

Roll No.....

Total No. of Questions : 09]

[Total No. of Pages : 02

Paper ID [A0408]

(Please fill this Paper ID in OMR Sheet)

B.Tech. (Sem. - 4th)

APPLIED ELECTRONICS (EE - 204)

Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Four** questions from Section - B.
- 3) Attempt any **Two** questions from Section - C.

Section - A

Q1)

(10 × 2 = 20)

- a) Explain the physical significance of an Miller capacitance.
- b) Compare the current gains of the three types of transistor configurations.
- c) What is Complementary symmetry amplifier?
- d) What do you mean by the term frequency stability in an amplifier.
- e) Discuss the conversion efficiency of class AB amplifier.
- f) What do you understand by harmonic distortion?
- g) What do you mean by balanced and unbalanced inputs. Compare them.
- h) How a zener diode can be used to regulate the voltage?
- i) Explain how positive feedback is used to generate the oscillations.
- j) What is thermal runaway?

Section - B

(4 × 5 = 20)

Q2) Discuss the principle and working of a Hartley oscillator.

Q3) What are difference amplifiers? Explain with the help of circuit diagram.

- Q4)** Describe the working principle of a Push-Pull amplifier.
- Q5)** Describe the hybrid-pi CE model.
- Q6)** What are unregulated power supplies? Why do we need to regulate them. Perform the analysis of a typical zener regulator.

Section - C

(2 × 10 = 20)

- Q7)** Derive the relations for the h-parameters of common base amplifier.
- Q8)** What are the various classes of amplifiers? Compare their relative advantages and disadvantages.
- Q9)** Write short notes on the following :
- (a) SMPS.
 - (b) Design of class B push-pull amplifier.