

B.E. DEGREE EXAMINATIONS: NOVEMBER 2009

Fourth Semester

ELECTRICAL AND ELECTRONICS ENGINEERING

U07EE402: Electronic Circuits

Time: Three Hours

Maximum Marks: 100

Answer ALL the Questions:-

PART A (10 x 1 = 10 Marks)

1. The basic purpose of a filter is to
 - a) Minimizes variations in a.c
 - b) Remove ripples from the rectified output
 - c) Suppress harmonics in rectified output
 - d) Stabilize d.c output ripples.
2. Which of the following is not an essential element of a d.c power supply?
 - a) D.c power supply
 - b) Filter
 - c) Voltage regulator
 - d) Voltage amplifier
3. Which of the following transistor amplifier has the highest voltage gain?
 - a) Common base
 - b) Common collector
 - c) Common Emitter
 - d) None of the above
4. In a Darlington pair
 - a) two transistors are connected in parallel
 - b) the emitter of the first feeds the base of the second
 - c) two transistors are connected in series
 - d) two transistors are connected in parallel and series
5. The main function of transformer in amplifier is
 - a) To increase the output power
 - b) To increase the voltage gain
 - c) to match the load resistance with the output resistance
 - d) none of the above
6. A square pulse has a mark to space ratio of
 - a) 1:1
 - b) 1:2
 - c) 2:1
 - d) 1:4
7. A relaxation oscillator is one which
 - a) Has two stable states
 - b) relaxes indefinitely
 - c) produce non sinusoidal output
 - d) oscillate continuously
8. If the input to a differentiating circuit is a triangular, then output
 - a) Square wave
 - b) Rectangular wave
 - c) saw tooth
 - d) none of the above
9. A blocking oscillator
 - a) Is a triggered oscillator
 - b) is an amplifier with negative feedback
 - c) Generate sinusoidal waves
 - d) produce sharp and narrow pulse
10. In an a stable multivibrator
 - a) $\beta = 1$
 - b) $A\beta = 1$
 - c) $\beta \geq 1$
 - d) $\beta \leq 1$

PART B (10 x 2 = 20 Marks)

11. What do you mean by thermal runaway?
12. How can a D.C equivalent circuit of an amplifier be obtained?
13. Define sensitivity.
14. Give the expression for the frequency of oscillations in a sine wave oscillator.
15. Mention the applications of bistable multivibrator.
16. What is meant by feedback?
17. Mention the characteristics of operational amplifier.
18. Define Bandwidth.
19. What are the advantages of tuned amplifiers?
20. Define ripple factor.

PART C (5 x 14 = 70 Marks)

21. a) Explain briefly about biasing technique used in amplifiers.

(OR)

- b) Describe the operation of push pull amplifier.

22. a) Explain the operation of double tuned amplifier and mention its advantages, application.

(OR)

- b) Explain DC analysis of differential amplifier and its operation.

23. a) Explain briefly about voltage series feedback amplifier.

(OR)

- b) Explain the operation of Wien bridge oscillator and mention its advantages.

24. a) Explain the operation of astable multivibrator.

(OR)

- b) What is meant by clamper and Explain the operation briefly with neat sketch?

25. a) Explain the working principle of voltage regulator with neat sketch and its types.

(OR)

- b) i) Briefly explain the function of capacitor filter and inductor filter.

- ii) What is the difference between capacitor filter and inductor filter?
