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B.Tech. (EE/EEE) (Sem.–4th)

APPLIED ELECTRONICS

Subject Code : EE-204

Paper ID : [A0408]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

SECTION-A

1. Write briefly :

(a) What is a linear amplifier?

(b) Which transistor configuration behaves as constant current source and why?

(c) What is Class-AB operation?

(d) What is loading effect in multistage transistor amplifier?

(e) How is distortion minimized in power amplifiers?

(f) What is the importance of unity gain frequency in an amplifier?

(g) The upper 3 dB frequency is 20 KHz and the gain at this frequency is 150. Calculate the gain at frequency of 50 KHz.

(h) Define thermal runaway.

(i) What is the purpose of feedback circuit in an oscillator and what type of feedback does it use?

(j) What is the difference between series and shunt regulator?

SECTION-B

2. Describe the amplifying action of a transistor.
3. The upper and lower 3dB frequencies of a sin 18 KHz and 30 KHz respectively. Find the frequ the voltage gain is dropped by less than 1.5 dB o
4. What are the factors that affect the frequency Explain.
5. Draw the circuit of phase inverter. Explain its utili
6. Describe the operation of SMPS.

SECTION-C

7. Describe the graphical method of obtaining *h*-para configuration.
8. Design a phase shift oscillator to oscillate at 100
9. Write short notes on the following :

i) Difference amplifiers

ii) OPAMP voltage regulators