B.Tech / Int (MBA/M.Tech) 3rd Semester (ECE) Examination  
June 2014 
Electronic Devices and Circuits 
Subject Code: ECL-201

Time Allowed: 03 hours.  
Maximum Marks: 100

Before answering the question paper the candidate should ensure that they have been supplied the correct question paper. Complaints in this regard, if any, shall not be entertained after the examination.

**Note:** Question No. 1 is Compulsory and attempt two questions from each section. All questions carry equal marks.

Q.1 (a) Write down the ideal characteristic of an op amp. 
(b) Differentiate between Zener breakdown and Avalanche breakdown. 
(c) Compare BJT and FET. 
(d) Explain the term CMRR. 
(e) Differentiate between drift and diffusion current. [5x4=20]

**SECTION -A**

Q.2(a) What is P-N junction. Explain the V-I characteristics of P-N junction diode.  [10] 
(b) Differentiate between diffusion capacitance and transition capacitance.  [10] 

Q.3(a) Draw and explain the working of a bridge rectifier.  [10] 
(b) Explain the working of a half wave rectifier and draw its output waveform.  [10]

Q.4 (a) Write a short note on Solar Cell.  [10] 
(b) Compare CE and CB configuration of BJT.  [10]

**SECTION -B**

Q.5(a) Draw the input output characteristic of BJT in CE configuration.  [10] 
(b) Explain input output characteristic of BJT in CB configuration.  [10] 

Q.6 (a) Explain the working of P type EMOSFET and discuss its V-I characteristic.  [10] 
(b) Explain the working of N channel JFET.  [10] 

Q.7 (a) What is an inverting and non inverting op-amp?  [10] 
(b) Explain the following 
   i) Slew rate  
   ii) Input offset voltage  
   iii) Input offset current