Q. Code: 142706

Reg. No. | | | | | | | | | |

B.E. / B.TECH. DEGREE EXAMINATIONS, DEC 2019

Fourth Semester

EC16403 – ELECTRONIC CIRCUITS II

(Electronics and Communication Engineering)

(Regulation 2016)

Time: Three Hours **Maximum : 100 Marks**

Answer **ALL** questions

PART A - (10 X 2 = 20 Marks)

		CO	RBT
1.	Define feed back factor.	**1**	**U**
2.	What are the advantages of negative feed back system?	**1**	**R**
3.	Draw the electrical equivalent of Piezo-Electric crystal.	**1**	**U**
4.	List the advantages and disadvantages of Wein bridge Oscillator.	**1**	**R**
5.	Brief the relation between band width and Q-factor.	**2**	**U**
6.	Mention two applications of tuned amplifiers.	**2**	**R**
7.	Draw a clipper circuit which clips all voltages above +3V.	**2**	**R**
8.	State the role of commutating capacitors in Bistable multivibrator.	**2**	**AP**
9.	Differentiate IGBT and BJT.	**3**	**U**
10.	What are advantages of SMPS over conventional regulators?	**3**	**R**

PART B - (5 X16 = 80 Marks)

11.	(a)	Draw the circuit diagram of voltage shunt feedback amplifier using BJT and analyze the circuit to determine the parameters with and without feedback.	**(16)**	**1**	**AP**
		(OR)			
	(b)	With a neat diagram explain which type of feedback is employed in a BJT Emitter follower and obtain the expressions of A_{vf} , R_{if} , R_{of} , G_{mf} , R_{of} .	**(16)**	**1**	**AP**

12.	(a)	Explain the operation of RC phase shift oscillator with a neat circuit diagram and derive the expression of frequency of oscillation and the condition for sustained oscillation.	**(16)**	**1**	**AP**
		(OR)			
	(b)	Draw the circuit diagram and explain the working of Hartley oscillator using BJT. Also derive the expression for frequency of oscillation and condition for sustained oscillation.	**(16)**	**1**	**AP**
13.	(a)	Draw the single tuned amplifier and explain the frequency response. Derive the expression for is gain and cutoff frequency.	**(16)**	**2**	**AP**
		(OR)			
	(b)	Draw a class C tuned amplifier. Explain its operation and derive its efficiency.	**(16)**	**2**	**AP**
14.	(a)	With neat circuit diagram and suitable wave forms, explain the operation of a collector coupled transistor Monostable multivibrator and derive its quasi stable time.	**(16)**	**2**	**AP**
		(OR)			
	(b)	Draw the circuit of a Schmitt trigger using BJT's. Explain its operation with necessary wave forms and hysteresis diagram. Obtain the expressions for LTP and UTP.	**(16)**	**2**	**AP**
15.	(a)	With neat diagram explain the construction, equivalent circuit and characteristics of IGBT?	**(16)**	**3**	**AP**
		(OR)			
	(b)	Explain with block diagram the operation of Switched mode power supply.	**(16)**	**3**	**AP**