II/SEM/COMMON/2019(S)NEW

BASIC ELECTRICAL AND ELECTRONICS ENGINEERING.(NEW SYLLABUS)

(Theory-4 a&b))

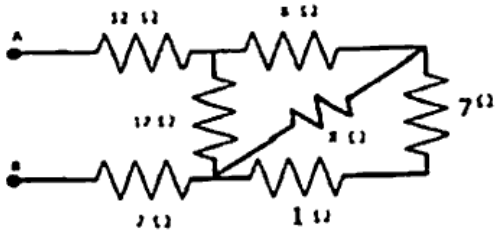
TIME:3 Hrs. **F.M-80**

(ANSWER ANY FIVE INCLUDING Q.NO-1 AND Q.NO-2)

Figures in the right hand margin indicate marks.

Q-1 (ANSWER ALL) **(2×10=20)**

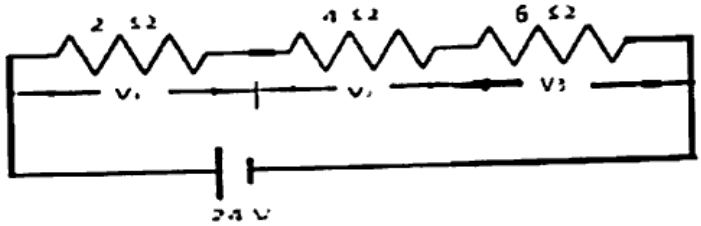
(a) Find the equivalent resistance of the network between A & B of the following circuit.



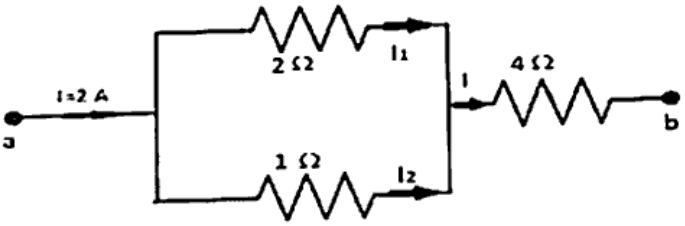
(b) State Ohm's law.

(c) State KCL & KVL

(d) Find V1 ,V2 and V3 in the circuit.



(e) Find the currents I1 &I2 in the above circuit.



(f) Write down two advantages of integrated circuits.

(g) Define filter.

(h) Define transducer.

(i) Define modulation.

(j) Write down the working principle of photovoltaic transducer.

Q-2 (ANSWER ALL) **(5×6=30)**

(a) Give a brief classification of dc generator on the basis of field excitation.

(b) A resistance of 20 ohm , inductance of 0.2 H and capacitance of 150 μF are connected in series and are fed by a 230 volt,50 Hz supply. Find X_L, X_C, Z, Y, P.F, active power and reactive power.

(c) Explain briefly about ac through pure resistance with phasor diagram.

(d) Write down the difference between vacuum tube and semiconductor.

(e) Define transistor. State different types of transistor configuration. Write down the output and input current gain relationship in CE,CB and CCconfiguration.

(f) Write down the difference between modulation and demodulation.

Q-3 (a) Explain about the hydro power plant with a neat block diagram. (5)

(b) Give a brief classification of material according to electrical conductivity with respect to energy band diagram. (5)

Q-4 (a) Briefly explain the types of wiring for domestic installations. (5)

(b) State the working of D.C. power supply system with the help of block diagram. (5)

Q-5 (a) Explain briefly about the main parts of dc machines . (5)

(b) State the working of basic oscillator with different elements through simple block diagram. (5)

Q-6 (a) Write down the different uses of PMMC types of instruments. (5)

(b) State different types of transducers. Explain briefly about active and passive transducer. (5)

Q-7 (a) A building has the following electrical appliances (5)

(i) A 1HP motor running for 5 hrs in a day.
(ii) Three fans each of 80 watt running for 10 hours in a day.
(iii) Four tube lights each of 40 watt running for 15 hours per day.

Find the monthly bill if 1 unit=Rs.2.50/-. The month is November.

(b) Explain briefly about the working principle of multimeter with basic block diagram. (5)

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