.	NAME OF THE STUDENT	5/5/2022	6/5/2022	7/5/2022	8/5/2022	9/5/2022
26	NAV. PRUSAD MAJESH FATE					
27 .	Mr. Prathamesh Vinayak Mahajan	Worlds	- (Value	erms.	1 V may	(Kucha)
28	BOY BAHAR PRAVINSHELKE					-
29	Mr. SANKET DILIP PAWAR					
30	Mr. Somit Pradio Tikar	Eggisas-	GOBBON.	Galaxie.	GODEN.	BOTTON.
31	I.Ar. VAISHNAVI TUKARAM MADAVI		E .			
32	KIL BHUMIKA MADHUKAR TAYADE			No. 14		-
33	Ku. Shital Gajanan Wahurwagh			B. 3.		-
34	Mr. ADITYA GAJANAN DANDGE					
35	Mr. Dotta Shankarran Chandurkar	Ds Chandurkar	DS (Hondurk)	D Schmoline	DS Chambridge	beckedin
36	Mr. Himanshu Sharad Dongare					
37	Mr. MAYUR MADHUKAR JAWANIAL					
38	Mr. SANKET ANIRUDDHA SARAF				The	
39	KU NEHA ANIL PANDEY	· 第二号。				
40	Mr. BHUSHAN SURESH DAKHORE					-
41	Mr. GAURE VITTHAL PATEKHEDE	appleh	Caroldo	Gentle	arroll	86.14
42	Mr. SACHIN BABURAD GAYAKWAD					
43	Ku. SANIANA SANIAY GADHEKAR	Zulre ke	Sulph.	Sadhele	= allele	25 Adlete
44	Mr. CHAITANYA SUNDERLAL KHOWAL	(815	135	BK	Bs.	1862
45	Str. Riya Ramesh Bopulkar	Burulinax	Boulles	Betalle,	Bullers	Dealer
46	Ku Gauri Vishwarrao Wadatker	God.	-610	GUS.	GW.	GW.
47	Mr. DOLLY DINESH MER					
48	Mr. Vrushabh Dinesh Mer	Vrushal	VA Otter	12 Ju	SOMe	SOME
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Dr. H. J. Kharat

Organizers

Shankarlal Khandelwal Arts, Science and Commerce College, Akola Skill Based Certificate Course on 'Designing and Repairing of LED Bulb': 5th May to 9th May 2022 Organized by the Department of Physics and Career Katta

Max. Marks:- 30		QUIZ	Time:-45 Minutes,
Name		.Class.:-B.Sc	Year, Marks Obtained:-
Which one of the following	ng LED emits an invisible light?		
A) Laser LED,	B) Bicolour LED,	15. Which color	ur LED was first available commercially?
C) Infra-red LED,	D) Tricolour LED	A) Red, B) Y	/ellow, C)Blue, D) Green
2, makes LED's radiate	red or yellow light.	16.The junction	in LED doped.
A) Gallium Arsenide Ph	osphide , B) Gallium Phosphide,		3) Heavily,C) Moderately,D) None of these
C) Gallium,	D)Gallium Arsenide	17.The spectral	distribution of LED is
3. Which one of the following	ng is not LED materials?	A) Symmet	ric, B) Asymmetric,C) Linear, D)Non-linear
A) GaAs,	B) GaP,		LED is emitted through
C) Sic	D)SiO ₂		B) Dielectric Window, C) Cathode, D)Substrate
4. What is the typical range	of forward voltage of an LED?		is emitting because
A) 5-12v,	B)1.7-3.3v,		ls on LED, B)Recombination of charges take
C) 5-12mv,	D)1.7-3.3mv	place. C	PN junction emits light when heated.D) IR
5. The efficiency of an LED to	for generating light is directly	light fall	s on LED.
proportional to the		20.What is cold	our LED lamp is commonly used for domestic
A) Applied voltage	C) Current injected	use?	
B) Temperature	D) Level of doping		B)Black, C)Red, D)Green
6. Which type of resistance	used in potentiometer?	21. Which of the	ne following LED colour is not present in an
A) Constant	C)Variable	LED TV?	
B) Zero	D)Increasing	A) Green, 8	3) White,C)Red,D)Blue
7. In LED, light is emitted b	ecause	22.What is the	forward voltage of LED?
A) Recombination of cha	arge carrier takes place. B) Diode	A) 0.6vdc,8)1.5vdc-3vdc,C)0.3vdcD)1.8vdc-3.3vdc
gets heated up C) Lig	ht falling on the diode get	23In Bridge Re	ctifier how many diodes used
_	ts reflected due to lens action.	A) 1, B)	2, C)3, D)4
8. Which formulae represer	nt energy of a photon?	24.The compo	und material of semiconductor used in LED's
A) E=hv, B) E=hc/\(\lambda\), C)		make use	of elements of periodic table.
9. What is LED?		A) Group -	3,B)Group -4,C)Group-5,D)Both A and C
A) P-n diode, B) Thermis	ster, C) Gate, D) Transmitter	25.LED operati	es at bias.
10. What is LED stands for?		A) Forward	I, B) Reverse,C)Neutral,D)None of the above.
A) Light Emitting Display	y, B) Low energy Display,		tion of electron-hole produces LED's.
	D) Light emitting detector	A)Photons,	B)Protons,C)Nucleus,D)Junction of capacitano
11. What is the use of LED [Oriver?	27.Which LED	is brighter?
A) its convert DC to AC,	B) Its convert AC to DC,	A) Homoju	inction LED,B) Heterostructure LED,C) Both a
C) It converts AC to AC	. D) It converts DC to DC)None of the above
12.Example of an active dis	play and a passive display	28.LED made:	s with Aluminium Gallium Arsenide produces
respectively are		colou	IT.
A) LCD and Gas discharg	ge plasma, B) LED and LCD,	A) Red , B)	Yellow,C) Infrared,D) Both A & C
C)Gas discharge plasma	and LED, D) Electrophoretic	29.Ohms Law	is
Image display and LED		A) V=I x R.	B) I=V x R, C) R=V x I,D) V=I/R
13. What is the output of an	LED driver?		, which transformer is used to reduce the
A) Chopped AC, B) Pulsa	ating DC,C) DC, D) AC		the output of the rectifier
14. The p-n junction in a LEI			own, B) Step up, C) Amplifier,D)None
A) Silicon, B) Germaniu	m, C) Gallium Arsenide,D) Gallium	1	

Shikshan Prasarak Mandal, Akola's

Shankarlal Khandelwal Arts, Science & Commerce College, Akola

Academic / Extension / Social / Research / Co-curricular / Guest Lecture / Educational Tour & Visit / Interdisciplinary / Entrepreneurship / Innovative / Workshops / Creative

Name of the activity Name of the activity Name of the activity Name of the Guest/Speaker/Judger Resource person Qui 3 / MCQ Text 1. To eveluale It was a coveral shows 1 the activity The strength of t	aculty:	Science Deptt. Physics	Committee : _	Casees kosto
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1 Manisha Arnae pajai 2 Mentiha Peavin Athrophae 3 Mukto Punkar Besch Mankue 4 Vajshnavi Prashant Iche 5 Achal Dnyoneshwar Dorkar Besch Aybette 5 Achal Dnyoneshwar Dorkar Besch Aybette 6 Ashwini Vinad Ghatole 7 Pritee Dalaldhan Dhole 8 proch Ganesh Aghadata Besch Dhou 9 Ancha Devidas Dhane 10 Teuph panjabrao Tetharae Besch Status 11 Vaishani Rojesh Kasture 12 Gauni Rojesh Kasture 13 Rutika manoj aliwankar Besch Shahu 14 Sarita shankar Manalle Besch Shahu 15 Roshani Ramdas Tekade Besch Granle 16 Pran ali Ravindes Ghumre Besch Granle 18 Patta Shankar Manalle Besch Granle 19 Datta Gankar Mandurkar Besch Granle 10 Datta Gankaraa Chandurkar Besch Granle 10 Patta Gankaraa Chandurkar Besch Granle 11 Datta Gankaraa Chandurkar Besch Granle 12 Roshani Ramdas Tekade Besch Granle 14 Sarita Shankaraa Chandurkar Besch Granle 15 Roshani Ramdas Tekade Besch Granle 16 Pran ali Ravindes Ghumre Besch Granle 18 Sauran Skaue	dr.	D.F. Nachara Reformance 2. To evaluate the Problem Solvey	Historia in the Action of Children applications of Children applications of the Children applications o	Santill Santy cash we kill
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Shankarlal Khandelwal Arts,
Science and Commerce College, Akola (MS)

Skill Based Certificate Course on Designing and Repairing of LED Bulb

Organized by

Department of Physics & Career Katta In Collaboration with ABS Foundation, Akola 5th to 9th May 2022

Resource Person Prof. Durga Nachane Director, ABS Foundation Akola

Organizing Committee

Dr. V. D. Mane Coordinator Prof. R.K.Shirsat Co-Coordinator

Dr. H. J. Kharat Coordinator

Dr. S.K.Devade HoD,Physics



































Shankarlal Khandelwal Arts, Science and Commerce College, Akola (MS)

Re-accredited by NAAC with 'A' Grade



CERTIFICATE

This is to certify that Dr. Sanjay Kashmatin Devade of Shankartal Khandelwall College, Aircla has successfully completed 5 days skill based certificate course on 'Designing and Repairing of LED Bulb' organized by the Department of Physics and Career Katta of Shankarlal Khandelwal Arts, Science and Commerce College, Akola in collaboration with ABS Foundation, Akola from 5th May to 9th May 2022.

Prof. D. P. Nachane Director,

ABI Foundation, Aircla

Dr. V. D. Mane Carper Rotto, SKC Dr. H. J. Kharat Dept. of Physics

fulakood Dr. J. M. Saboo Principal, SMC Alante

Gernant 11:05-2023 शकरलाल खंडलवाल महाविद्यालयात एलईडी बल्ब बनवण्याचे प्रशिक्षण



देशोत्रती वृत्तसंकलन...

अकोला = स्वानिक शकरलाल महाविद्यालयात खडेलवाल मीतिकशास्त्र विभाग आणि करिअर कड़ा यांच्या संयुक्त विद्यमाने तसेच एबीएस फाउंडेशन अकोलाच्या सहयोगाने डिझायनिंग अँड रिपेरिंग ऑफ एलईडी बल्ब या प्रमाणपत्र अन्यासक्रमाचे पाच दिवसीय प्रशिक्षण संपन्न झाले. या प्रशिक्षणाच्या उद्यादनाच्या वेळी अध्यक्ष म्हणून खंडेलवाल महाविद्यालयाचे प्राचार्य डॉ. जं.एम. साबू उपस्थित होते, काशस्य विकासाचे जीवनामध्ये महत्त्व, याचे विद्यार्थांना मार्गदर्शन केले. या कालावधीत घेतलेल्या कौशल्य आधारित पाच दिवसीय प्रमाणपत्र अम्बासकमाकरिता रिसोर्स पर्सन व

मुख्य प्रशिक्षक म्हणून एखीएस काउंडेशन अकोलाच्या संचालिका प्रा. नाचणे उपस्थित होत्या. दर्गा त्यांच्यासोवत प्रा. ओजस्विनी देशमुख य प्रा. मेघा तिजारे यांनी सहमागी विद्यार्थ्यांना एलईडी बल्ब बनवणे व दुरुस्ती करणे या विषयाचे प्रशिक्षण दिले. पत्रास विद्यार्थ्यांना प्रशिक्षण पूर्ण केल्याचं प्रमाणपत्र देण्यात आले. या प्रशिक्षणाचे आयोजन, उद्घाटन आणि समारोप कार्यक्रमाच्या यशस्त्रीतेकरिता प्रशिक्षण वर्गाचे समन्वयक डॉ. हरिदास खरात तसेच करिअर कट्टाचे समन्वयक हाँ, विवेक माने, भौतिकशास्त्र विमाग प्रमुख हाँ, संजय देवहे, सहसमन्वयक प्रा. रोहन शिरसाट, डॉ. प्रफुल्ल घुगे, विराज भगत, गणेश उपाध्याय व विद्यार्थीचे सहकार्य लामले.

To.

The Principal Shankarial Khandelwal Arss. Science and Commerce College, Akola

Quar Sir,

It is a matter of great privilege for me to conduct 5 days Skill based Certificate course on 'Designing and Repairing of LED Bulb' from 5th May to 9th Stay, 2022 in the Shankarial Khandelwal Arts, Science and Commerce College. Alasia (MS)

I would like to express my sincere gratitude for inviting me as a Resource. Person in your reputed institution. I congrutulate you for organizing 5 days' workshop cum ad-on course for B.Sc. Students in your nice campus. Sincere gratitude for the honorarium which I received as a cheque of Bank of Maharashtra of Rs. 12500/ with no 004131 pn 18th May 2022.

Looking forward to have association with you in future as well.

Thanks

With Brigard's,

Smoerely Yours,

Phalale le Prof. Durga P Nachane ARS Foundation, Akols

Coordintor

HoD, Physics

mabell Dr J M Saboo Principal PRINCIPAL

Shankarlal Khandelwal Arts, Science & Commerce College, AKOLA (M.S.)