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**Question Paper Code : 21179**

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2014.

Fourth Semester

Electronics and Communication Engineering

EC 1251 A — ELECTRONIC CIRCUITS — II

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write the formula of ripple factor for full-wave rectifier with capacitor filter.
2. Compare full-wave and bridge rectifiers.
3. Draw the equivalent circuit and resonance characteristics of quartz crystal.
4. State the Barkhausen criterion of oscillation.
5. What is the effect of cascading single tuned amplifiers on the overall bandwidth?
6. What do you mean by neutralization in amplifiers?
7. Draw the circuit and write the expression for output for RC integrator and differentiator.
8. List out the different methods in which a bistable multivibrator may be triggered.
9. What is blocking oscillator?
10. Draw the equivalent circuit of pulse transformer.

PART B — (5 × 16 = 80 marks)

11. (a) With circuit diagrams and waveforms, explain the operation of half-wave and full-wave rectifiers. (16)

Or

- (b) (i) With circuit diagrams and waveforms, explain power control using SCR. (10)  
(ii) Write notes on over voltage protection in power supplies. (6)
12. (a) With circuit diagrams, explain amplitude stabilization in RC oscillator using diodes and FET. (16)

Or

- (b) With circuit diagrams, explain the operation of Hartley and Colpitt's oscillator. Also give the expression for frequency of oscillation. (16)
13. (a) (i) Explain with circuit diagram and frequency response, the operation of single tuned amplifier with capacitive coupled load. (10)  
(ii) Derive the expressions for its Q-factor and resonant frequency. (6)

Or

- (b) (i) What is large signal amplifier? Explain with circuit and waveforms. class-C tuned amplifier. (10)  
(ii) Write notes on stability of tuned amplifiers. (6)
14. (a) Explain with circuit diagrams and waveforms the operation of emitter coupled and collector coupled astable multivibrators. (16)

Or

- (b) With circuit and waveforms explain the operation of Schmitt trigger circuit. State its applications. Also derive the expression for its LTP and UTP. (16)
15. (a) (i) With relevant diagrams, explain the working of push-pull astable blocking oscillator with emitter timing. (10)  
(ii) With circuit diagram, explain the operation of UJT sawtooth waveform generator. (6)

Or

- (b) (i) With relevant diagrams, explain the operation of monostable blocking oscillator with base timing. (10)  
(ii) Write notes on linearization in time base circuits. (6)