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

G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.

UG DEGREE END SEMESTER EXAMINATIONS - APRIL 2025.
(For those admitted in June 2023 and later)

PROGRAMME AND BRANCH: B.Sc., ELECTRONICS

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
III	PART - III	CORE - 3	U23EL303	ELECTRONIC CIRCUITS

Date & Session: 23.04.2025/FN **Time :3 hours** **Maximum: 75 Marks**

Course Outcome	Bloom's K-level	Q. No.	**SECTION – A (10 X 1 = 10 Marks)** **Answer ALL Questions.**
CO1	K1	1.	The efficiency of a center tapped full wave rectifier is. a) 40.6% b) 81.2% c) 41.2% d) 80.6%
CO1	K2	2.	Which one of the following is a Variable voltage regulator. a) IC7805 b) IC723 c) IC7905 d) IC713
CO2	K1	3.	The coupling method uses transformer as the coupling device is called _____. a) Coupling b) Transformer coupling c) Impedance Coupling d) RC Coupling
CO2	K2	4.	Which capacitor is connected in parallel to emitter resistor? a) Emitter by-pass b) Capacitor by-pass c) by-pass resistor d) transistor by-pass
CO3	K1	5.	Voltage shunt feedback amplifier forms _____. a) a negative feedback b) a positive feedback b) both positive and negative feedback d) no feedback
CO3	K2	6.	An amplifier with negative feedback. a) Increases gain b) Reduces noise c) Increases noise d) Increases distortion
CO4	K1	7.	An Oscillator generates output without any _____ signal. a) feedback b) Ac input c) Dc input d) Positive
CO4	K2	8.	The amplitude goes on decreasing with time are called _____ Oscillations. a) Damped b) Undamped c) frequency d) Phase shift
CO5	K1	9.	Monostable Multivibrator has ____ stable state. a) 2 b) 1 c) 3 d) 4
CO5	K2	10.	In a positive clipper, the diode conducts when _____. a) $V_{in}<V_{ref}$ b) $V_{in} = V_{ref}$ c) $V_{in}>V_{ref}$ d) $V_{in}<$ Zero
Course Outcome	**Bloom's K-level**	**Q. No.**	**SECTION – B (5 X 5 = 25 Marks)** **Answer ALL Questions choosing either (a) or (b)**
CO1	K3	11a.	What is the need for filters in power supplies? List the different types of filter. **(OR)**
CO1	K3	11b.	Compare the performance of inductive, LC section, and π section.
CO2	K3	12a.	Analyse the Types of coupling. **(OR)**
CO2	K3	12b.	Examine about Power Amplifier.

CO3	K4	13a.	Elucidate the basic concept of feedback. **(OR)**
CO3	K4	13b.	Derive an expression for the current gain with negative current feedback.
CO4	K4	14a.	Analyse the construction and working of Hartley Oscillator. **(OR)**
CO4	K4	14b.	Illustrate the construction and operation of Phase-shift oscillator.
CO5	K5	15a.	List the applications of Astable multivibrator. **(OR)**
CO5	K5	15b.	Draw the Schmitt trigger circuits and explain with wave forms.

Course Outcome	**Bloom's K-level**	**Q. No.**	**SECTION – C (5 X 8 = 40 Marks)** **Answer ALL Questions choosing either (a) or (b)**
CO1	K3	16a.	Derive an expression for ripple factor in full wave rectifier with resistive load. **(OR)**
CO1	K3	16b.	Draw and explain the construction and working of Bridge rectifier.
CO2	K4	17a.	Construct the Two-stage RC coupled Amplifier and explain its operation. **(OR)**
CO2	K4	17b.	Illustrate the Class B operation of power amplifier.
CO3	K4	18a.	Derive an expression for the gain of the negative voltage feedback amplifier. **(OR)**
CO3	K4	18b.	Explain the working of voltage series feedback amplifier and obtain expression for closed loop gain.
CO4	K5	19a.	Examine the working of Colpitts oscillator. **(OR)**
CO4	K5	19b.	Analyse the Wein bridge oscillator with neat diagram.
CO5	K5	20a.	Explain with the circuit diagram, the operation of Monostable multivibrator using transistors. Sketch the input and output waveforms. **(OR)**
CO5	K5	20b.	With a neat sketch, explain the operation of Bistable multivibrator.