	PITHAPUR RAJAH'S GOVERNMENT COLLEGE (AUTONOMOUS): KAKINADA		
	I SEMESTER END EXAMINATIONS – AUGUST -2021		
	COURSE: **B.SC.,**	SEMESTER	**1**
	SUBJECT : **ELECTRONICS**	DATE & SESSION	**28.08.2021 AN**
	PAPER& CODE: **1205**		
	CIRCUIT THEORY & ELECTRONIC DEVICES	Max Marks	**60**
REG NO		Time:	**2 ½ HRS**

Section A

Answer any **three** questions

Each question carries **ten** marks (3 *10 = 30M)

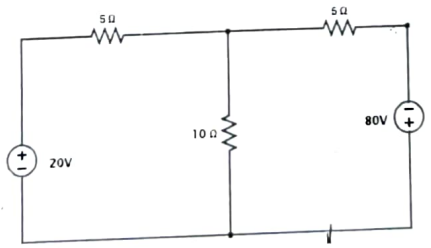
1. What is a phasor? Explain phasor notation? Describe how phasors are used to represent sinusoidal waveforms.
2. State and prove superposition's theorem.
3. Deduce the expression for resonant frequency of Series RLC circuit.
4. Explain the construction and working of JFET.
5. Explain the construction and working of full wave rectifier. Obtain expressions for efficiency & ripple factor.

Section B

Answer any **six** questions

Each question carries **five** marks (6 * 5= 30M)

6. Distinguish between A.C and D.C.
7. Discuss A.C circuit containing pure Resistance only.
8. State and prove Maximum power transfer theorem.
9. State and prove Milliman's theorem.
10. Find the mesh currents I_1 and I_2 Using mesh analysis.



11. Describe the working of RL circuits as integrating circuit.
12. Define Q-factor? Calculate Q-factor of an RLC series resonant circuit.
13. A series RLC circuit has Q = 120 at resonance, a capacitance 200pF connected in series with an inductance of 150μH.calculate its bandwidth.
14. Write the advantages of FET over BJT.
15. In a transistor, the base current is 0.008mA and the emitter current is 9. 6mA.Find collector current, α & β.
16. What is filter? Explain L-section filter.
17. Explain the operation of photo diode.