#### MODULE DESCRIPTION FORM

<b>Module Name:</b>	
Electronic III	
<b>Module Code:</b>	
WBM-32-06	
Semester / Year:	
2 <sup>nd</sup> Semester / 2025	
<b>Date of Preparation of</b>	this Description:
28/1/2025	AN OF ENGLINE
Available Attendance F	ormats:
Weekly (Theoretical)	
Total Credit Hours / To	otal Units:
45 Hrs. Theoretical /3	Units
Name of the Course Co	ordinator (if there are multiple names):
Name: Ali Mohammed	
Email: ali.mohammed@	puowa.edu.iq
Module Objectives:	Oscillators are electronic circuits that generate a signal output without
9	1 1301 (430 )
<b>₩</b>	requiring an input signal. Several types of basic oscillator circuits use both
1	discrete transistors and reference amplifiers as the advance gain element.
affine a	Also, the popular 555 timer integrated circuit, in terms of oscillator
<b>Module Objectives</b>	applications, the operation of a sinusoidal oscillator is based on the principle
	of positive feedback, where a portion of the output signal is fed back to the
	input in such a way that it enhances itself and thus maintains a continuous
	output signal.
1. Teaching and I	Learning Strategy
Strategy:	1. The student learns to describe the principles of operation of the oscillator.

#### University of warith al-anbiyaa / college of engineering / biomedical engineering department Course Description

- The student will learn to discuss the principle of feedback oscillators based describing and analyzing the feedback process to the resident coordinator of oscillators.
- 3. The student will learn to describe and analyze the business letter feedb process for oscillators
- 4. The student will learn to discuss and analyze the 555 timer and its use in oscillator.
- 5. The student will learn to explain and analyze the operation of Class A amplif
- 6. The student will learn to explain and analyze the operation of type B and cl AB power amplifiers
- 7. The student will learn to explain and analyze the operation of Class C por amplifiers
- 8. The student will learn to troubleshoot power amplifiers.
- 9. The student should link theoretical and practical ideas.
- 10. The student will learn to use the above techniques in designing and invent a new biomedical device.
- 11. Knowing most of the engineering applications of the above vocabulary and how to benefit from them and employ them correctly in the field of biomedical engineering.

#### 2. Module Structure

Weel	Hours	Required Learning Outcomes	Unit or s	3	Learn meth		Eva	luation method
	1	frequency residual, Windows Oscillator and	ien bridge,	The st learns respon- frequer sinuscoscilla their t and circuit eachosci	s the se and ncy of oidal ators, ypes, the ts for	Theo	pretical	Daily test and oral questions

2	3	Phase shift oscillator, Shaping of frequency response, and Ramp generator	The student learns other types of oscillators and their uses	Theoretical	Daily test and oral questions
3	3	Hartley oscillator, and crystal oscillator	The student learns other types of oscillators and their uses	Theoretical	Daily test and oral questions
4	3	Large signal amplifier (power amplifier).	The student will learn about power amplifiers and their types	Theoretical	Daily test and oral questions
5	3	Power amplifier classification, class A, class B, class A-B and class C.	The student learns power amplifiers and their classifications according toEfficiency	Theoretical	Daily test and oral questions
6	3	The properties of Power amplifiers, theory of classification.	The student learns the properties of power amplifiers and the theoretical basis of classifications	Theoretical	Daily test and oral questions

7	3		The student will	Theoretical	Daily test and
,			learn to use the	Theoretical	oral questions
			coupled		orar questions
		Transformer coupled stage	transformer		
		All and a second	method in power		
		#3	amplifiers		
8	3		The student	Theoretical	Daily test and
		700	will learn the		oral questions
		Dinest combatters	method of		
		Direct coupled type, Transformer coupled type.	direct		
		Transformer coupled type.	coupling in		
		LE WA	coupled	Ke.	
		N OF	transformers	190	
9	3	11 50° M	The student	Theoretical	Daily test and
		W. All of the second	will learn to		oral questions
	Á	Transformer-coupled, class	use the direct	35 19	
	- 4	B push pull, linear	coupling	700	
	18	.amplifier	method in	mga III	
	- 4		type B	¥	
	- 1	2/	amplifiers	- 6	
10	3		The student	Theoretical	Daily test and
	- 4		will learn	-d -	oral questions
		Multivibrator: MTV's using	about multiple	100	
		transistor	oscillators		
	- 1	A DO 1	using	- H	
	2		transistors	- <u>2</u>	
11	3		For the	Theoretical	Daily test and
			student to	4 1 12	oral questions
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		4 6	stable and	B	
	- 0	Astable MTV, and	single	TO.	
	48	Mono stable MTV.	multivibrators		
	66	Street Street	and the	A STATE OF THE PARTY.	
	100		difference		
	40		between them		
12	3		The student	Theoretical	Daily test and
	49	Design of the circuit,	will learn to		oral questions
		bistable MTV using op-amp	design		-
		casacie ii i i using op ump	multivibrator		
	ĺ	1	muniviolatol	1	

		circuits of all		
		types,		
		especially		
	A A	dual ones		
13	<i>p</i> 1	The student	Theoretical	Daily test and
		will learn to		oral questions
	100	design		
	111	multivibrator		
		circuits of all		
	Design of the singuit A			
	Design of the circuit, A stable MTV using op-amp	types,		
	stable WT v using op-amp	especially	The same of the sa	
	AN COF I	stable ones,	100 m	
	St. Francisco	using		
	The same	(operational)	60 TE	
		signal	72. 7	
	15 (	modulators.	700	
14	5 / (a)	The student	Theoretical	Daily test and
		learns to		oral questions
	3/"	design single	55	
	Monostable MTV using .	vibrator		
	op-amp	circuits using	4	
		(operational)		
	Marine to a	signal		
	1 A Day	modulators.	1	
15	3	The student	Theoretical	Daily test and
		will learn to		oral questions
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	Transmission matrix.	circuits and	gr -agr	
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Mod	ule :	Eval	luation

1- Weekly exams

- 2- Monthly exams
- 3- Participations inside the class
- 4-present the seminars
- 5- Writing reports

5- Writing reports	di .
Learning and Teaching Resour	rces.
Required textbooks	Thomas L. Floyd, "Electronic Devices", Pearson Education © 2018.
(curricular books, if any)	
Main references (sources)	Electronic Devices and Circuit Theory, Eleventh Edition, Robert L.
Walli references (sources)	Boylestad
Recommended books and	Thomas L. Floyd, "Electronic Devices", Pearson Education © 2018
references (scientific	
journals, reports)	AND DIE
Electronic References,	www.ieee.org
Websites	AN YEOF ENGLE MY

