

Total No. of Questions : 8]

[Total No. of Printed Pages : 4

Roll No

EE-304-CBGS

B.Tech., III Semester

Examination, June 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.

iii) In case of any doubt or dispute the English version question should be treated as final.

1. a) Describe the working of Varactor diode and PIN diode.

b) Explain the 555 timer as an astable multivibrator.

5

2. a) For a CE amplifier circuit with h-parameter $h_{ie} = 2k\Omega$; $h_{re} = 6 \times 10^{-4}$; $h_{fe} = 50$, $h_{oe} = 25 \mu A/v$ and load resistance $R_L = 4 k\Omega$ and source resistance $R_S = 10k\Omega$; compute A_v , A_i , R_i and R_o .

EE-304-CBGS

PTO

[2]

$$h_{re} = 6 \times 10^{-4}; h_{fe} = 50, h_{oe} = 25 \mu\text{A/V}$$

$$R_L = 4 \text{ k}\Omega$$

$$h_{A_v}, A_v, I$$

- b) Describe the working of Darlington amplifier and Cascade amplifier.
3. a) Explain the concept of efficiency and distortion in Class B amplifier.
- b) Explain the working and construction of MOSFET also draw its characteristics.
4. a) Distinguish between monostable and bistable multivibrator on the basis of operation.

- b) Draw the output waveform for the following circuit (figure 1)

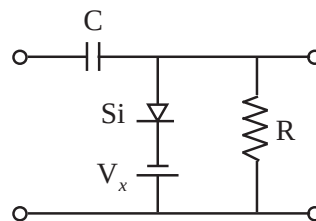
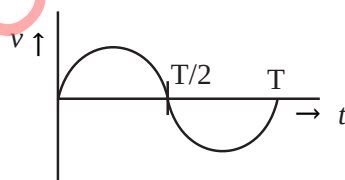


Figure 1 /

EE-304-CBGS

Contd...

[3]

5. Write a short notes on any two.

- i) Wien bridge
- ii) Hall effect
- iii) Transistor as an amplifier

j

j

j

6. a) Explain in detail the Schmitt trigger and its application.

b) Explain the transistor working and its characteristics in CE configuration.

7. a) Derive the expression for I_{dc} and I_{rms} for half wave rectifier circuits and find its maximum efficiency.

b) Draw the circuit diagram of R-C phase shift oscillator and obtain the expression for its frequency of oscillation.

[4]

8. a) Draw and explain various transistor biasing circuits.
- b) Describe the applications of current to voltage convertor and voltage to current convertor.

downloaded from
StudentSuvidha.com

EE-304-CBGS