Questions :- CH.2

1) Why transistor called Bipolar?
2) Write short note on unbiased transistor.
3) Explain Biased N-P-N transistor.
4) Explain Biased P-N-P transistor.
5) Explain input and output charecteristic of common base configuration. and derive current relation for common Base ⇒ α
Imp. 6) Derive current relation for common emitter configuration. ⇒ β
7) Draw and explain input - output charecteristic for Common emitter OR Explain Base curve and collector curve for BJT.
8) Define α and β, and derive relation betⁿ α and β for transistor.
9) Write short note on common collector configuration.
10) Define terms ① Load line ② Bias point or operating point (Q point)
11) What is load line and explain it in detail and also explain what is Q point (bias point / operating point)
12) Explain factors affecting stability of Q point. ⇒ V_{BE}, I_{CBO}, β. ⇒ T.
13) Define stability factors, S, S', S".
14) Explain fixed base bias circuit. in detail.
15) Explain emitter feedback biase circuit also explain stabilization of Q point in it.
16) Explain collector feedback (collector to base) bias circuit with stabilization of Q point explain
17) decribe the Voltage divider bias circuit.

18.) Explain thermal run away and trasistor power disipation.
19.) Transistor as a switch.
20.) Define all trasistor switching time with diagram.
21.) Testing of ~~dio~~ trasistor using multimeter.
22.) Explain all logic gates (~~using~~) with symbol and ~~thruu~~ truth table.
23.) Impliment AND and OR ~~ka~~ gate using diode.
24.) Prove that NAND is universal gate.
25.) Prove that NOR is " ".
26.) Define fan in, fan out, Noise margin.
27.) Impliment NOR gate using RTL.
28.) Impliment NAND gate using DTL.
29.) Impliment NAND gate using RTL and NOR using DTL.
30.) Write truth table for three input OR, AND, NOR, NAND, X-OR, X-NOR.
31.) What is propetation Dely?.

$S^0 = \frac{\Delta I_C}{\Delta I_{CBO}}$ | V_{BE} and β_{dc} constant

$S' = \frac{\Delta I_C}{\Delta V_{BE}}$ | I_{CBO} and β_{dc} constant

$S'' = \frac{\Delta I_C}{\Delta \beta_{dc}}$ | I_{CBO} and V_{BE} c