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

Academic year 2019-20

18/20

Topic - BASIC ELECTRONICS TRAINING

NAME P. Nagababu R.NO 637 MAX Marks : 20M

Time : 1 Hour

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)

a. 70.7v
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? (e)

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? (c)

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)

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? (c)

a. 25 mW
b. 50 W
c. 35 mW
d. 100 mW

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

a. MOSFET

b. BJT

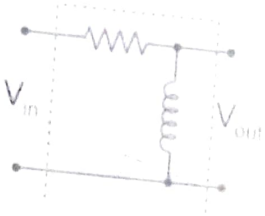
c. IGBT

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

(a)

8. Identify the filter name given the circuit? (a)



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

9. For normal operation of NPN transistor:

(b)

   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:
    a. Exactly double the voltage
    b. Stabilize the voltage
    c. Step up the voltage
    d. Step down the voltage

(d)

11. Which of the following is the simplest and cheapest filter circuit in electronics? (C)

a. Series Inductor Filter

b. Choke Input LC Filter

c. Capacitor Input Filter

d. RC Filter

12. PIV of a diode indicates (b)

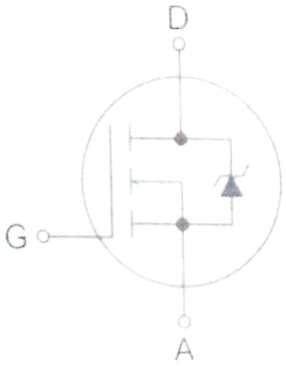
a. Peak Instantaneous Voltage

b. Peak Inverse Voltage

c. Peak Inverse value

d. PIV do not apply to diodes (d)

13. The diagram given below represents the standard symbol of which of the following components? (d)



a. BJT

b. p-Channel MOSFET

c. IGBT

d. n-Channel MOSFET

14. What is the advantage of online UPS over offline UPS? (C)

a. Online UPS provides stable output frequency

b. Online UPS supplies stable power output

c. Online UPS is free from variation and transition problems

d. Online UPS works on single-phase or 3-phase supply

15. A transistor (BJT) works as a variable resistance when?

a. Emitter junction is forward biased and collector junction is reverse biased
b. Emitter junction is reverse biased and collector junction is forward biased
c. Emitter junction junction is reverse biased and collector junction is reverse biased
d. Emitter junction is forward biased and collector junction is forward biased

16. What is the purpose of a transistor in electronic circuits?

a. To regulate voltage
b. To store data
c. To filter noise
d. To amplify or switch electronic signals

17. Which type of semiconductor device acts as a one-way valve for electric current?

a. Diode
b. Inductor
c. Transistor
d. Capacitor

18. What is the purpose of a transistor in electronic circuits?

a. To filter noise
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19. The fixed resistors restrict the flow of current up to what level?

a. Variable range
b. Any range
c. Certain level
d. 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