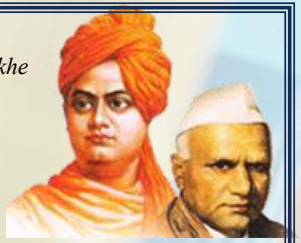
"Dissemination of Education for Knowledge, Science and Culture"

- 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 August 2024

to

30 October 2024

Course Duration : 3 Months

Course Coordinator	Head	Principal
Dr. G. J. Navathe	Dr. S. S. Latthe	Dr. R. R. Kumbhar

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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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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/-	
2.	DIXIT SAMRUDDHI SATYA	7888060990	500/-	
3.	KUMBHAR SAHIL SUNIL	7057605310	500/-	
4.	PATIL ATHARVA RAJARAM	7083726060	500/-	
5.	PARALE ABHISHEK SAMBHAJI	9689870495	500/-	
6.	SHAIKH AYAN SHAMSHUDDIN	7821957974	500/-	
7.	SHINGATE SHREYASH SUHAS	8010736013	500/-	
8.	LOKHANDE PRAJWAL SUDHIR	7030658232	500/-	
9.	MARUDA PRITI KETAN	8080252995	500/-	
10.	GAHUNKIKAR MAYURESH AMIT	9175495585	500/-	

VIVEKANAND COLLEGE KOLHAPUR (Empowered Autonomous)
ESTD JUNE 1964

HC

HEAD
DEPARTMENT OF PHYSICS
VIVEKANAND COLLEGE, KOLHAPUR
(EMPOWERED AUTONOMOUS)

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

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Empowered Autonomous).

Department of Physics

Basic Instrumentation Course in Physics

Attendance Sheet

VAC 2024-25

Sr. No.	Students Name	10/08/24	11/08/24	17/08/24	18/08/24	24/08/24	25/08/24	08/09/24	09/09/24
1.	KUMBHAR ADITI SANDIP	A.Kumbhar	A.Kumbhar	A.Kumbhar	A.Kumbhar	A.Kumbhar	A.Kumbhar	A.Kumbhar	A.Kumbhar
2.	DIXIT SAMRUDDHI SATYA	Dixit	Dixit	Dixit	Dixit	Dixit	Dixit	Dixit	Dixit
3.	KUMBHAR SAHIL SUNIL	Skumbhar	Skumbhar	Skumbhar	Skumbhar	Skumbhar	Skumbhar	Skumbhar	Skumbhar
4.	PATIL ATHARVA RAJARAM	APatil	APatil	APatil	APatil	APatil	APatil	APatil	APatil
5.	PARALE ABHISHEK SAMBHAJI	Parale	Parale	Parale	Parale	Parale	Parale	Parale	Parale
6.	SHAIKH AYAN SHAMSHUDDIN	ASheikh	ASheikh	ASheikh	ASheikh	ASheikh	ASheikh	ASheikh	ASheikh
7.	SHINGATE SHREYASH SUHAS	Shingate	Shingate	Shingate	Shingate	Shingate	Shingate	Shingate	Shingate
8.	LOKHANDE PRAJWAL SUDHIR	Prajwal	Prajwal	Prajwal	Prajwal	Prajwal	Prajwal	prajwal	prajwal
9.	MARUDA PRITI KETAN	Pmaruda	Pmaruda	Pmaruda	Pmaruda	Pmaruda	Pmaruda	Pmaruda	Pmaruda
10.	GAHUNKIKAR MAYURESH AMIT	MGhunkikar	MGhunkikar	MGhunkikar	MGhunkikar	MGhunkikar	MGhunkikar	MGhunkikar	MGhunkikar
11.									
12.									

VIVEKANAND COLLEGE ESTD JUNE 19 (Empowered Autonomous)

"Dissemination of Education for Knowledge, Science and Culture"

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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

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								
2.	Dadarne Gaurav Ajit								
3.	Desai Surekha Tanaji								
4.	Kognolikar Atharv Hariprasad								
5.	Mude Tanishq Anil								
6.	Nishad Ritu Ramhari								
7.	Patil Riya Dattatray								
8.	Patnekar Sahil Chetan								
9.	Savtekar Ritesh Shekhar								
10.	Ranmale Samruddhi Subhash								
11.									
12.									

VIVEKANAND COLLEGE KOLHAPUR (Empowered Autonomous) ESTD JUNE 1964

Roll No.

"Education for Knowledge, Science and Culture"
-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: 15/10/2024 **Total Marks: 20**

Time:10:30 am to 11:30 am

Student's Name : ---------- shaikh Ayan shamshuddin ----------

Student's Sign : ---------- S.A.S. ----------

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

10/20

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

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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.

"Education for Knowledge, Science and Culture"
-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: 15/10/2024 **Total Marks: 20**

Time:10:30 am to 11:30 am

Student's Name : Parale Abhishek Sambhaji

Student's Sign : Abhi

Jr. Supervisor Sign: Kalyani

10/20

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

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VIVEKANAND COLLEGE KOLHAPUR (Empowered Autonomous) ESTD JUNE 1964

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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.

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

IQAC Coordinator
(Dr. Shruti Joshi)

Principal
(Dr. R. R. Kumbhar)

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

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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.

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

IQAC Coordinator
(Dr. Shruti Joshi)

Principal
(Dr. R. R. Kumbhar)