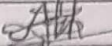
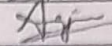
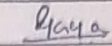
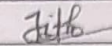
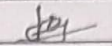
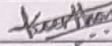
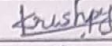
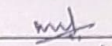
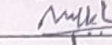
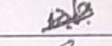
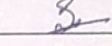
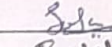
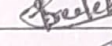
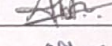
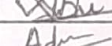
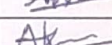
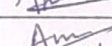
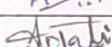
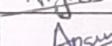
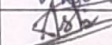
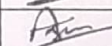
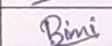
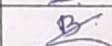
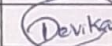
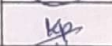
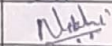
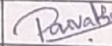
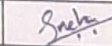
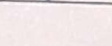


MANNAM MEMORIAL NSS COLLEGE, KOTTIYAM

STUDENT ENROLMENT LIST

Name of department : PHYSICS

Name of course : ELECTRONIC INSTRUMENTATION. (2022-23)

Sl No	Name of Student	Signature
1	Amina Shan	
2	Asjuo. S.S	
3	Gayathri. U.R.	
4	Jithesh B.S	
5	Jyothirmayi. S	
6	Keesthara. A.M	
7	Krishnapriya. G.	
8	Maheshwari Mohan. M.V	
9	Manasi. H.G	
10	Mekha. M	
11	Nimisha. J. Babu	
12	Sandeep. S	
13	Sona Sam	
14	Sreedekshmi. R.	
15	Vishakh. S	
16	Abhirajith. B.V	
17	Abhinav. B.	
18	Abhinav. T.K	
19	Adithyan. S	
20	Akash. S	
21	Akshay. K.S	
22	Amal. A	
23	Anjali. S. Babu	
24	Aparna Parakash	
25	Arden Raj	
26	Ashin Nivas	
27	Aswin. R	
28	Bimi. B	
29	Boonege Raj	
30	Devika	
31	Krishna Priya.	
32	Nikitha. V	
33	Parvathy. S. Vimal.	
34	Sneha Suresh	

35	Sudbeer N	①
36	Vignesh H	Vignesh
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41	Sudbeer N	
42	DEPARTMENT OF PHYSICS	
43	M. M. N. S. S. COLLEGE	
44	KOTTIYAM.	
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ELECTRONIC INSTRUMENTATION

Curriculum:

unit 1 (14 hrs)

Basic concepts of measurements -

Instruments for measuring basic parameters -

ammeter - voltmeter - multimeter -

digital voltmeter - accuracy - resolution of DVM

unit 2 (16 hrs)

Cathode ray tubes - CRT circuits - vertical

deflection system - delay line - horizontal

deflection system - multiple trace -

oscilloscope probes - storage oscilloscopes.

Objectives:

- to understand the concept of measurements
- to know about measuring instruments and its working principle.
- understand the working of cathode ray tubes and storage oscilloscopes.



S. S. S. S.
DEPARTMENT OF PHYSICS
M. M. N. S. S. COLLEGE
KOTTIYAM.

Course Schedule

10/8/22	Thursday	3:30 - 4:30 pm
14/8/22	Monday	3:30 - 4:30 pm
16/8/22	Wednesday	3:30 - 4:30 pm
20/8/22	Saturday	9:30 - 12:30 pm

12/9/22	Monday	3:30 - 4:30 pm
14/9/22	Wednesday	3:30 - 4:30 pm
15/9/22	Thursday	3:30 - 4:30 pm
16/9/22	Friday	3:30 - 4:30 pm
17/9/22	Saturday	9:30 - 12:30 pm
24/9/22	Saturday	9:30 - 3:30 pm

4/10/22	Wednesday	3:30 - 4:30 pm
5/10/22	Thursday	3:30 - 4:30 pm
10/10/22	Monday	3:30 - 4:30 pm
11/10/22	Tuesday	3:30 - 4:30 pm
12/10/22	Wednesday	3:30 - 4:30 pm
22/10/22	Saturday	9:30 - 3:30 pm



Basic concepts of measurements.

Instruments for basic measurements.

Ammeter / voltmeter

Multimeter - Digital voltmeter - accuracy / resolution

CRT

CRT ckt.

Vertical deflection system

Horizontal deflection system

Delay - ckt with diagram

Oscilloscope probes / lab.

Storage oscilloscope

Oscilloscope with ckt.

transducers.

lab

lab.

Hands on use of Oscilloscope.

Electronic Instrumentation
Add On-Course 2022-23, PG Department of Physics
MM NSS College, Kottiyam

Total Marks: 50

Duration: 2 Hours

Section A: 1-Mark Questions *Answer all questions. Each question carries 1 mark.*

1. What is the primary function of an oscilloscope in electronic instrumentation?
2. Name the instrument used to measure electrical resistance.
3. What is the unit of measurement for electric current?
4. Which electronic component is used to amplify signals?
5. What is the purpose of a multimeter in electronics?

Section B: 2-Mark Questions *Answer all questions. Each question carries 2 marks.*

6. Briefly explain the difference between analog and digital meters.
7. What is the purpose of a signal generator in electronic testing?
8. Describe how a voltmeter and an ammeter are connected in a circuit.
9. What is a function generator, and how is it used in electronic testing?
10. Explain the concept of calibration in the context of electronic instruments.

Section C: 15-Mark Questions *Answer all questions. Each question carries 15 marks.*

11. **Oscilloscopes and Signal Analysis:** a. Describe the basic operation of an oscilloscope and its key components, such as the vertical and horizontal controls.
b. Explain how to use an oscilloscope to measure the frequency and amplitude of a signal.
c. Provide a step-by-step procedure for setting up an oscilloscope to analyze a periodic signal.
12. **Multimeter Functions and Measurements:** a. Explain how to use a digital multimeter to measure voltage, current, and resistance.
b. Provide a detailed procedure for measuring the resistance of a resistor and checking continuity in a circuit.
c. Discuss the significance of accuracy and resolution in multimeter measurements.
13. **Signal Generators and Frequency Analysis:** a. Describe the operation of a function generator and its typical waveforms, such as sine, square, and triangular waves.
b. Explain how to configure a function generator to output a specific frequency and amplitude.
c. Discuss how to use a signal generator in conjunction with an oscilloscope to analyze and test electronic circuits.
14. **Data Acquisition and Instrument Calibration:** a. Explain the process of data acquisition in electronic instrumentation and the role of sensors and transducers.
b. Describe the steps involved in calibrating a measuring instrument and the importance of calibration in ensuring measurement accuracy.
c. Provide an example of a calibration procedure for an analog voltmeter or digital multimeter.



Senthil Kumar
DEPARTMENT OF PHYSICS
M. N. S. S. COLLEGE
KOTTIYAM.

MANNAM MEMORIAL NSS COLLEGE, KOTTIYAM

END COURSE EVALUATION

Name of department : Physics

Name of course : Electronic Instrumentation (2022-23)

Duration of exam : 2 hrs

Total Marks : 50

Sl No	Name of Student	Marks Obtained
1	Amina . S.S	25
2	Gayathri UR	28
3	Jithesh B.S	23
4	Jyothirmayi .S	30
5	Amina. Shan	22
6	Keerthana A.M	37
7	Krishnapriya .G	48
8	Maheswari Mohan	50
9	Manasi M.G	49
10	Mekha M	48
11	Nimisha J Babu	49
12	Sandeep .S	28
13	Sona Sam	42
14	Sreelekshmi .R	46
15	Vishakh S	39
16	Abhijith B.V	38
17	Abhinand B	37
18	Abhinav T.K	40
19	Adithyan .S	38
20	Akash .S	22
21	Akshay K.S	32
22	Amal . A	23

23	Anjali S Babu	
24	Aparna prakash	46
25	Ardra raj	42
26	Asbin Navas	40
27	Aswin R	28
28	Bimi B	26
29	Boanerge Raj	22
30	Devika M	24
31	Krishna priya U	41
32	Nikhitba V	48
33	Parvathy S Vimal	47
34	Shreha Suresh	50
35	Sudheer N	50
36	Vignesh H	25
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Number of students enrolled: 36

Number of students completed: 36

Seetheshan
DEPARTMENT OF PHYSICS
M. M. N. S. S. COLLEGE
KOTTIYAM.



2022-23

Report

Certificate course on electronic instrumentation was provided by the department of physics for the second year physics students. The course was for a duration of 30 hours and was taken after regular class hours and on Saturdays. The course provides basic understanding of measuring devices and their principle of working.

Feedback

The feedback shows that the students are very much satisfied with the course. The students feedback shows that the course is useful by considering the application of measuring instruments.

Anusha

Dr. Anusha M.G.

SSD
Dr. Suthantha S. S. S.
DEPARTMENT OF PHYSICS
M. M. N. S. S. COLLEGE
KOTTIYAM.



Principal
M.M. N.S.S. COLLEGE
KOTTIYAM