Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

CS-3002 (CBGS)

B.E., III Semester

Examination, December 2017

Choice Based Grading System (CBGS)

Electronic Devices and Circuits

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) Draw and explain the construction, working and applications of the LED diode.
   b) Draw and explain V-I characteristics of pn junction diode. Define Knee and breakdown voltages.

2. a) Explain the construction of a BJT. Also explain the regions of operations of a transistor.
   b) Explain how a transistor can work as a switch and as an amplifier.

3. a) Differentiate class A, Class B and class C power amplifiers with their benefits and applications.
   b) Differentiate negative and positive feedbacks. Write the name of all four negative feedback configurations.

4. a) Explain the construction of n channel and p channel FET. Differentiate FET with BJT.
   b) Write the principle of working of an oscillator. Draw and explain Colpitts oscillator.

5. a) Draw circuit of BISTABLE multivibrator and explain its working in detail.
   b) What do you mean by wave shaping circuits? Draw a clipper circuit and define it.

6. a) Write the characteristics of operational amplifier. Define slew rate and CMRR.
   b) Construct integrator and differentiator circuits with Op-Amp and derive expressions.

7. a) What are the advantages of IC technology? Explain the production process of monolithic IC.
   b) Draw and explain log and anti-log amplifiers using Op-Amp.

8. Write short notes on any two:
   a) Clampers
   b) Schottky diode
   c) PIN diode
   d) Photo transistor

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