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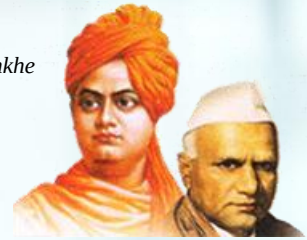
- Shikshanmaharshi Dr. Bapuji Salunkhe



Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur

(Autonomous).

Department of Physics

Value Added Course

on

Basic Instrumentation in Physics

1st August 2023

to

30 October 2023

Course Duration : 3 Months

Course Coordinator	Head	Principal
Dr. G. J. Navathe	Dr. S. S. Latthe	Dr. S. Y. Hongekar

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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

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Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Empowered Autonomous).

Department of Physics

Basic Instrumentation Course in Physics

Academic Year 2023-24

Students List

Sr. No.	Students Name	Mobile No.	Fee	Sign
1.	Biranje Sakshi Raju	8623046106	500/-	S.R.Biranje
2.	Dadarne Gaurav Ajit	9146590797	500/-	G.Dadarne
3.	Desai Surekha Tanaji	8208059495	500/-	S Desai
4.	Kognolikar Atharv Hariprasad	9637222424	500/-	AHK.
5.	Mude Tanishq Anil	8007909983	500/-	T.Mude..
6.	Nishad Ritu Ramhari	9422495833	500/-	Ritu
7.	Patil Riya Dattatray	9112924510	500/-	R D Patil
8.	Patnekar Sahil Chetan	7249777079	500/-	Sahil P..
9.	Savtekar Ritesh Shekhar	9049261751	500/-	
10.	Ranmale Samruddhi Subhash	7276431136	500/-	Samruddhi

HOD

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Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Empowered Autonomous).

Department of Physics

Basic Instrumentation Course in Physics

Attendance Sheet

Sr. No.	Students Name	14/09/23	15/09/23	21/09/23	22/09/23	29/09/23	30/09/23	6/09/23	7/09/23
1.	Biranje Sakshi Raju	S.R.Biranje	S.R.Biranje	S.R.Biranje	S.R.Biranje	S.R.Biranje	S.R.Biranje	S.R.Biranje	S.R.Biranje
2.	Dadarne Gaurav Ajit	G.Dadarne	G.Dadarne	G.Dadarne	G.Dadarne	G.Dadarne	G.Dadarne	G.Dadarne	G.Dadarne
3.	Desai Surekha Tanaji	Edesai	Edesai	Edesai	Edesai	Edesai	Edesai	Edesai	Edesai
4.	Kognolikar Atharv Hariprasad	AHK.	AHK.	AHK.	AHK.	AHK	AHK	AHK.	AHK.
5.	Mude Tanishq Anil	T.Mude.	T.Mude	T.Mude..	T.Mude..	T.Mude.	T.Mude	T.Mude	T.Mude
6.	Nishad Ritu Ramhari	Ritu	Ritu	Ritu	Ritu	Ritu	Ritu	Ritu	Ritu
7.	Patil Riya Dattatray	RDPatil	RDPatil	RDPatil	RDPatil	RDPatil	RDPatil	RDPatil	RDPatil
8.	Patnekar Sahil Chetan	SahilP	SahilP	SahilP	SahilP	SahilP	SahilP	SahilP	SahilP
9.	Savtekar Ritesh Shekhar								
10.	Ranmale Samruddhi Subhash	Samruddhi	Samruddhi	Samruddhi	Samruddhi	Samruddhi	Samruddhi	Samruddhi	Samruddhi
11.									
12.									

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Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Empowered Autonomous).

Department of Physics

Basic Instrumentation Course in Physics

Attendance Sheet

Sr. No.	Students Name	10/08/23	11/08/23	17/08/23	18/08/23	24/08/23	25/08/23	08/09/23	09/09/23
1.	Biranje Sakshi Raju	S.R.Biranje	S.R.Biranje	S.R.Biranje	S.R.Biranje	S.R.Biranje	S.R.Biranje	S.R.Biranje	S.R.Biranje
2.	Dadarne Gaurav Ajit	G.Dadarne	G.Dadarne	G.Dadarne	G.Dadarne	G.Dadarne	G.Dadarne	G.Dadarne	G.Dadarne
3.	Desai Surekha Tanaji	Sdesai	Sdesai	Sdesai	Sdesai	Sdesai	Sdesai	Sdesai	Sdesai
4.	Kognolikar Atharv Hariprasad	AK.	AK.	AK.	AK.	AK.	AK.	AK.	AK.
5.	Mude Tanishq Anil	T.Mude	T.Mude	T.Mude	T.Mude	T.Mude	T.Mude	T.Mude	T.Mude.
6.	Nishad Ritu Ramhari	Ritu	Ritu	Ritu	Ritu	Ritu	Ritu	Ritu	Ritu
7.	Patil Riya Dattatray	RPatil	RPatil	RPatil	RPatil	RPatil	RPatil	RPatil	RPatil
8.	Patnekar Sahil Chetan	Sahil P	Sahil P	Sahil P	Sahil P	Sahil P	Sahil P	Sahil P	Sahil P
9.	Savtekar Ritesh Shekhar								
10.	Ranmale Samruddhi Subhash	Samruddhi	Samruddhi	Samruddhi	Samruddhi	Samruddhi	Samruddhi	Samruddhi	Samruddhi
11.									
12.									

Roll No. 7733

"Education for Knowledge, Science and Culture"
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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: 14/10/2023 **Total Marks: 20**

Time:10:30 am to 11:30 am

Student's Name : Sahil Chetan Patnekar

Sahil P.

Student's Sign : ----------

Jr. Supervisor Sign: ----------

11/20

Q.1) Select correct alternative **(20)**

1) In microphone .....converts into electrical energy

a)sound b)light

c)laser energy d) magnetic field

2) The 'S' energy levels are always .....

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 .....

a)Shell b)Subshell

c)nucleus d)outermost orbit

5) Normal Zeeman effect is observed when atom is placed in .....field

a)Weak magnetic b)strong magnetic

c)weak electric d)strong electric

6) Hamilton's principle is ---------- principle

a) differential b) integral

c) an algebraic d) summation

7) 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

8) X-rays are the ..... waves

a)electromagnetic b)longitudinal

c)mechanical d)elastic

9) Characteristic X-rays depend on .....

a) target material b) wavelength

c) frequency d) energy of cathode rays

10) The energy released per fission of uranium is about .....

a)100 MeV b)200 MeV

c)400 MeV d) 150MeV

11) .....is the source of stellar energy

a)Nuclear fusion b)Nuclear fission

c) chain reaction d)heavy water

12) The Carbon-Nitrogen cycle contribution about ..... percentage to the total solar energy

a)5 b) 25 c) 10 d) 20

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 $\emptyset$ is scalar potential 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 formulation of empirical laws in electricity and magnetism are known as ------

a) Lagrangian's equations b) Maxwell's equations

c) Lorent'sz equations d) Newton's equations

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

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. 7725

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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: 14/10/2023 **Total Marks: 20**

Time:10:30 am to 11:30 am

Student's Name : Ritesh Shekhar Savtekar

Student's Sign :

Jr. Supervisor Sign:

18/20

Q.1) Select correct alternative (20)

1) In microphone .....converts into electrical energy

a)sound b)light

c)laser energy d) magnetic field

2) The 'S' energy levels are always .....

a)double b)triple

c)single d)multiple

3) Doublet separation ..... with increase of atomic number

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9) Characteristic X-rays depend on .....

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c) frequency d) energy of cathode rays

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a)5 b) 25 c) 10 d) 20

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Roll No. 7758

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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

12/20

Date: 14/10/2023 **Total Marks: 20**

Time:10:30 am to 11:30 am

Student's Name : Athary Haripprasad Kognolikar

Student's Sign :

Jr. Supervisor Sign:

Q.1) Select correct alternative **(20)**

1) In microphone .....converts into electrical energy

a)sound b)light

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c)single d)multiple

3) Doublet separation ..... with increase of atomic number

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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. Savtekar Ritesh Shekhar 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 2023-24.

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

IQAC Coordinator
(Dr. Shruti Joshi)

Principal
(Dr. R. R. Kumbhar)

"Dissemination of Education for Knowledge, Science and Culture"
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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. Patnekar Sahil Chetan .....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 2023-24.

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

IQAC Coordinator
(Dr. Shruti Joshi)

Principal
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"Dissemination of Education for Knowledge, Science and Culture"
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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. Kognolikar Atharv Hariprasad 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 2023-24.

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

IQAC Coordinator
(Dr. Shruti Joshi)

Principal
(Dr. R. R. Kumbhar)