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## **EE/EX-3004-CBGS**

### **B.E. III Semester**

Examination, June 2020

### **Choice Based Grading System (CBGS)**

### **Analog Electronics**

*Time : Three Hours*

*Maximum Marks : 70*

- Note:** i) Attempt any five questions out of eight questions.  
ii) All questions carry equal marks.  
iii) Assume suitable data, if required.
1. a) Write some of the difference between p-n junction and p-n junction diode? Explain with a suitable example.  
b) Explain the temperature dependence and break down characteristics of p-n junction diode.
  2. a) Discuss the comparison between varactor diode, Schottky diode and Tunnel Diode.  
b) What do you mean by Transistors? Give a brief classification of all types of transistors.
  3. a) Explain the comparison between CB, CE and CC configuration.  
b) Derive a relation for drain current  $I_d$  for E MOSFET.
  4. a) Explain the concept of feedback in any circuit? Explain it with example.  
b) Define and explain the Barkhausen Criterion. Explain the concept of frequency oscillations.

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5.
  - a) Discuss about the current series and current shunt feedback with suitable circuit.
  - b) Write any five differences between the push pull and complementary push pull amplifiers.
  
6.
  - a) Write short note on De rating curve. Explain the class AB amplifier. Derive its relation as well.
  - b) Write short note on Hartley colpitts oscillator and UJT Oscillator circuits.
  
7.
  - a) Derive expressions for the multi vibrators and square wave generators for the circuits which behave as an OPAMPS.
  - b) Derive an expression for the Op-Amp inverting and non-inverting circuits.
  
8. Write short notes on any four of the following:
  - a) Schmitt Trigger
  - b) Wein Bridge Oscillator
  - c) LED
  - d) FET
  - e) Cascade amplifier
  - f) Boot strapping technique

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