Dr S D Sharma.

JAYPEE UNIVERSITY OF INFORMATRION TECHNOLOGY, WAKNAGHAT

SUMMER SEMESTER EXAMINATIONS-T1- July, 2018

B. Tech (ECE), III Semester

COURSE CODE: 10B11EC312 MAX. MARKS: 50

COURSE NAME: Analog Electronics

COURSE CREDITS: 04 MAX. TIME: 2 HRs

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q.1. **Define the following terms:** **10**

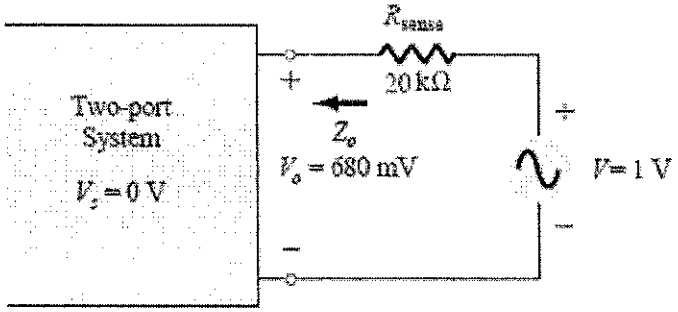
(i) Mass action law
(ii) PN Junction
(iii) Fermi level
(iv) Einstein relation ship
(v) Mean life time charge carriers
(vi) Recombination
(vii) Drift Current
(viii) Diffusion current
(ix) Diode Capacitances
(x) Varactor diode

Q.2 (i) Compare the BJT and JFET **04**

(ii) Draw the input and output characteristics of BJT for CB, CE configurations **04**

(iii) Establish the relation between $\alpha, \beta,$ and γ where these are associated with BJT configurations. **04**

Q.3. (i) Find the z_0 for the following circuit: **02**



(ii) Find the following parameters if $\beta = 120, I_E = 3.2\ mA, r_0 = \infty$ for CE configuration. **04**

(a) Z_i (b) A_V if load 2k ohm is applied (c) A_i if load 2k ohm