Register Number: ……..

B.E / B.TECH DEGREE EXAMINATIONS: MAY/JUNE 2014

(Regulation 2013)

Second Semester

U13EET212:ELECTRICAL AND ELECTRONICS CIRCUITS

(Common to CSE & IT)

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

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. If two resistances 5 ohm and 5 ohm are connected in parallel ,total resistance is
   a) 2 ohms b) 5 ohms
   c) 2.5 ohms d) 7 ohms
2. The amount of charge over a time is called …….
3. Power factor for pure inductive load is
   a) 0 b) 1
   c) lagging d) Leading
4. Polar form of 8-j10 is ……
5. The average value of a half rectified voltage with a peak value of 200 V is
   a) 63.7 V b) 127.3V
   c) 141 V d) 0 V
6. The barrier voltage for germanium is……..
7. When CB and EB junction get forward biased , then the transistor is said to be
   a) active b) Cutoff
   c) saturated d) Unsaturated
8. Each stage of four stage amplifier has a voltage gain of 15. The overall voltage gain is approximately ……..
9. The Wein bridge oscillators positive feedback circuit is
   a) a RL circuit b) a LC circuit
   c) a voltage divider d) a lead lag circuit
10. The ideal CMRR value is ……..

PART B (10 x 2 = 20 Marks)

(Not more than 40 words)

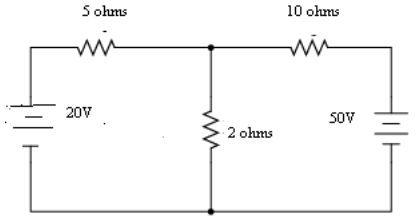
11. State ohms law and give its limitations
12. Why are domestic appliances connected in parallel?
13. Define form factor.
14. Draw the phasor diagram for Series RC circuit.
15. Draw the complete diode model.
16. What are all the applications of optical diodes?
17. List the different biasing methods used for BJT.
18. What is the use of emitter bypass capacitor used in CE amplifier?
19. Write the ideal characteristics of operational amplifier.
20. What is the principal of oscillator?

PART C (5 x 14 = 70 Marks)

(Not more than 400 words)

Q.No. 21 is Compulsory

21. (i) Using Kirchoff's laws, find the current in all the branches. (10)



(ii) Resistors of values 2, 3, 4 and 5 ohm are connected in parallel. If the total power absorbed by all the resistors is 200 w, find the voltage applied to the circuit. (4)

22. a) Derive an expression for RMS value, Average value, Form factor and peak factor for sinusoidal wave from.

(OR)

b) Derive the phase relation between voltage and current in a circuit containing R and L in series. Draw the waveform and phase representation of the circuit.

23.	a)	(i)	Explain in detail about P and N type semiconductor.	(10)
		(ii)	Draw the V-I characteristics of Diode.	(4)
			(OR)	
	b)	(i)	Explain the operation of full wave rectifier with neat circuit diagram.	(10)
		(ii)	Differentiate half wave rectifier and full wave rectifier.	(4)
24.	a)	(i)	Explain the operation of PNP transistor.	(7)
		(ii)	Draw and explain the static characteristics of C-E configuration.	(7)
			(OR)	
	b)		Explain the different biasing methods for JFET.	
25.	a)		Draw the circuit of any LC feedback oscillator and explain its operation.	
			(OR)	
	b)	(i)	Write short notes on Comparator.	(7)
		(ii)	What is Operational amplifier with negative feedback? What are all the advantages of it?	(7)

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