B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

Third Semester

Electronics and Instrumentation Engineering

EC 2205

EC 1261 — ELECTRONIC CIRCUITS

(Common to Instrumentation and Control Engineering)

(Regulation 2004)

Time: Three hours

Maximum: 100 marks

Answer ALL questions.

PART A \rightarrow (20 \times 2 = 20 marks)

- 1. Draw the fixed and self beas circuit of BJT.
- 2. Draw the h-parameter equivalent circuit of a Common-emitter transistor.
- 3. What is CMRR?
- 4. Draw a tuzed circuit.
- 5. Define feedback factor.
- 6. What are the conditions of oscillation in sinusoidal oscillators.
- 7. What is time constant in a RC circuit?
- 8. What is a clipper?
- 9. Define peak inverse voltage of a rectifier.
- 10. Draw the functional block diagram of SMPS.

PART B \rightarrow (5 × 16 = 80 marks)

11.	(a)	(i) Derive the expressions for the input resistance, voltage gain, current gain, and output admittance of a transistor amplifier in
		terms of h-parameters. (8)
		(ii) Explain about Cascode and Darlington connections. (8)
		Or
	(b)	(i) Explain the operation of the transformer coupled power amplifier.
		(ii) Explain the operation of the Class-B push pull power amplifier. (8)
12.	(a)	Explain in detail about the operation of the Emitter coupled differential amplifier.
		Or
	(b)	Explain the operation of the single and double tuned amplifiers.
13.	(a)	With topologies compare the performance of voltage/current of the series
		and shunt feedback amplitors. Or
	(b)	Explain the peration of the Wein-bridge oscillators. What are the
		advantage of crystol oscillators?
14.	(a)	(i) Explain with circuit diagram and waveforms positive and negative
		Clamper circuits. (8)
		(ii) Explain the operation of a UJT saw tooth oscillator. (8)
		Or
	(b)	Explain the operation of a monostable multivibrator circuit.

15. (a) Explain in deposit acoust the operation of the Half wave rectifier, full wave rectifier and Equipment Legislations.

Or

- (b) (i) Compare the ripple factor for the inductor filter and capacitor filter.

 (4)
 - (ii) Explain the operation of the sories voltage regulators. (12)