M.E. First Semester (Digital Electronics) (Part Time / Full Time) (C.G.S.- New)

13204 : Elective-1 : RF System Design : 1 UMEF 3

P. Pages : 1 | AW - 3758

Time : Three Hours | * 0 3 6 4 * | Max. Marks : 80

Notes :
1. Answer **three** question from Section A and **three** question from Section B.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.
4. Illustrate your answer necessary with the help of neat sketches.
5. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION – A

1.	a)	Explain behaviour of Schottky Transistor.	**7**
	b)	Explain construction, functionality & frequency response of Field effect transistor.	**6**
2.	a)	Explain physical properties of semiconductor.	**7**
	b)	Explain Large signal BJT model.	**6**
3.	a)	Explain Richards transformation for RF filter implementation.	**7**
	b)	Explain Insertion loss method for RF filter design.	**7**
4.	a)	Explain construction & frequency response of Large signal FET model with example.	**7**
	b)	Explain the concept of HF cascade amplifier design.	**6**

SECTION – B

5.	a)	Explain class B amplifier with it modulation characteristics.	**7**
	b)	Explain issues of Bandwidth enhancement for high frequency amplifier design.	**7**
6.	a)	Explain the concept of subsampling mixer along with the diagram.	**7**
	b)	Explain voltage controlled oscillator in detail.	**6**
7.	a)	Explain working & frequency response of Dielectric Resonator Oscillator.	**7**
	b)	Explain Design of class E RF power amplifier.	**6**
8.	a)	Explain Role of Loop filter & charge pump in PLL.	**7**
	b)	Explain second order PLL model.	**6**

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