

Department of Physics

Hindu College ,Guntur.

Add on course on Electronics instrumentation

<u>S.No</u>	<u>Name</u>	<u>SIGNATURE</u>
<u>1</u>	<u>B.Vinitha</u>	B. Vinitha
<u>2</u>	<u>V.Teja</u>	V. Teja
<u>3</u>	<u>T.MaruthiRam</u>	T. Manethi Ram
<u>4</u>	<u>Sk.Begum</u>	Sk. Begum
<u>5</u>	<u>S.Swapna</u>	S Swapna
<u>6</u>	<u>B.sabitha.</u>	B. Sabitha
<u>7</u>	<u>D.Durgamalleswari</u>	D. Durgamalleswari
<u>8</u>	<u>G.Santhakumari</u>	G. Santhakumari
<u>9</u>	<u>D.Gayathri</u>	D. Gayathri
<u>10</u>	<u>GKI.Sowjanya</u>	GKI. Sowjanya
<u>11</u>	<u>K.Swetha</u>	K. Swetha
<u>12</u>	<u>K.Sivaparvathi</u>	K. Sivaparvathi
<u>13</u>	<u>M.Nichala</u>	M. nichala
<u>14</u>	<u>PV.Ramadevi</u>	PV. Rama Devi
<u>15</u>	<u>P.Sowjanya</u>	P. SOWJANYA
<u>16</u>	<u>R.Jinny</u>	R. Jinny
<u>17</u>	<u>S.Ayyappaswamy</u>	S. Ayyappa Swamy
<u>18</u>	<u>B.Srikanth</u>	B. Srikanth
<u>19</u>	<u>P.Siva</u>	P. Siva.
<u>20</u>	<u>SK.Praveena</u>	SK. Praveena

Instrumentation.

I. Learning Outcome : Students after successful completion of the course will be able to:1.

1. Identify various facilities required to set up a basic Instrumentation Laboratory.
2. Acquire a critical knowledge of various Electrical Instruments used in the Laboratory.
3. Demonstrate skills of using instruments like CRO, Function Generator, Multimeter etc. through hands on experience.
4. Understand the Principle and operation of different display devices used in the display systems and different transducers
5. Comprehend the applications of various biomedical instruments in daily life like B.P. meter, ECG, Pulse oxymeter etc. and know the handling procedures with safety and security.

II. Syllabus: (Total Hours: 90 including Teaching, Lab, Field Training, Unit tests etc.)

UNIT-I Introduction To Instruments (10 hrs)

Types of electronic Instruments - Analog instruments & Digital Instruments, DC Voltmeter and AC Voltmeter, Construction and working of an Analog Multimeter and Digital Multimeter (Block diagram approach), Sensitivity, $3\frac{1}{2}$ display and $4\frac{1}{2}$ display Digital multimeters, Basic ideas on Function generator.

UNIT-II Oscilloscope (10 hrs)

Cathode Ray Oscilloscope-Introduction, Block diagram of basic CRO, Cathode ray tube, Electron gun assembly, Screen for CRT, Time base operation, Vertical deflection system, Horizontal deflection system, Use of CRO for the measurement of voltage (AC and DC), frequency, phase difference, Different types of oscilloscopes and uses.

UNIT-III Transducers (10 hrs)

Classification of transducers, Selection of transducers, Resistive, capacitive & inductive transducers, Resistive and capacitive touch screen transducer used in mobiles, Displacement transducer-LVDT, Piezoelectric transducer, Photo transducer, Digital transducer, Fibre optic sensors

UNIT-IV Display Instruments (10 hrs)

Introduction to Display devices, Seven Segment Displays, LED Displays, Construction and operation (Display of numbers), Types of SSDs (Common Anode & Common Cathode type), Limitations of SSDs, Liquid Crystal Displays, Applications of LCD modules.

electronics instrumentation

Total:50marks.

Assessment test

Answer any Five questions.

1. what is diode.
- 2 what is transistor
3. how will you test the transistor within multimeter
- 4 what are the instrumental is safe systems
- 5 what is CBC and cc configurations.
- 6 what is dinner date what is voltage regulator.

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Scheme of Evaluation.

- 1.Circuit-2M, Explanation -8M .
2. Circuit-2M, Explanation - 8M.
3. Explanation-10M.
4. Any 2 systems 10marks.
5. Circuits- 6marks, Explanation-4Marks.
6. Zener Diode-5M, For regulator-5m.



HINDU COLLEGE, GUNTUR

(Re-accredited by NAAC as Grade 'A' with CGPA 3.07)

DEPARTMENT OF PHYSICS

Certificate of Participation

This is to certify that Mr. / Miss _____ of
_____ Class. Group _____ has participated in

"Instrumentation Repairing" programme organised from 01-02-2018
to 10-03-2018.

HEAD OF THE DEPARTMENT

PRINCIPAL

Department of Physics
Hindu College ,Guntur.

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<u>S.No</u>	<u>Name</u>	<u>Marks</u>
<u>1</u>	<u>B.Vinitha</u>	<u>48</u>
<u>2</u>	<u>V.Teja</u>	<u>46</u>
<u>3</u>	<u>T.MaruthiRam</u>	<u>45</u>
<u>4</u>	<u>Sk.Begum</u>	<u>47</u>
<u>5</u>	<u>S.Swapna</u>	<u>48</u>
<u>6</u>	<u>B.sabitha.</u>	<u>46</u>
<u>7</u>	<u>D.Durgamalleswari</u>	<u>47</u>
<u>8</u>	<u>G.Santhakumari</u>	<u>45</u>
<u>9</u>	<u>D.Gayathri</u>	<u>45</u>
<u>10</u>	<u>GKI.Sowjanya</u>	<u>44</u>
<u>11</u>	<u>K.Swetha</u>	<u>46</u>
<u>12</u>	<u>K.Sivaparvathi</u>	<u>47</u>
<u>13</u>	<u>M.Nichala</u>	<u>47</u>
<u>14</u>	<u>PV.Ramadevi</u>	<u>47</u>
<u>15</u>	<u>P.Sowjanya</u>	<u>48</u>
<u>16</u>	<u>R.Jinny</u>	<u>47</u>
<u>17</u>	<u>S.Ayyappaswamy</u>	<u>47</u>

Roll of scores of the first test

<u>18</u>	<u>B.Srikanth</u>	<u>47</u>
<u>19</u>	<u>P.Siva</u>	<u>46</u>
<u>20</u>	<u>SK.Praveena</u>	<u>47</u>