



**SVRK GOVERNMENT DEGREE COLLEGE :: NIDADAVOLE**  
**TABLE – A – CURRICULAR PLAN – ANNOUNCED TO STUDENTS**

**NAME OF THE LECTURER:** E. NAGESWARA RAO **DEPARTMENT:** Physics **CLASS:** III B.Sc.(MPCs) **YEAR:** 2022-2023

**SEMESTER:** V **PAPER:** 7 (C) ELECTRONIC INSTRUMENTATION

S. NO.	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPIC	ADDITIONAL INPUT / VALUE ADDITION	CURRICULAR ACTIVITY				CO-CURRICULAR ACTIVITY			REMARKS
					Activity conducted	Hours allotted	Whether conducted	If nor, alternate date	Activity conducted	Hours allotted	Whether conducted	
1	2	3	4	5	6	7	8	9	10	11	13	13
1	November 3 <sup>rd</sup> Week	3 2	<b><u>UNIT-I INTRODUCTION TO INSTRUMENTS</u></b> Types of electronic Instruments- Analog instruments & Digital Instruments,	Binary and digital number systems and conversions	Questioning and interactive lecture and Practical demonstration	3 2			-			
2	November 4 <sup>th</sup> Week	4 2	DC Voltmeter and AC Voltmeter, Construction and working of an Analog Multimeter and Digital Multimeter (Block diagram approach),		Guided instruction experimental learning and practical demonstration.	3 2			field techniques /skills of understanding the operation			
3	December 1 <sup>st</sup> Week	3 2	Sensitivity, 3½display and 4½ display Digital multimeters, Basic ideas on Function generator		Inquiry based lecture demonstration and practical demonstration.	2 2			Assi.t/quiz /student seminar	1		
4	December 2 <sup>nd</sup> Week	3 2	<b><u>UNIT-II OSCILLOSCOPE</u></b> Cathode Ray Oscilloscope- Introduction, Block diagram of basic CRO, Cathode ray tube, Electron gun assembly,		Direct instructional demonstration and practical demonstration.	2 2			Assi.t/quiz /student seminar	1		

5	December 3 <sup>rd</sup> Week	3 2	Screen for CRT, Time base operation, Vertical deflection system, Horizontal deflection system, Use of CRO for the measurement of voltage (DC and DC),	cathode rays, Electron diffraction.	Interactive lecture experimental learning and practical demonstration.	2 2			Assi.t/quiz /student seminar	1		
6	December 4 <sup>th</sup> Week	4 2	frequency, phase difference, Different types of oscilloscopes and their uses, Digital storage Oscilloscope		Questioning and interactive lecture and Practical demonstration	2 2			field techniques /skills of understanding the operation	1		
7	January 1 <sup>st</sup> Week	3 2	<b><u>UNIT-III TRANSDUCERS</u></b> Classification of transducers, Selection of transducers, Resistive	Photoelectric effect, fibre optics	Guided instruction experimental learning and practical demonstration.	2 2			Assi.t/quiz /student seminar	1		
8	January 2 <sup>nd</sup> Week	3 2	capacitive & inductive transducers, Resistive and capacitive touch screen transducer used in mobiles,		Inquiry based lecture demonstration and practical demonstration.	2 2			Assi.t/quiz /student seminar	1		
9	January 4 <sup>th</sup> Week	4 2	Displacement transducer-LVDT, Piezoelectric transducer, Photo transducer, Digital transducer, Fibre optic sensors		Direct instructional demonstration and practical demonstration.	2 2			field techniques /skills of understanding the operation	1		
10	February 1 <sup>st</sup> week	3 2	<b><u>UNIT-IV DISPLAY INSTRUMENTS</u></b> Introduction to Display devices, LED Displays, Seven Segment Displays,	Construction and working of LED and its applications	Interactive lecture experimental learning and practical demonstration.	1 2			Assi.t/quiz /student seminar	1		
11	February 2 <sup>nd</sup> week	3 2	Construction and operation (Display of numbers), Types of SSDs (Common Anode & Common Cathode type),		Questioning and interactive lecture and Practical	2 2			Assi.t/quiz /student seminar	1		

					demonstration							
12	February 3 <sup>rd</sup> week	3 2	Limitations of SSDs, Liquid Crystal Displays, Principle and working of 2x16 display and 4x16 LCD modules, Applications of LCD modules.		Guided instruction experimental learning and practical demonstration.	2 2			Assi.t/quiz /student seminar	1		
13	February 4 <sup>th</sup> week	4 2	<b><u>UNIT-VBIOMEDICAL INSTRUMENTS</u></b> Basic operating principles and uses of (i) Clinical thermometer		Inquiry based lecture demonstration and practical demonstration.	2 2			field techniques /skills of understanding the operation	1		
14	March 1 <sup>st</sup> week	3 2	(ii) Stethoscope (iii) Sphygmomanometer (iv) ECG machine (v) Radiography (vi) Ophthalmoscope	Physical laws involved in the Bio medical instruments.	Direct instructional demonstration and practical demonstration.	2 2			Assi.t/quiz /student seminar	1		
15	March 2 <sup>nd</sup> week	3 2	(vii) Ultrasound scanning (viii) Ventilator (ix) Pulse oxymeter (x) Glucometer, Basic ideas of CT scan and MRI scan		Interactive lecture experimental learning and practical demonstration.				Assi.t/quiz /student seminar	1		
16	March 3 <sup>rd</sup> week	3 2	<b>REVISION</b>		Practicing demonstration				Assi.t/quiz /student seminar	1		
17	March 4 <sup>th</sup> week	4 2	<b>REVISION</b>		Practicing demonstration				Assi.t/quiz /student seminar	1		

Signature of the Lecturer

Signature of the Lecturer In- charge

Signature of the Principal



**SVRK GOVERNMENT DEGREE COLLEGE :: NIDADAVOLE**  
**TABLE – B – CURRICULAR PLAN – ANNOUNCED TO STUDENTS**

**NAME OF THE LECTURER:** E. NAGESWARA RAO **DEPARTMENT:** Physics **CLASS:** III B.Sc.(MPCs) **YEAR:** 2022-2023

**SEMESTER:** V **PAPER:** 7 (C) ELECTRONIC INSTRUMENTATION

S. NO.	MONTH & WEEK	HOURS AVAILABLE	SYLLABUS TOPIC	ADDITIONAL INPUT / VALUE ADDITION	CURRICULAR ACTIVITY		CO-CURRICULAR ACTIVITY		REMARKS
					Activity conducted	Hours allotted	Activity conducted	Hours Allotted	
1	2	3	4	5	6	7	10	11	13
1	November 3 <sup>rd</sup> Week	3 2	<b><u>UNIT-I INTRODUCTION TO INSTRUMENTS</u></b> Types of electronic Instruments- Analog instruments & Digital Instruments,	Binary and digital number systems and conversions	Questioning and interactive lecture and Practical demonstration	3 2	-		
2	November 4 <sup>th</sup> Week	4 2	DC Voltmeter and AC Voltmeter, Construction and working of an Analog Multimeter and Digital Multimeter (Block diagram approach),		Guided instruction experimental learning and practical demonstration.	3 2	field techniques/s kills of understanding the operation		
3	December 1 <sup>st</sup> Week	3 2	Sensitivity, 3½display and 4½ display Digital multimeters, Basic ideas on Function generator		Inquiry based lecture demonstration and practical demonstration.	2 2	Assi.t/quiz/student seminar	1	
4	December 2 <sup>nd</sup> Week	3 2	<b><u>UNIT-II OSCILLOSCOPE</u></b> Cathode Ray Oscilloscope-Introduction, Block diagram of basic CRO, Cathode ray tube, Electron gun assembly,	Cathode rays, properties of cathode rays and generation of cathode rays,	Direct instructional demonstration and practical demonstration.	2 2	Assi.t/quiz/student seminar	1	
5	December 3 <sup>rd</sup> Week	3 2	Screen for CRT, Time base operation, Vertical deflection system, Horizontal	Electron diffraction.	Interactive lecture	2 2	Assi.t/quiz/student	1	

			deflection system, Use of CRO for the measurement of voltage (DC and DC),		experimental learning and practical demonstration.		seminar		
6	December 4 <sup>th</sup> Week	4 2	frequency, phase difference, Different types of oscilloscopes and their uses, Digital storage Oscilloscope		Questioning and interactive lecture and Practical demonstration	2 2	field techniques/s kills of understandin g the operation	1	
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9	January 4 <sup>th</sup> Week	4 2	Displacement transducer-LVDT, Piezoelectric transducer, Photo transducer, Digital transducer, Fibre optic sensors		Direct instructional demonstration and practical demonstration.	2 2	field techniques/s kills of understandin g the operation	1	
10	February 1 <sup>st</sup> week	3 2	<b><u>UNIT-IVDISPLAY INSTRUMENTS</u></b> Introduction to Display devices, LED Displays, Seven Segment Displays,		Interactive lecture experimental learning and practical demonstration.	1 2	Assi.t/quiz/st udent seminar	1	
11	February 2 <sup>nd</sup> week	3 2	Construction and operation (Display of numbers),Types of SSDs(Common Anode &Common Cathode type),	Construction and working of LED and its applications	Questioning and interactive lecture and Practical demonstration	2 2	Assi.t/quiz/st udent seminar	1	

12	February 3 <sup>rd</sup> week	3 2	Limitations of SSDs, Liquid Crystal Displays, Principle and working of 2x16 display and 4x16 LCD modules, Applications of LCD modules.		Guided instruction experimental learning and practical demonstration.	2 2	Assi.t/quiz/student seminar	1	
13	February 4 <sup>th</sup> week	4 2	<b><u>UNIT-VBIOMEDICAL INSTRUMENTS</u></b> Basic operating principles and uses of (i) Clinical thermometer		Inquiry based lecture demonstration and practical demonstration.	2 2	field techniques/skills of understanding the operation	1	
14	March 1 <sup>st</sup> week	3 2	(ii) Stethoscope (iii) Sphygmomanometer (iv) ECG machine (v) Radiography (vi) Ophthalmoscope	Physical laws involved in the Bio medical instruments.	Direct instructional demonstration and practical demonstration.	2 2	Assi.t/quiz/student seminar	1	
15	March 2 <sup>nd</sup> week	3 2	(vii) Ultrasound scanning (viii) Ventilator (ix) Pulse oxymeter (x) Glucometer, Basic ideas of CT scan and MRI scan		Interactive lecture experimental learning and practical demonstration.		Assi.t/quiz/student seminar	1	
16	March 3 <sup>rd</sup> week	3 2	<b>REVISION</b>		Practicing demonstration		Assi.t/quiz/student seminar	1	
17	March 4 <sup>th</sup> week	4 2	<b>REVISION</b>		Practicing demonstration		Assi.t/quiz/student seminar	1	

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