26/11/2019

Std. XI MCVC | **1st Term Exam** | Time: 2.30 hrs

Sub: FC | (November 2019) | Marks :50

Q.No 1 : Fill in the blanks (20 Marks)

1) Management secures maximum result by the use of availability_____.
2) _____ is management by one-self.
3) strengths and weakness are _____ .
4) Businessman must organise _____ to keep contacts.
5) _____ is an end towards which you direct your efforts.
6) Emotions, ego and pride are _____ .
7) Short term goals are set for a _____.
8) Time is a unique _____.
9) _____ is given free to all.
10) _____ wait for none.
11) Don't waste _____ time as it affects you also.
12) The duty hours are fixed by the _____.
13) _____ is a register of attendance of employees.
14) Staff unions object to _____ attendance.
15) _____ enforced to maintain orderly atmosphere.
16) _____ means exact in keeping time and appointment.
17) Delegation means giving authority to your _____ .
18)_____ is a force which motivates a group
19)Follows the _____ whether you like or not
20)_____ people come together and form a group

Q.No 2 : Write short Notes { any 6 } (30 Marks)

1) Self management
2) Basic steps in planning
3) Characteristics of Time
4) Discipline
5)Importance of team building
6) Techniques of working in group
7)Group Dynamics and Team building
8) Importance of Group Dynamics

XI sci. 2/12/2019

XI Marks 50 Electronics PI Terminal Exam Nov 2019 2.30 Hours.

Note: i] All questions are compulsory.
ii] Figures to the right indicate full marks.
iii] Draw neat diagram wherever necessary.
iv]Use of Log table is allowed. Calculator is not allowed

Q.1 A. Select the correct alternative and rewrite the following sub questions. [05]

i) If two equal value resistors are connected in series , effective value is_____

a) Half b) double c) triple d) none of these

ii) Energy is directly proportional to _____

a) Voltage b) VR c) IR d) None of these.

iii) 1 Tera is equal to 10 raise to minus /Plus _____ unit.

b) 3 b) 6 c) 9 d) 12

Iv) If no parallel or series combination of resistors exist , then to find out Current_____ is used

a) Kirchhoff's Laws b) Ohm's Law c) Max. Power Theorem d) None of these

v) _____ Voltage source has zero Ω internal electrical resistance.

a) Ideal b) Practical c) Normal d) None of these.

Q.2 Attempt any Two of the following. [10]

i) Write Oersted Law and Faraday's Law of Induction.

ii) Define Ohm's Law. Write relation between a) Current, Voltage , resistor and
b) Power, Voltage, Current

iii) Explain ideal Voltage source and practical Voltage source. Draw graph.

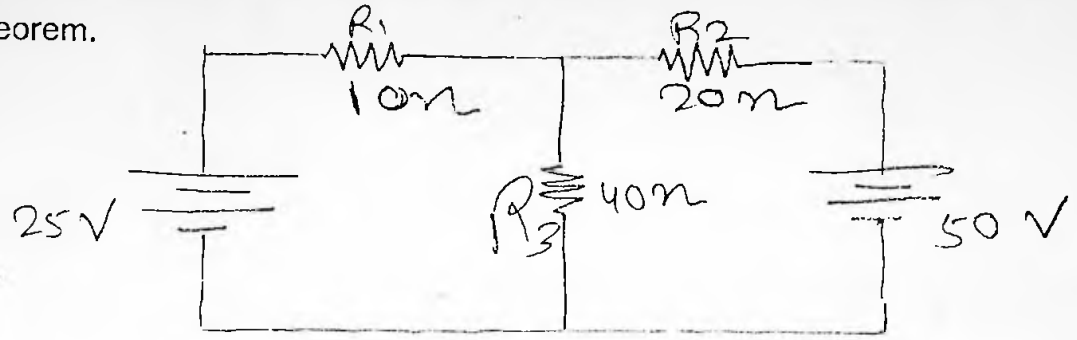
Q.3 Attempt any Two of the following. [10]

i) Explain KCL and KVL giving suitable example and its Solution having minimum 2 Mesh.
ii) Write a note on sources of electricity. Explain giving examples from each type.
iii) Where color coding is essential ? Draw chart. Explain giving 2 examples.

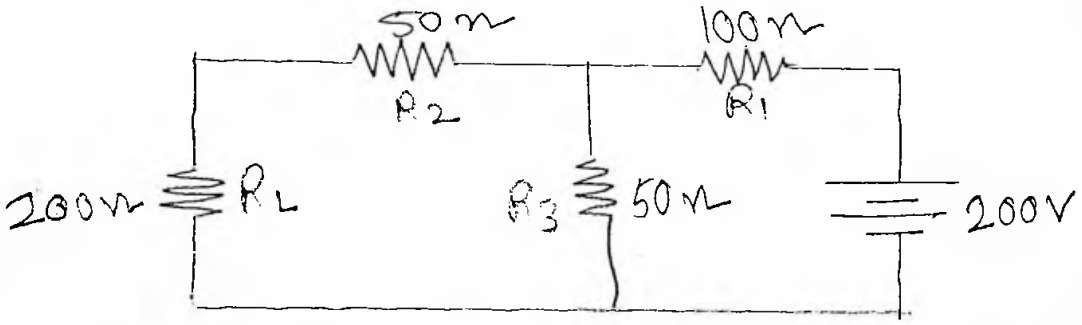
Q.4 Attempt any Two of the following. (10)

i) Compare AC with DC type of Electricity (Minimum 5 points)

ii) Find potential difference between Point A and B using Superposition Theorem.



iii) Find Current through the load and Voltage across the load using Norton's theorem in the following circuit.

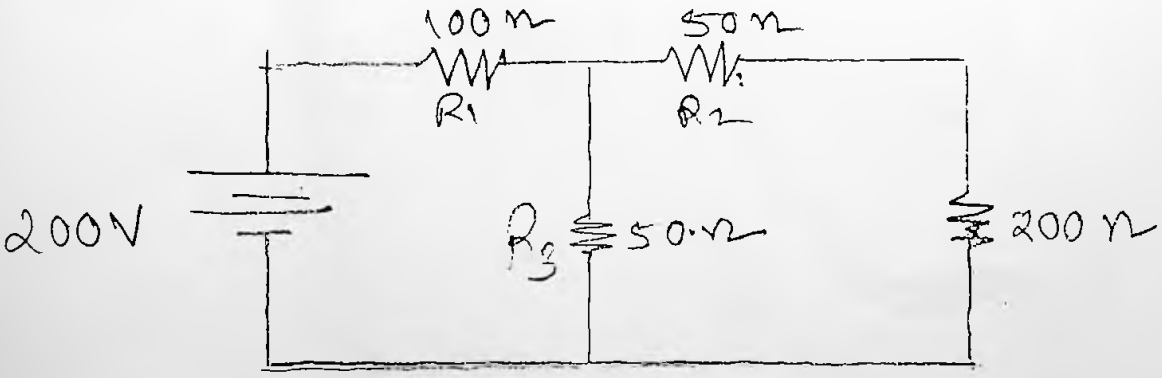


Q.5 Attempt any Two of the following. (10)

i) Write a note on sinusoidal waveform Generator. Explain using diagram and waveform.

ii) Write a note on Non Sinusoidal waveforms. Draw diagrams. Write uses.

iii) Find Current through the load and Voltage across the load using Thevenin's theorem in the following circuit.



XI M 50 Electronics PII Terminal Exam Nov 2019 2.30 Hours.

Note: i] All questions are compulsory.
ii] Figures to the right indicate full marks.
iii] Draw neat diagram wherever necessary.
iv]Use of Log table is allowed. Calculator is not allowed

Q.1 A. Select the correct alternative and rewrite the following sub questions. [05]

i) Alpha is _____ gain in transistor

a) current b) voltage c) power d) none of these.

ii) Forbidden gap energy in semiconductor is _____eV

a) 0 b) 1 c) 10 d) none of these.

iii) Beta value is _____

a) Equal to 0 b) < 1 c) >1 d) none of these

iv) In first orbit of atom of Germanium diode, _____ electrons are present.
a)2 b) 8 c) 18 d) 4

v) In outermost orbit of Silicon there are _____ electrons.
a) 4 b) 14 c) 32 d) none of these.

B Attempt the following.. (5)

i)Draw symbols of following devices

Zener dioda, Rectifier Diode, NPN BJT, PNP transistor, Battery.

Q.2 Attempt **any Two** of the following. [10]

i) Explain Construction and working of 3 region Transistor

ii) Compare Conductor Semiconductor and Insulator.(5 points)

iii) Define and explain with help of diagram what happens when PN Junction is formed,

Q.3 Attempt **any Two** of the following. [10]

i) Derive relation between alpha and beta of BJT

ii) Write any five devices/ Active components used in electronics.

iii) Explain construction and working of Junction diode.

Q.4 Attempt **any Two** of the following. [10]

i) Explain Construction and working of NPN transistor.

ii) Compare Conductor Semiconductor and Insulator. (Any 5 points)

iii) Explain with diagram construction of BJT.

Q.5 Attempt **any Two** of the following. [10]

i) Compare three Configuration of transistor. Which is the most popular Configuration?

ii) Write any five devices/ Active components used in electronics.

iii)

iii) With the help of diagram , explain working of transistor.

F.Y.J.C (H.S.V.C) FIRST TERM EXAM NOV2019

PAPER I : BASIC ELECTRICITY

MM: 50 TIME: 2 HRS

Q.1) Give symbols of : (10M)

i) Electrolytic capacitor ii) Potentiometer iii) Non electrolytic capacitor iv) Fixed resistor v) Inductor.

Q.2) State whether TRUE or FALSE (5M)

a. Small components can be easily mounted on the PCB.

b. Soldering is the process of joining two metals without melting.

c. Capacitance is directly proportional to the distance between the plates.

d. In parallel resistor divider network, voltage gets divided across the resistors.

e. Potentiometers are fixed resistors.

Q.3) Fill in the blanks with appropriate word. (5M)

1. Thin oxide film is used as dielectric in _____ capacitors. (electrolytic/ nonelectrolytic)

2. For PTC thermistors, the resistance value _____ with increase in temperature. (increases/ decreases)

3. The ability of the dielectric to concentrate the magnetic flux is called _____. (permittivity/ reactance)

4. Conductance is _____ proportional to the area of the plates. (directly/ indirectly)

5. Series resistance network is a _____ divider network. (current/ voltage)

Q.4) Answer any THREE questions: (15M)

i. State and explain the two laws of electrostatics.

ii. What is capacitance? State and define its units.

iii) State the various methods of soldering.

iv) Explain the colour code of resistors.

Q.5) Answer any THREE questions: (15M)

1. Give the classification of capacitors.

2. State and explain the Ohm's law.

3. State the various applications of capacitors.

4. What is a transformer. Explain briefly its working.

F.Y.J.C (H.S.V.C) FIRST TERM EXAM NOV2019

PAPER II : BASIC ELECTRONICS

MM: 50 TIME: 2 HRS

Q.1) GIVE THE SYMBOLS OF THE FOLLOWING: (5M)

a. Zener diode b. Varactor diode c.L.E.D d. Photodiode e. Tunnel diode

Q.2) State whether TRUE or FALSE (5M)

a. Boron is a pentavalent element.

b. At 0 kelvin, an intrinsic semiconductor acts as insulator.

c. In L.E.D, the colour of light depends upon the voltage given.

d. A transformer works on DC too.

e. The last block in a regulated power supply is voltage regulator.

Q.3) Fill in the blanks with appropriate word. (5M)

1. Varactor diodes provide variable _____ effect.
(capacitance/ inductance)

2. In _____diode when the light is not incident it, the current present is dark current. (tunnel / photo)

3. An inductor filter cannot be used with _____ rectifier.
(H.W.R/ F.W.R)

4. The output impedance of regulated power supply is very_____ . (low/ high)

5. _____ is a semiconductor (silicon/ copper)

Q.4) Answer any THREE questions: (15M)

i. State applications of diode.

ii. What is a rectifier. Explain the different types of rectifier.

iii) Draw the diagram of a zener regulator circuit.

iv) Explain the working of H.W.R with circuit diagram.

Q.5) Answer any THREE questions: (15M)

1. Explain the working of inductance filter with diagram.

2. With neat block diagram explain regulated power suppy.

3. Draw the diagram of +5V and -5V fixed voltage regulator.

4. Compare conductors/ semicondutors/ insulators.

F.Y.J.C (H.S.V.C) FIRST TERM EXAM NOV2019

PAPER III : DIGITAL ELECTRONICS

MM: 50 TIME: 2 HRS

Q.1) Give symbols of the following gates: (10M)

i) EXOR ii) NOR iii) NAND iv) AND v) OR.

Q.2) State whether TRUE or FALSE (5M)

a. Full adder adds 2 bits at a time.

b. NOR gate is a combination of two basic gates.

c. 1's Compliment of 110 is 010 .

d. Decoder is similar to de multiplexer .

e. NAND and NOR are basic gates.

Q.3) Fill in the blanks with appropriate word. (5M)

1. A multiplexer is a circuit with ____ inputs and one output. (one/ many)

2._____ is an input which disables or enables a circuit. (supply / strobe)

3. IC 74147 is a _____ encoder. (priority/ normal)

4. Bubbled AND gate is equivalent to _____ gate . (AND/ NOR)

5. A _____ is a binary digit. (bit/ nibble)

Q.4) Answer any THREE questions: (15M)

i. Define gates. State the different types of gates

ii. Explain NAND gates completely with logic diagram

iii) What is logic family. Explain its different types .

iv) Draw the block diagram of a multiplexer.

Q.5) Answer any THREE questions: (15M)

1. Draw a seven segment display.

2. Compare TTL and CMOS.

3. Draw the logic diagram of EXOR gate.

4. What is a half adder. Explain with truth table