

SECTION-B

2. (i) Convert star connected set of 3 resistors R into delta.
(ii) Define the following :
 - a. KVL
 - b. KCL,
 - c. Ohm's law
 - d. Unilateral Circuit Element
3. (i) Establish relation between Line & phase voltage in case of balanced 3 phase star connection.
(ii) Draw a neat sketch of three phase periodic balanced voltages waveforms on simultaneous time scale.
4. Explain principle, construction and working of 3 phase induction motor with suitable sketches.
5. Find the rms value of sine wave for complete cycle which is clamped to half its negative maximum value.

SECTION-C

6. Explain construction & working of :
 - (i) Strain Guage
 - (ii) Thermister
7. Explain principle of operation & characteristics of a PN junction diode.
8. Explain the principle of operation and the characteristics of BJT.
9. (i) Draw the truth tables of universal logic gates
(ii) Using Boolean techniques, simplify the following expression :

$$Y = (A+B+C) \cdot (A+B)$$