

DEPARTMENT OF PHYSICS

SRI A.S.N.M. GOVERNMENT COLLEGE (AUTONOMOUS)

PALAKOL, W.G.DT.534260

CERTIFICATE COURSE-2021



CERTIFICATE COURSE

IN

Instrumentation Basics and Technical Skill Development

COURSE COORDINATOR

Sri G.SRINIVASA RAO

DEPARTMENT OF PHYSICS

Dr.T.Raja Rajeswari Principal ,GDC Palakol –Inaugurated and Explained the importance of the Certificate course on

Instrumentation Basics and Technical Skill Development



SRI A.S.N.M. GOVERNMENT COLLEGE

(NAAC Reaccredited B grade with 2.61 CGPA)

PALAKOL, WEST GODAVARI DISTRICT, A.P

DEPARTMENT OF PHYSICS

CERTIFICATE

This is to certify that Mr/Ms.....

Of.....Class successfully completed certificate

Course in During the year 2020-21.



In-charge of the Department & Course-coordinator



PRINCIPAL
Sri. A.S.N.M. Govt. College (Autonomous)
PALAKOL - 534260 (W.G.Dist.)

Principal

Sri ASNM Government College Palakol

Department of Physics

**Department of Physics Sri ASNM Government College Palakol proposed to
organize Certificate Course in Instrumentation Basics and Technical Skill
Development to develop self ability and self employment opportunities for
B.Sc Students of our college**

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MINUTES OF THE MEETING

The Department of Physics held a meeting on 23-11-2021 and passed a resolution to organize Certificate Course in **Instrumentation Basics and Technical Skill Development** under the guidance of Sri G Srinivasa Rao . The other staff members of the Department Sri A P V Apparao ,

Dr. K Ram Narayana and smt N V R D PadmaLata were present in the meeting . The course was planned to be held for 30 working hours.

The certificate course was organized from 24-11-2021 to 28-12-2021 for the academic year 2020-2021 to the III BSc (MPC) and (MPCs) students for curriculum enrichment



Dept.incharge & Course coordinator



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Addressing the Students by Principal and Course Convener



Valedictory by the Principal Smt. Dr. T. Raja Rajeswari

Course Title: **Instrumentation Basics and Technical Skill Development**

Course Objectives:

- Understand the basic working principles of important electrical and electronic circuit components.
- Troubleshooting the laboratory equipments.
- Develop the skill of simple electronic circuit fabrication and instrumentation.

Syllabus

Module 1: Familiarisation of electronics circuit components - Resistor, Capacitor, Diodes, Transistor, Inductor, Integrated Circuits.

Module 2: Characteristics of AC and DC signals.

Module 3: Familiarisation of Galvanometer, Ammeter, Voltmeter, DC power supplies, AC signal generator, CRO.

Module 4: Electronics circuit fabrication basics- BreadBoard, Soldering Techniques.

Module 5: Construction and working of simple electronic circuits-Rectifier, voltage regulator, Amplifier, Oscillator, Multivibrator.

Total Hours: 30

Examination Scheme: Exam contain 25 multiple choice question each one carry 4 marks.

Eligibility: III B.SC Physics students are eligible to enroll for the course.

No. of Seats: 25

Quality Assurance Mechanism: The quality of the course will be ensured through continuous evaluation of feedback from students and course coordinator by IQAC of the college.

This proposal is placed before BOS committee for syllabus approval.

Committee Members

1. *Dr A.P.V APPA RAO*

2. *Dr K.Rama Narayana*

3. *Smt N.M.D.Padmalaatha*

BOS Chairman

Sri G.SRINIVASA RAO


Student Enrollment:

1	1921002	B N D MADHAVI	B.SC.	MPC
2	1921003	C RADHA	B.SC.	MPC
3	1921005	G RUPENDRA	B.SC.	MPC
4	1921006	G BHAVANI	B.SC.	MPC
5	1921008	G NEELIMA RANI	B.SC.	MPC
6	1921010	N LAVANYA	B.SC.	MPC
7	1921011	P LAKI BABU	B.SC.	MPC
8	1921012	LAKSHMI SIRISHA	B.SC.	MPC
9	1921013	TADICHARLA JAHNAVI	B.SC.	MPC
10	1921014	T YESUMANI	B.SC.	MPC
11	1921015	V SRIVALLIKA	B.SC.	MPC
12	1921016	Y VENKATA LAKSHMI	B.SC.	MPC
13	1921017	Ch DEEPTHI	B.SC.	MPCS
14	1921018	Ch SURYALAKSHMI	B.SC.	MPC
15	1921018	Ch NAGA LAKSHMI	B.SC.	MPC
16	1921019	D SRINU	B.SC.	MPC
17	1921022	P VIJAYAJYOTHI	B.SC.	MPC
18	1921023	M BHAVANI	B.SC.	MPC
19	1921024	M NAGAMANI	B.SC.	MPC
20	1921025	N NOMESWARI	B.SC.	MPC
21	1921026	N RAJAGOPAL	B.SC.	MPC
22	1921029	Y SAI MUTHYALU	B.SC.	MPC



Head of the Dept.

Principal


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Time Table:

Day	Time : 9Am to 10 Am	Time: 4pm to 5pm
Mon	GSR	APV
Tue	KRN	NPL
Wed	GSR	APV
Thu	KRN	NPL
Fri	GSR	APV
Sat	KRN	NPL



Head of the Dept.

Principal



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Student Attendance:

Sl.No	Name of the Student	Class	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	B N D MADHAVI	III B.Sc.,	p	p	p	A	p	p	p	p	p	p	p	p	p	A	p	p	p
2	C RADHA	III B.Sc.	p	p	p	p	p	p	p	p	p	A	p	p	p	p	p	p	p
3	G RUPENDRA	III B.Sc.	p	p	p	p	p	A	p	p	p	p	p	p	p	p	p	p	p
4	G BHAVANI	III B.Sc.	p	p	p	p	p	p	p	p	p	p	A	p	p	p	p	p	p
5	G NEELIMA RANI	III B.Sc.	p	p	p	p	p	A	p	p	p	p	p	p	p	p	p	p	p
6	N LAVANYA	III B.Sc.	p	p	p	p	p	p	p	p	A	p	p	p	p	p	p	p	p
7	P LAKI BABU	III B.Sc.	p	p	p	p	p	A	p	p	p	p	p	p	p	p	p	p	p
8	LAKSHMI SIRISHA	III B.Sc.	p	p	p	p	p	p	p	p	p	p	p	p	A	p	p	p	p
9	TADICHARLA JAHNAVI	III B.Sc.	p	p	p	p	p	p	p	A	p	p	p	p	p	p	p	p	p
10	T YESUMANI	III B.Sc.	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
11	V SRIVALLIKA	III B.Sc.	p	p	p	p	p	p	p	p	p	A	p	p	p	p	p	p	p
12	Y VENKATA LAKSHMI	III B.Sc.	p	p	p	p	p	A	p	p	p	p	p	p	p	p	p	p	p
13	Ch DEEPTHI	III B.Sc.	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	A	p
14	Ch SURYALAKSHMI	III B.Sc.	p	A	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
15	Ch NAGA LAKSHMI	III B.Sc.	p	p	p	p	p	p	p	A	p	p	p	p	p	p	p	p	p
16	D SRINU	III B.Sc.	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	A
17	P VIJAYAJYOTHI	III B.Sc.	p	p	p	p	p	p	p	p	p	A	p	p	p	p	p	p	p
18	M BHAVANI	III B.Sc.	p	p	p	p	p	p	p	p	p	p	p	p	p	p	A	p	p
19	M NAGAMANI	III B.Sc.	A	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
20	N NOMESWARI	III B.Sc.	p	p	p	A	p	p	p	p	p	p	p	p	p	p	p	P	p
21	N RAJAGOPAL	III B.Sc.	p	p	p	p	p	p	p	p	A	p	p	p	p	p	p	p	p
22	Y SAI MUTHYALU	III B.Sc.	p	p	p	p	p	p	p	p	p	p	A	p	p	p	p	p	p

Student Attendance:

Sl.No	Name of the Student	Class	18	19	20	21	22	23	24	25	26	27	28	29	30		
1	B N D MADHAVI	III B.Sc.,	A	p	p	p	p	p	p	p	p	p	p	p	p		
2	C RADHA	III B.Sc.	p	p	p	p	p	p	p	p	p	p	A	p	p		
3	G RUPENDRA	III B.Sc.	p	p	p	p	p	p	p	p	A	p	p	p	p		
4	G BHAVANI	III B.Sc.	p	p	p	p	p	p	p	p	p	p	p	p	p		
5	G NEELIMA RANI	III B.Sc.	p	p	p	A	p	p	p	p	p	p	p	p	p		
6	N LAVANYA	III B.Sc.	A	p	p	p	p	p	p	p	p	p	p	p	p		
7	P LAKI BABU	III B.Sc.	p	p	p	p	p	p	p	A	p	p	p	p	p		
8	LAKSHMI SIRISHA	III B.Sc.	p	p	p	p	p	p	p	p	p	p	p	p	p		
9	TADICHARLA JAHNAVI	III B.Sc.	p	p	p	p	A	p	p	p	p	p	p	p	p		
10	T YESUMANI	III B.Sc.	p	p	p	p	p	p	p	p	A	p	p	p	p		
11	V SRIVALLIKA	III B.Sc.	A	p	p	p	p	p	p	p	p	p	p	p	p		
12	Y VENKATA LAKSHMI	III B.Sc.	p	p	p	p	p	p	p	p	p	p	p	p	A		
13	Ch DEEPTHI	III B.Sc.	p	p	p	p	p	p	p	p	p	A	p	p	p		
14	Ch SURYALAKSHMI	III B.Sc.	p	p	p	p	p	A	p	p	p	p	p	p	p		
15	Ch NAGA LAKSHMI	III B.Sc.	p	p	A	p	p	p	p	p	p	p	p	p	p		
16	D SRINU	III B.Sc.	A	p	p	p	p	p	p	p	p	p	p	p	p		
17	P VIJAYAJYOTHI	III B.Sc.	p	p	p	p	p	A	p	p	p	p	p	p	p		
18	M BHAVANI	III B.Sc.	p	p	p	A	p	p	p	p	A	p	p	p	p		
19	M NAGAMANI	III B.Sc.	p	A	p	p	p	p	p	p	p	p	p	p	p		
20	N NOMESWARI	III B.Sc.	p	p	p	p	p	p	p	p	A	p	p	p	p		
21	N RAJAGOPAL	III B.Sc.	p	p	p	p	p	A	p	p	p	p	p	p	p		
22	Y SAI MUTHYALU	III B.Sc.	p	p	p	p	p	p	A	p	p	p	p	p	p		

Head of the Dept.

Principal

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SRIA.S.N.M. GOVERNMENT COLLEGE(A)PALAKOL, WEST GODAVARI DISTRICT

DEPARTMENT OF PHYSICS

**CERTIFICATE COURSE IN INSTRUMENTATION BASICS AND TECHNICAL SKILL
DEVELOPMENT**

EVALUTION OF STUDENT PERFORMANCE ON THE MODULES

TIME 25 MINUES

MCQS 25

1.Input impedance of CRO is

- a)1 Mega Ohm
- b)1 Kilo Ohm
- c)100 Ohms
- d)1 Ohm

2)CRO Displays

- a)ACsignals
- b)DC signals
- c)both a and b
- d)None of the above

3)The rating of resistor is measured in

- a)Ohms
- b)Watts
- c)Amperes
- d)both a and b

4)for 180 K ohms resister with 100% tolerance the colour band will be in the sequence of

- a)Brown-grey-yellow-gold

b)Brown-grey-yellow-silver

c)Brown-blue -yellow-gold

d) Brown-green-yellow-gold

5)In case of electrolytic capacitor, if the positive terminal is connected to the negative of supply and negative terminal is connected to positive of supply

a) There will be no effect

b) The capacitor will be damaged

c) The circuit will not work

d) None of the above

6)Rating of an electrolytic capacitor is measured in

a)Farads

b)Volts

c) None of the above

d) Both a and b

7)Transistor is

a) Passive component

b) Active component

c)None of the above

d) Both a and b

8)Inductor is

a) Passive component

b) Active component

c)None of the above

d) Both a and b

9) In electronics the term IC denotes

- a) Industrial control
- b) Integrated circuit
- c) internal combustion
- d) International circuit

10) An ideal voltage source is that which has an internal resistance of

- a) 0
- b) Low
- c) High
- d) Infinite

11) An ideal current source is that which has an internal resistance of

- a) 0
- b) Low
- c) High
- d) Infinite

12) A real voltage source has

- a) Zero internal resistance
- b) Infinite internal resistance
- c) A small internal resistance
- d) A large internal resistance

13) A real current source has

- a) Zero internal resistance
- b) Infinite internal resistance

- c) A small internal resistance
- d) A large internal resistance

14) A cold solder joint

- a) Shows good soldering technique
- b) Usually produces an open
- c) Sometimes useful
- d) always has low resistance

15) An open resistor has

- a) Infinite current through it
- b) Zero voltage across it
- c) Infinite voltage across it
- d) Zero current through it

16) What is the voltage across a silicon diode when it is forward biased

- a) 0 volts
- b) 0.3 volts
- c) 0.7 volts
- d) 1 volt

17) If $N_1/N_2 = 2$ and the primary voltage is 120 volts, what is the secondary voltage

- a) 0 volts
- b) 36 volts
- c) 60 volts
- d) 240 volts

18) In a stepdown transformer which is larger

- a) Primary voltage
- b) Secondary voltage
- c) Neither
- d) None of the above

19) When a Diode is forward biased, the recombination of free electron and holes may produce

- a) Heat
- b) Light
- c) Radiation
- d) All the above

20) A rectifier is a device which converts

- a) A/C to D/C
- b) DC to AC
- c) Both a and b
- d) None of the above

21) An amplifier is a device with

- a) 2 ports
- b) 1 port
- c) 3 ports
- d) None

22) A transistor is a device with

a)2 ports

b)1 port

c)3 ports

d)None

23)An amplifier

a) Decreases the amplitude of the signal

b) Increases the amplitude of the signal

c) Both a and b

d)None of the above

24)Oscillators are devices

a)Convert AC signal from power supply to DC

b) Convert DC signal from power supply to AC

c) Both a and b

d)None of the above

25)Oscillators are used in

a)Calculators

b)Digital clock

c)Computers

d) All the above

Answer Key:

1. A
2. C
3. D
4. B
5. B
6. D
7. B
8. B
9. B
10. A
11. D
12. C
13. D
14. B
15. D
16. C
17. C
18. A
19. D
20. A
21. A
22. C
23. A
24. B
25. D

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PALAKOL, WEST GODAVARI DISTRICT, A.P

DEPARTMENT OF PHYSICS

CERTIFICATE

This is to certify that Mr/Ms **N.LAVANYA**

Of III B.Sc (MPC) Class successfully completed certificate

Course in **Instrumentation Basics and Technical Skill
Development** Durin the year 2020-21.



**In-charge of the Department &
Course-coordinator**



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CERTIFICATE

This is to certify that Mr/Ms **Y VENKATA LAKSHMI**
Of **III B.Sc (MPC)** Class successfully completed certificate
Course in **Instrumentation Basics and Technical Skill**
Development Durin the year 2020-21.



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