

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2024
(First Semester)

Branch – **ELECTRONICS**

ELECTRIC CIRCUITS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following parameters is not a Primary Parameters? (a) Resistance (b) Attenuation constant (c) Capacitance (d) Conductance	K1	CO1
	2	Delta connection is also known as ----- (a) Y- connection (b) Mesh connection (c) Either Y- connection or mesh connection (d) Neither Y- connection nor mesh connection	K2	CO2
2	3	Mesh analysis generally used to determine--- (a) Voltage (b) Current (c) Resistance (d) Power	K1	CO1
	4	What does Millman's Theorem Yield? (a) Equivalent voltage source (b) Equivalent resistance (c) Equivalent admittance (d) Equivalent impedance	K2	CO2
3	5	The value of the Sine wave at some particular instant is called? (a) Peak value (b) Peak to peak value (c) Instantaneous value (d) Average value	K1	CO2
	6	In a Parallel R-C circuit, the supply current always----- the applied voltage (a) Leads (b) Lags (c) Remains in phase with (d) None of the above	K2	CO2
4	7	If power factor of a circuit is unity, its reactive power is (a) Maximum (b) Equal to Zero (c) Equal to One (d) Equal to Half	K1	CO1
	8	In a parallel resonance circuit, the admittance is (a) Zero (b) Maximum (c) Minimum (d) Infinity	K2	CO2
5	9	The total number of possible phase sequence for a three-phase AC system is ---- (a) 2 (b) 3 (c) 0 (d) 1	K1	CO1
	10	In a three phase unbalanced load system, the method used to measure power is----- (a) Three voltmeter method (b) Two voltmeter method (c) One wattmeter method (d) Two wattmeter method	K2	CO2

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Write the function of Inductor Parameter	K3	CO2
	(OR)			
	11.b.	Compare the Resistors in Series and Parallel circuit		
2	12.a.	Determine the Superposition Theorem	K3	CO2
	(OR)			
	12.b.	State and explain the Norton's Theorem		
3	13.a.	Analyze the Angular Relation of a Sine wave	K4	CO4
	(OR)			
	13.b.	Explain the Phase Relation in Pure Capacitor		
4	14.a.	Write the function of Series Resonance	K3	CO3
	(OR)			
	14.b.	Discuss about the Variation of Impedance with frequency		
5	15.a.	List out the Generation of 3-Phase Voltages	K3	CO2
	(OR)			
	15.b.	Explain the Power measurement in 3-Phase circuits		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Determine the Kirchhoff's Voltage and Current Laws	K3	CO3
2	17	State and Prove the Millman's Theorem	K3	CO2
3	18	With neat sketch and explain the RL and RC Series circuits	K3	CO3
4	19	Analyze the Impedance and Phase angle of a Series Resonance	K4	CO4
5	20	Discuss about the Power Measurement in a Single Phase Circuit by Wattmeter method	K4	CO3