

Q.2 a. Explain the formation of barrier voltage and depletion region in a PN junction.

Answer: Page 21 to 22 of Text Book 1

Q.2 b. Explain the purpose of a dc load line. Write the equation for drawing a dc load line for a series circuit consisting of a supply voltage (E), a resistor (R_1) and a diode (D_1).

Ans : Page 39 to 41 of Text Book 1

Q.3 a. Draw the circuit of two diode full wave rectifier and explain the working along with the waveforms.

Ans: Page 75 to 76 of Text Book 1

Q3.b. Draw the positive and negative voltage clamping circuits. Explain its working along with the waveforms.

Ans : Page 121 to 122 of Text Book 1

Q.4.a. Explain the operation of PNP transistor with neat diagrams. Why they are termed as 'bipolar' junction transistors?

Ans : Page 470 to 476 of Text Book 1

Q4 b. The base bias circuit shown
 $R_B = 470k\Omega$, $R_C = 2.2k\Omega$ and V_{CC}
 the transistor has $h_{FE} = 100$. Determine
 and V_{CE}

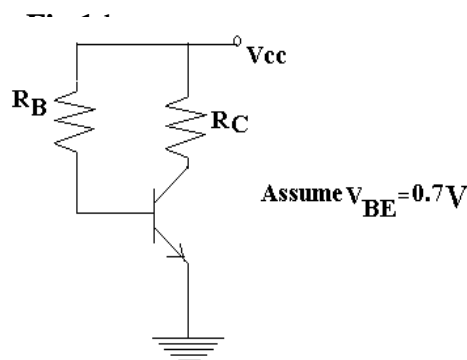


Fig.1

Ans: Page 189 of Text Book 1

Q.5 a. Draw the circuit of single stage CE amplifier and explain the function of bypass capacitor and coupling capacitors.

Ans. Page 470 to 476 of Text Book 1

Q5 b. Explain the working of BJT phase shift oscillator with a neat circuit diagram.

Ans. Page 669 to 670 of text Book 1

Q.6. a Explain the parallel and serial transmission of information in digital systems.

Ans. Page 16 to 17 of Text Book II

Q6.b. Explain the parity method for error detection.

Ans. Page 44 to 45 of Text Book II

Q7. a. Write DeMorgan's Theorems and simplify $z = \overline{(\overline{A} + C)} \cdot (\overline{B + D})$.

Ans. Page 79 to 80 of Text Book II

Q.7 b. Explain Exclusive – OR and Exclusive – NOR gates with neat diagrams.

Ans. Page 133 to 136 of Text Book II

Q.8 a. Explain BCD adder with an example.

Ans. Page 297 to 298 of Text Book II

Q.8 b. What is a Demultiplexer? Explain with a diagram, the working of a 1 line to 8 line Demultiplexer. (8)

Ans. Page 536 to 537 of Text Book II

Q.9 a. Explain the working of a clocked J K flip flop with neat diagram and waveforms. (8)

Ans. Page 199 to 200 of Text Book II

Q.9 b. Draw the diagram of a 4-bit Asynchronous Counter and explain its working along with the waveforms.

Ans. Page 320 to 321 of Text Book II

TEXT BOOKS

- I. Electronic Devices and Circuits, Fifth Edition, David A Bell, OXFORD University Press, Thirteenth Impression-2010.
- II. Digital Systems – Principles and Applications, Tenth Edition, Ronald J Tocci, Neal S Widmer and Gregory L. Moss, Pearson Education, 2011.