

B.E. DEGREE EXAMINATIONS: NOVEMBER 2009

Third Semester

ELECTRONICS AND INSTRUMENTATION ENGINEERING

U07EI303: Electronic Circuits

Time: Three Hours**Maximum Marks: 100****Answer ALL the Questions:-****PART A (10 x 1 = 10 Marks)**

1. Operating point represents.....
- a) Values of I_C and V_{CE} when the signal is applied b) The magnitude of signal
c) Zero signal values if I_C and V_{CE} d) The amplitude of signal
2. The purpose of capacitors in a transistor amplifier is to
- a) Protect the transistor b) Cool the transistor
c) Couple or bypass A.C component d) Provide biasing
3. When an A.C. signal is applied to an amplifier the operating point moves along
- a) D.C. load line b) A.C load line c) Both D.C and A.C. Load line d) Voltage line
4. High overall gain can be obtained
- a) By using cascading tuned amplifiers b) By using tuned amplifier
c) By using Class C amplifier d) by using class AB amplifier
5. If a high degree of selectivity is designed then double tuned circuit should have
coupling
- a) Loose b) Tight c) Critical d) slightly
6. Hartley oscillator is commonly used in
- a) Radio Receivers b) Radio Transmitter c) T.V Receiver d) FM Receivers
7. In a Multivibrator we have feedback
- a) Negative b) 100% positive c) Both positive and negative d) 40
8. The UJT may be used as
- a) An amplifier b) a saw tooth generator c) A rectifier d) full wave rectifier
9. In the SMPS filter is used to
- a) converts the pulse into voltage b) converts the pulse into D.C Voltage
c) Converts the pulse into current d) converts the pulse into A.C Current
10. The ripple factor of half wave rectifier is
- a) 2 b) 1.21 c) 25 d) 0.48

PART B (10 x 2 = 20 Marks)

11. Why do you fix the operating point in the middle of the dc load line?
12. What are the draw backs of collector to base bias?
13. What are the practical applications of a differential amplifier?
14. Define CMRR .
15. What is Barkauson's criterion?
16. What are the advantages of crystal oscillator?
17. Distinguish between oscillator and Multivibrator.
18. What is meant by quasi stable state?
19. Define percentage regulation.
20. How overload protections provided in series voltage regulator?

PART C (5 x 14 =70 Marks)

21. (a) Draw fixed bias and self bias circuit and explain the working principle.

(OR)

- (b) Explain the working principle of push pull amplifier.

22. (a) Explain the working principle of Differential amplifier.

(OR)

- (b) Explain the working principle of Single tuned amplifier and discuss the frequency response.

23. (a) With neat diagram explain the action phase shift and colpitts oscillators.

(OR)

- (b) Analyze the voltage gain, input impedance/ output impedance of oscillation of Wein bridge oscillator.

24. (a) With neat diagram explain the working principle of saw tooth generator and mention its applications.

(OR)

- (b) With neat diagram explain the working principle of Clipper circuit.

25. (a) Explain the working principle of Full wave rectifier with its waveforms. Define its Ripple factor.

(OR)

- (b) Explain the working principle of SMPS.
