

Andhra Christian college
GUNTUR
DEPARTMENT OF PHYSICS

Date: 25-07-2019

NOTICE

It is Notified for All concerned that Andhra Christian College, Guntur, is going to start a Certificate course on "BASIC ELECTRONICS TRAINING" very soon for 1st B.Sc, 2nd B.Sc & 3rd B.Sc students for their benefits in the near future.

The last date of enrolment is: 29th July, 2019

Course Coordinator: Dr M. Ratna Raju, Lecturer, Department of Physics

Note:

1. The course is free of cost and the successful candidates will be issued certificates by college which will help them in future.
2. Admission is on First come First Serve Basis. Number of seats is limited.



Head of the Department

(Department of physics)

Dr. M. RATNA RAJU
M.Sc. (Tech), Ph.D., M.Phil.
Head of the Dept. of
Physics & Computer Sciences
Warden, Wolf Hall Hostel,
ANDHRA CHRISTIAN COLLEGE
GUNTUR-522 001., A.P.



Principal
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Andhra Christian College
GUNTUR.

CERTIFICATE COURSE 2019-20

Department Conducts a Certificate course on “BASIC ELECTRONICSTRAINING”.The Duration of the Course is 30 hours. This course will provide the students an idea of basic idea of electronic components and their uses and applications.

CERTIFICATE COURSE IN BASIC ELECTRONICS TRAINING

SYLLABUS

Module 1: Electronics & Electrical Components Identification

Vaccum tubes – Resistors- Capacitors- Batteries- switches-Diodes – Transistors – Integrated chips – Bread board – voltage supplies- multi meters

Module 2: Uses of Electronics components for basics Electronic devices

Use of resistors and capacitors in a circuit- charging and discharging of capacitors- Uses of transistors transistor connections- Uses of diodes- filter circuits-Zener diodes- voltage regulators

Module 3: Cathode Ray Oscilloscope operations

Identification of CRO knobs- Testing of CRO and PROBES- Measurements using CRO- Familiarisation of Function Generators- Operation of Function Generator

Module 4: Skill Development

Soldering of electronic components – full wave & bridge rectifiers – powerpack – manufacturing of LED bulbs

Books For Reference

1.Basic Electrical Engineering – V.KMehta & Rohit Mehta (2006) – S.Chand publishers

2. Electrical Technology – Volume I – B.L.Tereja S.Chand publishers

3. Malvino Electronic Principles (1998) sixth edition – Albert Paul Malvino – Tata Mcgraw Hills publishers

Andhra Christian College, Guntur

Department of Physics

List of Students Attended for the Add-On Course

Date: (2019) to (2020) 01.8.19 to 19.08.19

Class: I, II, and III B. Sc (M. P.C. and M. P. Cs)

S. No.	Class No	Name of the Students	Class	Signature
1.	601	M. Naga Sri vaishnavi	1 st B.Sc	M. Naga Sri vaishnavi.
2.	605	K. Smilly	1 st B.Sc	K. Smilly
3.	6011	S. Siddu	1 st B.Sc	S. Siddu
4.	613	S. Lji	1 st B.Sc	S. L. ji
5.	623	K. Vamsi	1 st B.Sc	K. Vamsi
6.	625	G. Nani babu	1 st B.Sc	G. Nani babu
7.	629	D. Sai Kiran	1 st B.Sc	D. Sai Kiran
8.	601	K. Akhila	2 nd B.Sc	K. Akhila
9.	604	T. Mamoj	2 nd B.Sc	T. Mamoj
10.	605	B. Jyothi M	2 nd B.Sc	B. Jyothi M
11.	608	J. Sunnel	2 nd B.Sc	J. Sunnel
12.	610	M. Satish	2 nd B.Sc	B. Jyothi M
13.	607	B. Sharoni	3 rd B.Sc	B. Sharoni
14.	613	P. Anil	3 rd B.Sc	P. Anil
15.	615	J. Bujji	3 rd B.Sc	J. Bujji
16.	618	G. Siva	3 rd B.Sc	G. Siva
17.	620	G. Badri	3 rd B.Sc	G. Siva
18.	637	P. Naga Babu	3 rd B.Sc	P. Naga Babu
19.	641	N. Aravind	3 rd B.Sc	N. Aravind
20.	643	T. Mani Raj	3 rd B.Sc	T. Mani Raj

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Department of Physics
A.C. College, Guntur.

Andhra Christian college

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ADD-ON CERTIFICATE COURSE

DEPARTMENT OF PHYSICS

ATTENDANCE REPORT

Academic year: 2019-20

Timings: 3:00 PM to 5:00 PM Total hours: 30 hours

No	Class No	Name of the student	1 ⁸ / ₁₉	2 ⁸ / ₁₉	3 ⁸ / ₁₉	5 ⁸ / ₁₉	6 ⁸ / ₁₉	7 ⁸ / ₁₉	8 ⁸ / ₁₉	9 ⁸ / ₁₉	10 ⁸ / ₁₉	12 ⁸ / ₁₉	13 ⁸ / ₁₉	14 ⁸ / ₁₉	16 ⁸ / ₁₉	17 ⁸ / ₁₉	19 ⁸ / ₁₉
1st B.Sc																	
1	601	M. Naga Sri Vaishnavi	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	605	K. Smily	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3	611	S. Siddu	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4	613	S. Lji	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5	623	K. Vamsi	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6	625	G. Nani Babu	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7	629	D. Sai Kiran	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2nd B.Sc																	
8	601	K. Akhila	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
9	604	T. Manoj	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10	605	B. Jyothi M	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11	608	J. Sunnel	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12	610	M. Satish	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3rd B.Sc																	
13	607	B. Sharoni	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
14	613	P. Anil	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15	615	J. Bujji	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
16	618	G. Siva	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
17	620	D. Badri	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18	637	P. Naga Babu	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
19	641	N. Aravind	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
20	643	T. Mani Raj	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Rishu
 Department of Physics HOD
 A.C. College, Guntur.

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DEPARTMENT OF PHYSICS

Academic Year 2019-20

Topic - BASIC ELECTRONICS TRAINING

Max Marks : 20M

Time : 1hour

Answer all Questions. Each question carries **ONE** mark\$

1. A half wave rectifier has a 200 V rms. source and the step-down transformer has a turns ratio of 4 : 1. What will be the peak voltage across the load ignoring the drop across the diode?
 - a. 70.7 V
 - b. 40 V
 - c. 100 V
 - d. 50 V
2. If a silicon diode is operating in forward bias in a circuit with 12 V supply and 240 Ω resistor, then what will be the voltage drop across the diode?
 - a. 1.5 V
 - b. 6 V
 - c. 12 V
 - d. 0.3 V
 - e. 0.7 V
3. Which of the following is a trivalent doping element?
 - a. Arsenic
 - b. Antimony
 - c. Boron
 - d. Phosphorous
4. A half wave rectifier has a 200 V rms. source and the step-down transformer has a turns ratio of 4 : 1. What will be the peak voltage across the load ignoring the drop across the diode?
 - a. 70.7 V
 - b. 40 V
 - c. 100 V
 - d. 50 V
5. What will be the power dissipation across a silicon diode carrying a current of 50 mA?
 - a. 25 mW
 - b. 50 W
 - c. 35 mW
 - d. 100 mW

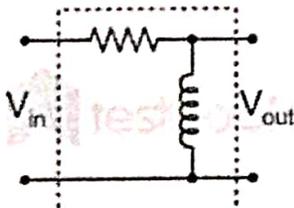
6. Which among the following is a current controlled device?

- a. MOSFET
- b. BJT
- c. IGBT
- d. JFET

7. When a PN junction is forward biased

- a. Depletion region decreases
- b. Minority carriers are not affected
- c. Holes and electrons move away from junction
- d. All of above

8. Identify the filter name given the circuit?

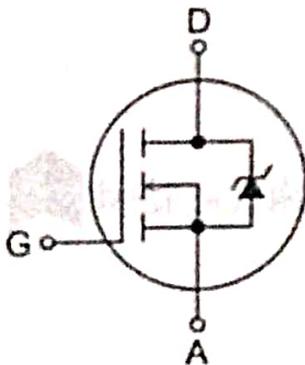


- a. High pass
- b. Band Pass
- c. Low pass
- d. Bandstop

9. For normal operation of NPN transistor:

- a. Emitter Base Junction must be reverse biased and Base-collector junction must be forward biased
- b. Emitter Base Junction must be reverse biased and Base-collector junction must be reverse biased
- c. Emitter Base Junction must be forward biased and Base-collector junction must be forward biased
- d. Emitter-Base Junction must be forward biased and Base-collector junction must be reverse biased

10. A buck converter is used to:
- Exactly double the voltage
 - Stabilize the voltage
 - Step up the voltage
 - Step down the voltage
11. Which of the following is the simplest and cheapest filter circuit in electronics?
- Series Inductor Filter
 - Choke Input LC Filter
 - Capacitor Input Filter
 - RC Filter
12. PIV of a diode indicates
- Peak Instantaneous Voltage
 - Peak Inverse Voltage
 - Peak Inverse value
 - PIV do not apply to diodes
13. The diagram given below represents the standard symbol of which of the following components?



- BJT
- p-Channel MOSFET
- IGBT
- n-Channel MOSFET

14. What is the advantage of online UPS over offline UPS?
- Online UPS provides stable output frequency
 - Online UPS supplies stable power output
 - Online UPS is free from variation and transition problems
 - Online UPS works on single-phase or 3-phase supply
15. A transistor (BJT) works as a variable resistance when?
- Emitter junction is forward biased and collector junction is reverse biased
 - Emitter junction is reverse biased and collector junction is forward biased
 - Emitter junction junction is reverse biased and collector junction is reverse biased
 - Emitter junction is forward biased and collector junction is forward biased
16. What is the purpose of a transistor in electronic circuits?
- To regulate voltage
 - To store data
 - To filter noise
 - To amplify or switch electronic signals
17. Which type of semiconductor device acts as a one-way valve for electric current?
- Diode
 - Inductor
 - Transistor
 - Capacitor
18. What is the purpose of a transistor in electronic circuits?
- To filter noise
 - To amplify or switch electronic signals
 - To regulate voltage
 - To store data
19. The fixed resistors restrict the flow of current up to what level?
- Variable range
 - Any range
 - Certain level
 - Infinite level

- 20 Capacitance can be defined as the ratio of the electric charge on each conductor to what between them?
- a. Potential difference
 - b. Electric difference
 - c. Potential energy
 - d. Voltage difference

1-a, 2-e, 3-c, 4-a, 5-c, 6-b, 7-a, 8-a, 9-d, 10-d, 11-c, 12-b, 13-d, 14-c, 15-a, 16-d, 17-a, 18-b, 19-c, 20-a

Subhash
HOD
Department of Physics
I.A.C. College, Guntur.

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60	602	D. Rajesh	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	D. Rajesh
61	604	P. Jaya Prakash	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	P. Jaya Prakash
62	601	M. Anusha	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	M. Anusha
63	602	D. Mohan Kumar	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	D. Mohan Kumar
64	603	D. Binjaya Reddy	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	D. Binjaya Reddy
65	604	M. Anusha	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	M. Anusha
66	605	D. Kiran Bedi	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	D. Kiran Bedi
67	606	M. Nysahatam	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	M. Nysahatam
68	607	D. Chaitanya	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	D. Chaitanya
69	608	K. Saibabu	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	K. Saibabu
70	609	K. Srikanth	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	K. Srikanth
71	610	K. Siva Sankar	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	K. Siva Sankar
72	611	P. Deva Sahayam	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	P. Deva Sahayam
73	612	D. Sunny Kumar	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	D. Sunny Kumar
74	613	P. Anil	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	P. Anil
75	614	D. Prasad Kumar	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	D. Prasad Kumar
76	615	J. Bujji	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	J. Bujji
77	616	D. Satish Babu	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	D. Satish Babu
78	617	G. Siva	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G. Siva
79	618	T. Balaiah	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	T. Balaiah
80	619	D. Badri	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	D. Badri
81	620	V. Revanth Kumar	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	V. Revanth Kumar
82	621	M. Pichaiiah	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	M. Pichaiiah
83	622	D. Nageswara Rao	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	D. Nageswara Rao

R. Sreedhar
 Department of Physics
 A.C. College, Guntur.

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"Ye shall know the Truth and the Truth shall set you free"
Andhra Christian College::Guntur

(Day, II Shift & P. G.)
Accredited with A-grade by NAAC



Estd. 1885

CERTIFICATE

This is to certify that Mr. / Ms. P. NAGA BABU

Class 10th B.Sc, Regd. No. 637 has participated and successfully completed
Certificate Course in BASIC ELECTRONICS TRAINING conducted by the Department of Physics
from 01-08-2019 to 19-08-2019 and obtained Grade 18/20 (A)

Litcheel
HOD

Department of Physics
A.C. College, Guntur.



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