SNS COLLEGE OF TECHNOLOGY

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COIMBATORE-641 035, TAMIL NADU

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Course Code & Name : **23ECB203 LINEAR INTEGRATED CIRCUITS**

Course Faculty : **Ms.V.Aishwarya-AP/ECE**

Question Bank

UNIT – V : WAVEFORM GENERATORS AND SPECIAL FUNCTION ICs

Part A – 2 Mark Questions

S.No	Question	Bloom's Level	Industry Reference	CO
1	Define waveform generator.	BL1 – Remember	Analog Devices	CO5
2	What is a multivibrator?	BL1 – Remember	Timing Circuits	CO5
3	Define astable multivibrator.	BL1 – Remember	Timer IC 555	CO5
4	Define monostable multivibrator.	BL1 – Remember	Timer IC 555	CO5
5	Define bistable multivibrator.	BL1 – Remember	Digital Timing Circuits	CO5
6	What is a triangular wave generator?	BL1 – Remember	Signal Generators	CO5
7	What is a saw-tooth wave generator?	BL1 – Remember	Function Generators	CO5
8	What is ICL8038?	BL1 – Remember	Function Generator IC	CO5
9	What is Timer IC 555?	BL1 – Remember	Texas Instruments	CO5
10	List the modes of operation of IC 555.	BL1 – Remember	Timing ICs	CO5
11	What is a voltage regulator?	BL1 – Remember	Power Electronics	CO5
12	Define line regulation.	BL1 – Remember	Power Supply Design	CO5
13	Define load regulation.	BL1 – Remember	Voltage Regulators	CO5
14	What is a three-terminal voltage regulator?	BL1 – Remember	IC Regulators	CO5
15	Name any two fixed voltage regulators.	BL1 – Remember	78xx Series	CO5
16	Name any two adjustable voltage regulators.	BL1 – Remember	LM317	CO5
17	What is IC 723?	BL1 – Remember	Voltage Regulator IC	CO5
18	What is a switching regulator?	BL1 – Remember	SMPS	CO5
19	Define frequency-to-voltage converter.	BL1 – Remember	Measurement Systems	CO5
20	Define voltage-to-frequency converter.	BL1 – Remember	Industrial Control	CO5

Part B Questions

S.No	Question	Bloom's Level	Industry Reference	CO
1	Explain sine-wave and triangular wave generators using op-amps.	BL2 – Understand	Signal Generators	CO5
2	Explain astable, monostable and bistable multivibrators.	BL2 – Understand	Timing Circuits	CO5
3	Explain the working of IC 555 timer in astable mode.	BL2 – Understand	Timer IC 555	CO5
4	Explain the working of IC 555 timer in monostable mode.	BL2 – Understand	Timer IC 555	CO5
5	Explain the working of ICL8038 function generator.	BL2 – Understand	Function Generator IC	CO5
6	Explain three-terminal fixed voltage regulators with examples.	BL2 – Understand	78xx Series	CO5
7	Explain adjustable voltage regulators using LM317.	BL2 – Understand	Power Electronics	CO5
8	Explain the working of IC 723 voltage regulator.	BL2 – Understand	Voltage Regulator IC	CO5
9	Explain monolithic switching regulators.	BL2 – Understand	SMPS Design	CO5
10	Explain frequency-to-voltage and voltage-to-frequency converters.	BL2 – Understand	Measurement Electronics	CO5
11	Explain phase shift oscillator and Wien bridge oscillator.	BL2 – Understand	Oscillator Circuits	CO5
12	Explain DC power supply using IC regulators.	BL2 – Understand	Power Supply Design	CO5
13	Compare linear regulators and switching regulators.	BL4 – Analyze	Power Electronics	CO5
14	Design an astable multivibrator using IC 555.	BL3 – Apply	Timer IC 555	CO5
15	Explain applications of waveform generators in electronics.	BL2 – Understand	GATE EC	CO5
16	Derive the frequency of oscillation of an astable multivibrator using IC 555.	BL3 – Apply	GATE EC	CO5
17	Explain the working principle of Wien bridge oscillator.	BL2 – Understand	GATE EC	CO5
18	Compare linear and switching voltage regulators.	BL4 – Analyze	GATE EC	CO5
19	Calculate the output voltage of LM317 for given resistor values.	BL3 – Apply	GATE EC	CO5