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**Question Paper Code : 23376**

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2013.

Fourth Semester

Electrical and Electronics Engineering

EC 1261 — ELECTRONIC CIRCUITS

(Common to Third Semester; Electronics and Instrumentation Engineering and Instrumentation and Control Engineering)

(Regulation 2004/2007)

(Common to B.E. (Part-Time) Third Semester  
Electrical and Electronics Engineering Regulation 2005)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Distinguish between Cascade and Darlington connections.
2. What is Cross Over distortion?
3. Define CMRR.
4. State advantages of Double Tuned Amplifier.
5. State Barkhausen Criterion.
6. What are the advantages of Crystal Oscillators?
7. What is Hysteresis voltage?
8. Mention any two applications of clipper circuits.
9. Define ripple factor. What is the ripple factor for HWR?
10. Define voltage regulation and give its expression.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Derive the expression for stability factor of a Voltage Divider biasing circuit for BJT. (8)
- (ii) With a neat circuit diagram, explain Common Source FET amplifier. (8)

Or

- (b) (i) Explain Transformer Coupled Class A amplifier and list out its limitations. (8)
- (ii) With a neat circuit diagram explain Class C Push Pull Amplifier. State its Advantages. (8)
12. (a) (i) Explain the operation of a Differential Amplifier. (8)
- (ii) Derive the output expression of a Differential Amplifier in differential mode. (8)

Or

- (b) (i) State the important characteristics of Tuned Amplifier and explain them. (8)
- (ii) Explain a Double Tuned Amplifier and give its applications. (8)
13. (a) (i) Explain the characteristics of Negative Feedback Amplifiers. (8)
- (ii) With a neat circuit diagram, explain any one type of Voltage Feedback Amplifier. (8)

Or

- (b) (i) Explain the operation of Wien Bridge Oscillator. Derive its frequency of Oscillation. (8)
- (ii) What is Piezo Electric Effect? Describe the operation of a crystal oscillator and state its advantages. (8)
14. (a) (i) Explain the operation of an Astable Multivibrator and sketch its capacitor and output voltage waveforms. (8)
- (ii) Explain positive and negative Clampers. State its applications. (8)

Or

- (b) (i) Describe the operation of a Schmitt trigger circuit. Sketch its output Waveforms. (8)
- (ii) Discuss the functional operation of an UJT based saw tooth Oscillator. (8)

15. (a) Write short notes on the following:

(i) Full wave rectifier. (8)

(ii) Voltage Regulator. (8)

Or

(b) (i) Write a detailed note on switched mode power supply. (8)

(ii) Explain about capacitor filter. (8)