

"Dissemination of Education for Knowled<mark>ge, Sc</mark>ience and Culture"

- Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur

(Autonomous).

Department of Physics
Value Added Course
on

Basic Instrumentation in

Physics

1st August 2024

to

30 October 2024

Course Duration: 3 Months

Course Coordinator

Dr. G. J. Navathe

Head

Dr. S. S. Latthe

Principal

Dr. R. R. Kumbhar

Shri Swami Vivekanand Shikshan Sanstha's Vivekanand College (Autonomous), Kolhapur.
Department of Physics (2019-2020)

Syllabus for Value Added Course

(Basic Instrumentation Course)
Total Course hours: 30
Credit: 1

Unit: I

Least Count of Instruments:

(7)

Vernier caliper, Micrometer screw gauge, Sperometer, Meter scale, Spectrometer, Travelling microscope, Optical bench, Volt meter, Current meter, Galvanometer

Unit: II

Study of Instruments:

(8)

Traveling microscope, Spectrometer, Optical bench, Ballistic Galvanometer, Sextant instrument, Telescope,

Unit: III

Study of electronics and electricity:

(7)

Use of multimeter, Testing of Components, Use of CRO, Use of Audio frequency generator, To check the fuse, Continuity of wire.

Unit: IV

(8)

Designing of electrical circuit:

Calculation for values of resistance, capacitors, voltage etc. current components, circuit shouldering on chases, preparation of printed circuit borad (PCB).

Unit: V Field Visit



Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Empowered Autonomous). Department of Physics

Basic Instrumentation Course in Physics

Students List

VAC 2024-25

Sr. No.	Students Name	Mobile No.	Fee	Sign
1.	KUMBHAR ADITI SANDIP	9699412156	500/-	A: Kumbhan
2.	DIXIT SAMRUDDHI SATYA	7888060990	500/-	Zoixit-
3.	KUMBHAR SAHIL SUNIL	7057605310	500/-	Skumbhoc
4.	PATIL ATHARVA RAJARAM	7083726060	500/-	Sparry
5.	PARALE ABHISHEK SAMBHAJI	9689870495	500/-	Varale
6.	SHAIKH AYAN SHAMSHUDDIN	7821957974	500/-	Single
7.	SHINGATE SHREYASH SUHAS	8010736013	500/-	The state of the s
8.	LOKHANDE PRAJWAL SUDHIR	7030658232	500/-	Boriway
9.	MARUDA PRITI KETAN	8080252995	500/-	Punveiles
10.	GAHUNKIKAR MAYURESH AMIT	9175495585	500/-	Mahaikan

ESTD JUNE 1964

HEAD
DEPARTMENT OF PHYSICS
VIVEKANAND COLLEGE, KOLHAPU.
(EMPOWERED AUTONOMOUS)

- Shikshanmaharshi Dr. Bapuji Salunkhe "Dissemination of Education for Knowledge, Science and Culture"

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Empowered Autonomous). Department of Physics Basic Instrumentation Course in Physics Attendance Sheet

0/60	18/09/24	25/08/24 0	24/08/24	18/08/24	17/08/24	VAC 2024-25 10/08/24 11/08/24 17/08/24 18/08/24 24/08/24 25/08/24 08/09/24 09/09	10/08/24		Sr. No.
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0/60	8/09/24	25/08/24 0	24/08/24	18/08/24	17/08/24	11/08/24	10/08/24	Students Name	Sr. No.
						C7-4-77	VA		

		VA	VAC 2024-23						
Sr. No.	Students Name	10/08/24	11/08/24	17/08/24	18/08/24	24/08/24	17/08/24 18/08/24 24/08/24 25/08/24 08/09/24 09/09/24	08/09/24	09/09/24
1.	KUMBHAR ADITI SANDIP	A: Kumbhar		Ayearshler A. Fundhar A. Fundhar A Kumbhar A. Kumbhar A. Kumbhar A. Kumbhar A. Kumbhar A. Kumbhar	A. Kundhar	A Kumbba	A. Kumbhar	A. Krunpho	A. Sundalin
2.	DIXIT SAMRUDDHI SATYA	Sout	Goixit	Sixter.	Swist	Golxie Golxie	,	Pixie X	Loixit
3.	KUMBHAR SAHIL SUNIL	Sumbor	V	Kimbhar Dumhhan	Skumbha	Frimhha	Kilmbion Kimbion Simbiron Skimbion Rumbur	Skimbba	Kumbutt
4.	PATIL ATHARVA RAJARAM	ApaH!		(Hod)	(HaH)	(Hod)	(Hoot)	Par H')	ApaH'I
5.	PARALE ABHISHEK SAMBHAJI	Bonde	Sonde	Berole	Prode	Brook	Rivie	Perle	Drawich
9	SHAIKH AYAN SHAMSHUDDIN	AShark L	WILL ASPUREN PORMING ASPUNIED PROVIEN PORMING ASPONEY (Bred 181)	Whan By	AShwith	Fralkh	All miller	-ASharlkh	Brey Rh.
7.	SHINGATE SHREYASH SUHAS	Andrew S	A Surgar	a desired	Brown 1	Bright.	The broad the	Thirdy.	Frank.
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9.	MARUDA PRITI KETAN	Phermoder	Pharudes operades purameter powersal provades pourales	(ulamely)	ales mane)	poronades.	gownolm	(homomon)	Powerado
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Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Empowered Autonomous). Department of Physics

Department of Physics Basic Instrumentation Course in Physics

Attendance Sheet VAC 2024-25

		A	VAC 2024-25						
Sr. No.	Students Name	14/09/24	15/09/24	21/09/24	22/09/24	29/09/24	30/09/24	6/09/24	7/09/24
1.	Biranje Sakshi Raju	Biman)e	Bhrame	(Swen)e	Smemle Bludnije	Smanje	Brrem Pe	Birane	Digame.
2.	Dadarne Gaurav Ajit	Godfene	Godore	Carles	Jacken	Jordose	Lock	leating	Goodelin
3.	Desai Surekha Tanaji	Coescui	Spaul	Cresci	Sesani	Sossii	Cossai	Descu'	Spessur
4.	Kognolikar Atharv Hariprasad	A. H.K	# H.K	J. H.K	A. H.K	A.H.K	J.H.K	A.H.K	4.11.K
5.	Mude Tanishq Anil	toppor	tanim	Anna,	Administ	of commy	Low	Long	Lomme
9	Nishad Ritu Ramhari	R. Wishud	K. Nichard	Ringhad	P. Y. Shard	RNBLood	R. Nighael.	2 Nepuel Post Blud	P. Notres
7.	Patil Riya Dattatray	GALL.	Jesti I		Jahl -	Infile	1140	Condit	1
89	Patnekar Sahil Chetan	Suhi	Sabie	Larbis	or ways	Suhia	Lating		Pahiw
.6	Savtekar Ritesh Shekhar	Row Peters.	Bane Actor		Jank text Ranchelen		Beworkstein of anoteken	Barolein Bew Velenz	Sewhelenz
10.	Ranmale Samruddhi Subhash	Louis Contract	Surviva &	S. Cannuly	Konna &	THOMOVE OF	A some	Samon &	Some Some
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12.		10.5	4						
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Shri Swami Vivekanand Shikshan Sanstha, Kolhapur

Vivekanand College, Kolhapur (Autonomous) Department of Physics

Value Added Course Examination

Basic Instrumentation course in physics				
Date: 15/10/2024		tal Marks: 20		
Time:10:30 am to 11:30	am shoulch Ayan shor	pshuddin		
Student's Name:	ΛC	10		
Student's Sign:	770	(20)		
Jr. Supervisor Sign:	valuoni.			
Q.1) Select correct alter	native	(20)		
1) In microphoneco	onverts into electrical energy			
sound	b)light			
c)laser energy	d) magnetic field			
2) The 'S' energy levels are al	ways			
a)double	b)triple			
c)single	d)multiple			
3) Doublet separation	with increase of atomic number			
a)increases	b)decreases			
c)remain same	d)becomes zero			
4) Principal quantum number	'n' defines the position of electron in			
Shell	b)Subshell			
c)nucleus	d)outermost orbit			
5) Normal Zeeman effect is o	bserved when atom is placed in			
a)Weak magnetic	b)strong magnetic	TAMO COLLEGE 2		
c)weak electric	d)strong electric	ESTD Y		
6) Hamilton's principle is	principle	JUNE)		
a) differential	b) integral	THE THEORY OF THE PARTY OF THE		
c) an algebraic	d) summation	SAME WHENEVER		
7) The shortest distance between	een two points in a plane is along a	passing through the		
two points				
a) curve	b) normal to plane			

	c) straight line		d) circle	
	8) X-rays are the	waves		
(*	a)electromagnetic	:	b)longitudinal	
`	c)mechanical		d)elastic	
	9) Characteristic X-rays	depend on		
0	a) target materia	1	b) wavelength	
	c) frequency		d) energy of cathode ra	ys
	10) The energy released p	per fission of urar	nium is about	
0			b)200 MeV	
	c)400 MeV		d) 150MeV	
	11)is the source	e of stellar energy	y	
	a)Nuclear fusion		b)Nuclear fissio	n
1	c) chain reaction		d)heavy water	
	12) The Carbon-Nitroge	n cycle contribu	tion about percent	tage to the total solar
\bigcirc	energy			
	a)5	b) 25	c) 10	d) 20
	,	ele is same in the	fixed and the rotating system	
D	a) velocity		b) linear acceleration	
	c) angular acceleration	n	d) momentum	
	14) The frequency of anti-	isymmetric mode	is frequency of sym	nmetric mode.
\	a) higher than	,	b)lower than	
	c) lowest than		d)zero	
	15)The trajectory of a pa	rticle entering an	electric field in a direction pe	erpendicular to \vec{E} is -
0	a) straight line pa	rallel to \vec{E}	b) parabola	
	c)hyperbola		d)circle	
	16) If Ø is scalar potent	ial function then	following equation represent	Laplace's equation
\	$(a)\nabla^2\emptyset=0$		b) $\nabla^2 \emptyset = \rho/\epsilon_0$	
	c) $\nabla \emptyset = 0$		d) $\nabla \emptyset = \rho/\epsilon_0$	
	17) Mathematical formu	lation of empirica	al laws in electricity and mag	netism are known as
		•	,	
O	a) Lagrangian's e	quations	b) Maxwell's equations	LEMAND COLLEGE TO
	c) Lorent'sz equa	tions	d) Newton's equations	ESTD ESTD
	•			JUNE 18
				1964
				CASE VILLE

	18) The equation of continuity is in a	accordance with the law of conservation of	
<u> </u>	a) energy	b) momentum	
	c) charge	d)angular momentum	
	19) Electric dipole moment per unit	volume of polarized medium is called	
1	a) Displacement vector D	b) Polarization vector P	
D	c) Magnetization M d) Electric intensity vector E		
	20) According to Ampere's circuit	al law the line integral of magnetic induction B around	
	closed path is equal to th	ne total current I enclosed by the closed path.	
	a) twice	b) μ_0 times	
	c) u ₀ /2 times	d) u ₀ /4 times	

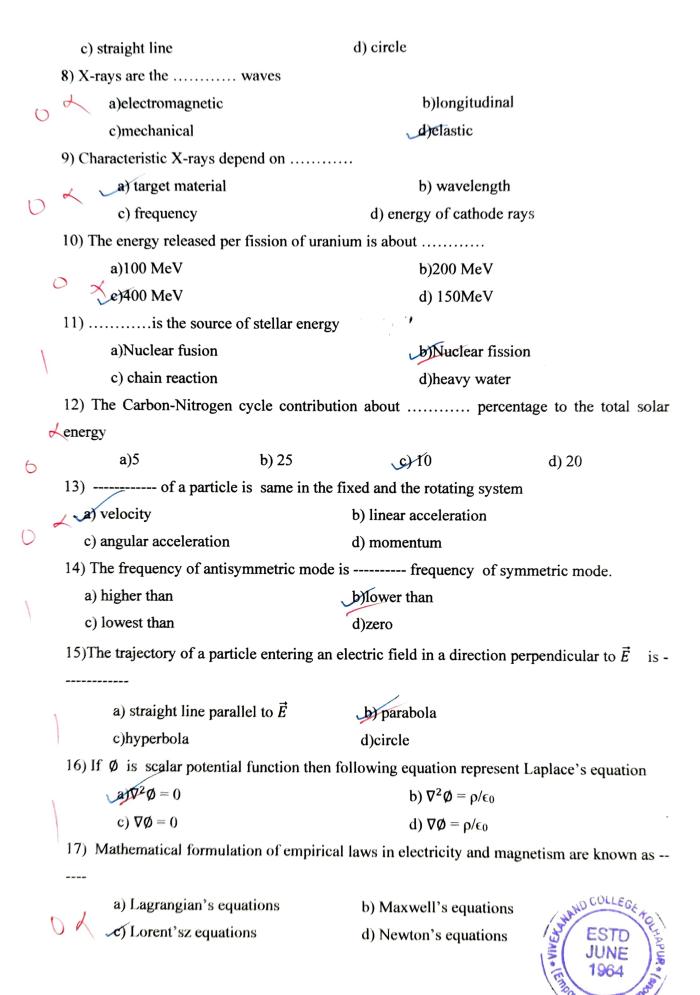


Shri Swami Vivekanand Shikshan Sanstha, Kolhapur

Vivekanand College, Kolhapur (Autonomous) **Department of Physics**

Value Added Course Examination

Basic In	strumentation course in physics
Date: 15/10/2024	Total Marks: 20
Time:10:30 am to 11:30	am Porole Abbiebole Combbeil
Student's Name:	Parale Abhishek Sambhaji
Student's Sign :	20
Jr. Supervisor Sign:	Valvaru
Q.1) Select correct alter	native (20)
1) In microphoneco	nverts into electrical energy
a)sound	b)light
c)laser energy	d) magnetic field
2) The 'S' energy levels are al	ways
a)double	b)triple
c)single	d)multiple
3) Doublet separation	with increase of atomic number
alincreases	b)decreases
c)remain same	d)becomes zero
4) Principal quantum number '	'n' defines the position of electron in
a)Shell	b)Subshell
L enucleus	d)outermost orbit
5) Normal Zeeman effect is of	bserved when atom is placed infield
a)Weak magnetic	b)strong magnetic
c)weak electric	d)strong electric
6) Hamilton's principle is	principle 1964
a) differential	principle b) integral
c) an algebraic	d) summation
7) The shortest distance between	en two points in a plane is along a passing through the
two points	
a) curve	b) normal to plane



	18)T	he equation of continuity is i	n accordance with the law of conservation of
6	. /	a) energy	b) momentum
O	X	a) energyc) charge	d)angular momentum
	19) 1	Electric dipole moment per u	nit volume of polarized medium is called
	d	a) Displacement vector D	b) Polarization vector P
04	a) Displacement vector Dc) Magnetization M	d) Electric intensity vector E	
	20)	According to Ampere's circ	uital law the line integral of magnetic induction B around
	close	ed path is equal to	the total current I enclosed by the closed path.
,	\	a) twice	b) μ_0 times d) $\mu_0/4$ times
		c) $\mu_0/2$ times	d) $\mu_0/4$ times



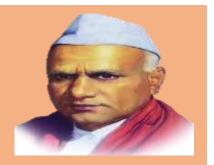


Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Empowered Autonomous)

Affiliated to Shivaji University

NAAC accredited "A" College with potential excellence ISO 9001 2015



Department of Physics

CERTIFICATE

This is to certify that Mr/Mrs/Miss Mr. **KUMBHAR ADITI SANDIP** of Class B.Sc. II has completed value added course in "**Basic Instrumentation Course in Physics**" conducted by Department of Physics, Vivekanand College, Kolhapur (Empowered Autonomous), Maharashtra, India during academic year 2024-25.

Granta

Co-ordinator (Dr. G. J. Navathe) Josh

IQAC Coordinator (Dr. Shruti Joshi)

Pell

Principal
(Dr. R. R. Kumbhar)

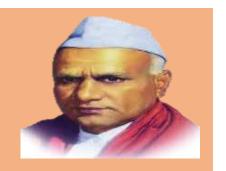


Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Empowered Autonomous)

Affiliated to Shivaji University

NAAC accredited "A" College with potential excellence ISO 9001 2015



Department of Physics

CERTIFICATE

This is to certify that Mr/Mrs/Miss Mr. **PATIL ATHARVA RAJARAM** of Class B.Sc. II has completed value added course in "**Basic Instrumentation Course in Physics**" conducted by Department of Physics, Vivekanand College, Kolhapur (Empowered Autonomous), Maharashtra, India during academic year 2024-25.

Granta

Co-ordinator (Dr. G. J. Navathe) Joshi

IQAC Coordinator (Dr. Shruti Joshi)

Pell_

Principal
(Dr. R. R. Kumbhar)