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Roll No

EE/EX-3004-CBGS

B.E. III Semester

Examination, December 2020

Choice Based Grading System (CBGS)

Analog Electronics

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) List the important features of 555 timer. Explain how an a stable multivibrator using 555 timer can be used as a free running ramp generator.
b) Draw an op-amp Schmitt trigger circuit and explain its operation.
2. a) What are the operating regions in BJT? Explain the operating regions of BJT with junction positions.
b) What are the merits of negative feedback?
3. a) Describe the principle of operation and characteristics of MOSFET.
b) Explain the working of class -B power amplifier. Also calculate the efficiency.
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) What is the need of biasing circuit in BJT? Explain biasing techniques for BJT in brief.
 - b) Explain the working of RC phase shift oscillator.
6.
 - a) Draw the hybrid small signal model of a transistor and explain the significance of each component in the model.
 - b) Explain the working of Bi-stable multivibrator.
7. With the help of VI characteristic explain the working of following diodes.
 - a) Zener diode
 - b) Varactor diode
 - c) Tunnel diode
8. Write short notes on any two of the following:
 - a) Voltage multiplier circuits
 - b) Transistor as an amplifier
 - c) Power amplifiers
 - d) Boot strapping technique

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