



“Dissemination of Education for Knowledge, Science 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 December 2022

to

28 February 2023

Course Duration : 3 Months

Course Coordinator

Dr. S. I. Inamdar

Head

Mr. C. J. Kamble

Principal

Dr. R. R. Kumbhar

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

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College (Autonomous), Kolhapur.

BASIC INSTRUMENTATION COURSE IN PHYSICS

Name List

Sr. No.	Name of the student	Roll no.	Mobile No.	Fee	Sign
1	Mr. Bhingardev Dhiraj Prakash	8201	9370487859	500	DBP
2	Mr. Dongare Prathamesh Abaji	8202	7058059753	500	PAL
3	Mr. Dongare Suyash Sanjay	8203	9021478848	500	Suyash
4	Miss. Gaikwad Rajnandini Ganesh	8204	9834078449	500	gga
5	Miss. Jadhav Sae Sandeep	8205	7249398355	500	Sae
6	Miss. Jamadar Mehek Shakilahmed	8206	9373330286	500	Mehek
7	Mr. Kalkutki Shubham Babasaheb	8207	9096123788	500	SK
8	Miss. Kamble Anjali Bhagwan	8208	9325161549	500	Anale
9	Mr. Kothawale Tejas Vikas	8209	9130589258	500	Tej
10	Mr. Maner Aman Imtiyaj	8210	8308588523	500	Aman
11	Mr. Padmakar Alok Narayan	8211	9352752121	500	Alok
12	Mr. Patil Aryan Pramod	8212	9534568730	500	App
13	Mr. Shinde Vivek Janardan	8213	9424535093	500	Vivek
14	Miss. Shingade Aishwarya Deepak	8214	9524125966	500	AS
15	Miss. Singh Sapna Raviraj	8215	9168307107	500	Sapna
16	Mr. Warke Shriyash Keraba	8216	9975455283	500	Yash
17	Mr. Yadav Vedaja Ajay	8217	8308480080	500	Jsh
18	Mr. Nardekar Jayant Sunil	8218	8996515680	500	JK
19	Miss. Kumawat Varsha Rajesh	8219	9373330283	500	RS



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Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College (Autonomous), Kolhapur.

BASIC INSTRUMENTATION COURSE IN PHYSICS

Name List (2022-23)
Batch I (Monday, Tuesday)
(B.Sc. III)

Sr.No.	Roll No.	Name of the student	Mobile No.
1	8201	Mr. Bhingardeve Dhiraj Prakash	9370487859
2	8202	Mr. Dongare Prathamesh Abaji	7058059753
3	8203	Mr. Dongare Suyash Sanjay	9021478848
4	8204	Miss. Gaikwad Rajnandini Ganesh	9834078449
5	8205	Miss. Jadhav Sae Sandeep	7249398355
6	8206	Miss. Jamadar Mehek Shakilahmed	9373330286
7	8207	Mr. Kalkutki Shubham Babasaheb	9096123788
8	8208	Miss. Kamble Anjali Bhagwan	9325161549
9	8209	Mr. Kothawale Tejas Vikas	9130589258
10	8210	Mr. Maner Aman Imtiyaj	8308588523
11	8211	Mr. Padmakar Alok Narayan	9352752121
12	8212	Mr. Patil Aryan Pramod	9534568730
13	8213	Mr. Shinde Vivek Janardan	9424535093
14	8214	Miss. Shingade Aishwarya Deepak	9524125966
15	8215	Miss. Singh Sapna Raviraj	9168307107
16	8216	Mr. Warke Shriyash Keraba	9975455283
17	8217	Mr. Yadav Vedaja Ajay	8308480080
18	8218	Mr. Nardekar Jayant Sunil	8996515680
19	8219	Miss. Kumawat Varsha Rajesh	9373330283

Guptal
for Head
Department of Physics

Pan
Principal
Vivekanand College
Kolhapur



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Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College (Autonomous), Kolhapur.
Department of Physics (2022-23)

Syllabus for Add On Course
(Basic Instrumentation Course)

Unit: I

Least Count of Instruments:

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

Unit: II

Study of Instruments:

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

Unit: III

Study of electronics and electricity:

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

Unit: IV

Field Visit



Roll No. _____

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Vivekanand College, Kolhapur (Autonomous)

Department of Physics

Value Added Course Examination

Basic Instrumentation course in physics

Date: 03/04/2022

Total Marks: 20

Time: 10:30 am to 11:30 am

Student's Name : _____

Student's Sign : _____

Jr. Supervisor Sign: _____

Q.1) Select correct alternative

(20)

- 1) X-rays are the waves
 - a) electromagnetic
 - b) longitudinal
 - c) mechanical
 - d) elastic
- 2) Characteristic X-rays depend on
 - a) target material
 - b) wavelength
 - c) frequency
 - d) energy of cathode rays
- 3) The energy released per fission of uranium is about
 - a) 100 MeV
 - b) 200 MeV
 - c) 400 MeV
 - d) 150 MeV
- 4) is the source of stellar energy
 - a) Nuclear fusion
 - b) Nuclear fission
 - c) chain reaction
 - d) heavy water
- 5) The Carbon-Nitrogen cycle contribution about percentage to the total solar energy
 - a) 5
 - b) 25
 - c) 10
 - d) 20
- 6) In microphone converts into electrical energy
 - a) sound
 - b) light
 - c) laser energy
 - d) magnetic field
- 7) The 'S' energy levels are always
 - a) double
 - b) triple
 - c) single
 - d) multiple
- 8) Doublet separation with increase of atomic number



a) energy

b) momentum

c) charge

d) angular momentum

19) Electric dipole moment per unit volume of polarized medium is called -----

a) Displacement vector D

b) Polarization vector P

c) Magnetization M

d) Electric intensity vector E

20) According to Ampere's circuital law the line integral of magnetic induction B around closed path is equal to ----- the total current I enclosed by the closed path.

a) twice

b) μ_0 times

c) $\mu_0/2$ times

d) $\mu_0/4$ times



Roll No. _____

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Vivekanand College, Kolhapur (Autonomous)

Department of Physics

Value Added Course Examination

Basic Instrumentation course in physics

Date: 03/04/2022

Total Marks: 20

Time: 10:30 am to 11:30 am

Student's Name : Aman Patil

Student's Sign : Aman

Jr. Supervisor Sign: [Signature]

18 / 20

Q.1) Select correct alternative (20)

1) X-rays are the waves

a) Electromagnetic

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Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha, Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Physics

Value Added Course Examination

Basic Instrumentation course in physics

Date: 03/04/2022

Total Marks: 20

Time: 10:30 am to 11:30 am

Student's Name : Nandkumar Jayant Anil

Student's Sign : [Signature]

Jr. Supervisor Sign: [Signature]

12
20
Jalsal

Q.1) Select correct alternative

(20)

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d) $\mu_0/4$ times



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-Shikshanmaharshi Dr. Babuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha, Kolhapur

Vivekanand College, Kolhapur (Autonomous)

Department of Physics

Value Added Course Examination

Basic Instrumentation course in physics

Date: 03/04/2022

Total Marks: 20

Time: 10:30 am to 11:30 am

Student's Name : Kothawale Tejas Vikas

Student's Sign : Tejas

Jr. Supervisor Sign: July

15
20 July

Q.1) Select correct alternative

(20)

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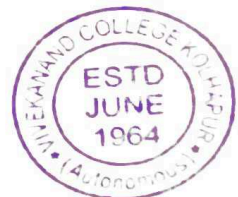
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Vivekanand College, Kolhapur (Autonomous)

Department of Physics

Value Added Course Examination

Basic Instrumentation course in physics

Date: 03/04/2022

Total Marks: 20

Time: 10:30 am to 11:30 am

Student's Name : Bhingarshree Dhruv Prakash

Student's Sign: [Signature]

Jr. Supervisor Sign: [Signature]

19
20
2004

Q.1) Select correct alternative

(20)

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- a) increases
- b) decreases
- c) remain same
- d) becomes zero

9) Principal quantum number 'n' defines the position of electron in

- a) Shell
- b) Subshell
- c) nucleus
- d) outermost orbit

10) Normal Zeeman effect is observed when atom is placed in field

- a) Weak magnetic
- b) strong magnetic
- c) weak electric
- d) strong electric

11) Hamilton's principle is ----- principle

- a) differential
- b) integral
- c) an algebraic
- d) summation

12) The shortest distance between two points in a plane is along a ----- passing through the two points

- a) curve
- b) normal to plane
- c) straight line
- d) circle

13) ----- of a particle is same in the fixed and the rotating system

- a) velocity
- b) linear acceleration
- c) angular acceleration
- d) momentum

14) The frequency of antisymmetric mode is ----- frequency of symmetric mode.

- a) higher than
- b) lower than
- c) lowest than
- d) zero

15) The trajectory of a particle entering an electric field in a direction perpendicular to \vec{E} is -

- a) straight line parallel to \vec{E}
- b) parabola
- c) hyperbola
- d) circle

16) If ϕ is scalar potential function then following equation represent Laplace's equation

- a) $\nabla^2 \phi = 0$
- b) $\nabla^2 \phi = \rho/\epsilon_0$
- c) $\nabla \phi = 0$
- d) $\nabla \phi = \rho/\epsilon_0$

17) Mathematical formulation of empirical laws in electricity and magnetism are known as --

- a) Lagrangian's equations
- b) Maxwell's equations
- c) Lorentz equations
- d) Newton's equations

18) The equation of continuity is in accordance with the law of conservation of -----



a) energy

c) charge

~~b) momentum~~

d) angular momentum

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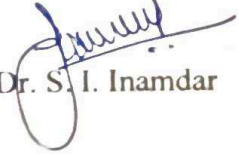
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BASIC INSTRUMENTATION COURSE IN PHYSICS

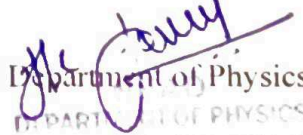
Name List (2022-23)
Batch I (Monday, Tuesday)
(B.Sc. III)

Sr.No.	Roll No.	Name of the student	Obtained marks out of (20)	Result
1	599031	Bhingardeve Dhiraj Prakash	19	Pass
2	599032	Dongare Prathamesh Abaji	19	Pass
3	599033	Dongare Suyash Sanjay	20	Pass
4	599034	Gaikwad Rajnandini Ganesh	18	Pass
5	599035	Jadhav Saeed Sandeep	20	Pass
6	599036	Jamadar Mahek Shakilahmed	18	Pass
7	599037	Kalkutki Shubham Babasaheb	17	Pass
8	599038	Kamble Anjali Bhagwan	14	Pass
9	599039	Kothawale Tejas Vikas	15	Pass
10	599040	Maner Aman Imtiyaj	18	Pass
11	599041	Padmakar Alok Narayan	18	Pass
12	599042	Patil Aaryan Pramod	19	Pass
13	599043	Shinde Vivek Janardan	19	Pass
14	599044	Shingade Aishwarya Deepak	17	Pass
15	599045	Singh Sapana Raviranjan	16	Pass
16	599046	Warke Shriyash Keraba	20	Pass
17	599047	Yadav Vedaja Ajay	20	Pass
18	599346	Nardekar Jayant Sunil	12	Pass
19	599352	Ghorpade Anjali Uttam	15	Pass
20	599362	Kumawat Varsha Rajesh	20	Pass

Course coordinator


Dr. S. I. Inamdar

Head


Department of Physics
DEPARTMENT OF PHYSICS
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)



"अपि, अपि अति गुरोर्न शिष्यो भवति" - शिवराजि अ. अर्जुन म्हा

Sri Swami Vivekanand Shiksha Sanstha, Kolhapur.

VIVEKANAND COLLEGE, KOLHAPUR (Autonomous)

Affiliated to Shivaji University


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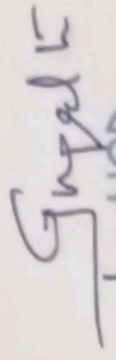


Department of Physics

Certificate

This to certify that Mr./Mrs/Miss Jadhav Sae Sundeep of class B.Sc-III has completed the add on/COC course in "Basic Instrumentation in Physics" conducted by Department of Physics, Vivekanand College, Kolhapur (Autonomous), Maharashtra, India during 2022-2023 academic year.


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


HOD
(Mr. C. J. Kamble)





"ॐ, अहं सवि गुरुभ्यो नमः शिवाय" - शिवजी मठ, कोल्हापूर

Shri Swami Vivekanand Siddhanta Sanstha, Kolhapur.

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Department of Physics

Certificate

This to certify that Mr/Mrs/Miss Patil Aryan Pramod of class B.Sc-III has completed the add on/COC course in "Basic Instrumentation in Physics" conducted by Department of Physics, Vivekanand College, Kolhapur (Autonomous), Maharashtra, India during 2022-2023 academic year.

Gugalt
Course Co-ordinator
(Dr. G. J. Navathe)

Gugalti
for HOD
(Mr.C. J. Kamble)



"ज्ञानं, धैर्यं चतुर्णाम्, प्रवृत्तयः शान्तिं प्रदाति" - अमरगोष्ठी ३१. अर्थात् अग्निं

श्री श्री स्वामी विवेकानंद शिवालय संस्था, कोल्हापूर.

VIVEKANAND COLLEGE, KOLHAPUR (Autonomous)

Affiliated to Shivaji University

NAAC Reaccredited "A" | College with Potential for excellence | ISO 9001 : 2015



Department of Physics

Certificate

This to certify that Mr/Mrs/Miss Maner Aman Imtiyaj of class B.Sc-III has completed the add on/COC course in "Basic Instrumentation in Physics" conducted by Department of Physics, Vivekanand College, Kolhapur (Autonomous), Maharashtra, India during 2022 - 2023 academic year.

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

G. Jagath
FeHOD
(Mr. C. J. Kamble)

