

# Government polytechnic Vaishali

Branch -Electronics Engineering

Subject :-Analog Electronics

Sem-iii

Lecture plane effective from 1/08/2020

Subject teacher- Pawan Kumar

Serial no.	Unit	Topic to be covered	Number of lecture required	books
1	Prerequisite	Semiconductor, types of semiconductor, PN junction,Biasing of PN junction,BJT.CE, CB and CC configuration of BJT.Biasing of BJT.	L1,L2,L3,L4,L5 L6,L7	B1,B2
2	1.Ideal amplifier.	Ideal voltage amplifier,ideal current amplifier,ideal transresistance amplifier, ideal transconductance amplifier, distortions, amplitude distortion,harmonic distortion, frequency distortion and phase distortion,	L8,L9,L10	B1,B2
3	2.Transistore amplifier.	Multistage transistor amplifier, its gain. Frequency response.decibel gain, bandwidth,small signal amplifier,large signal amplifiers, difference between voltage amplifier and power amplifier.multistage frequency response.	L11,L12,L13,L14,L15,L16,L17,L18,L19,L20,L21.	B1,B2,B3
4	4.Hybrid Parameters	Determination of h-parameters,h-parameter equivalent circuit, performance of linear circuit in h-parameters, The h-parameters of a transistor, nomenclature for transistor parameters. Approximate hybrid formula for transistor amplifier	L22,L23,L24,L25,L26,L27,L28,L29,L30,L31,L32,L33,L34,L35	B1,B2,B3

		.limitation of h-parameters.		
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5	3.feedb ack amplifie rs and oscillato rs.	Feedback concept, negative and positive feedback. Voltage /current ,series/shunt feedback. Barkhausen criterion,colpitts oscillator. Hartley's oscillator. Phase shift oscillator. Wein bridge oscillator,crystal oscillator.	L36,L37,L38,L39,L40,L41,L42,L43,L44,L45,L46,L47,L48,L49	B1,B2,B3
6	5. Power amplifie r.	classA,classAB,classB,classC power amplifier. Conversion efficiency ,Tuned amplifier,Push-pull power amplifier.	L50,L51,L52,L53,L54,L55,L56,L57,L58,L59,L60.	B1,B2,B3

B1- principle of electronics By V.K.Mehta

B2- Electronics devices and circuit By-J.B.Gupta

B3-Integrated electronics By-Millman and Halkias.