



## Scheme of Valuation/Answer Key

(Scheme of evaluation (marks in brackets) and answers of problems/key)

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**THIRD SEMESTER B.TECH DEGREE(S) EXAMINATION, MAY2019**

**Course Code: EC205**

**Course Name: ELECTRONIC CIRCUITS (EC,AE)**

Max. Marks: 100

Duration: 3 Hours

### PART A

*Answer any two full questions, each carries 15 marks.*

			Marks
1	a)	Definition-2marks, voltage divider biasing circuit-1mark, stability factor derivation – 4marks	(7)
	b)	Circuit diagram-1marks, equivalent circuit-2marks, input impedance-1mark, output impedance-2marks, voltage gain-2marks	(8)
2	a)	Circuit diagram-1marks, derivation-2marks, design-2marks	(5)
	b)	Plot waveform -3marks	(3)
	c)	Circuit diagram- 2marks, Derivation 2+2 1 = 5marks	(7)
3	a)	Circuit diagram- 2marks, use of components – 3, Half power points-2	(7)
	b)	Calculation of $V_{th}$ - 0.5mark, calculation of $R_{th}$ - 0.5mark, calculation of $I_B$ - 1.5marks, calculation of $I_C$ -1mark, calculation of $g_m$ -0.5mark, calculation of $r_{\pi}$ - 0.5, calculation of $R_{in}$ - 1.5marks, calculation of $R_o$ -0.5mark, calculation of $A_v$ - 1.5marks	(8)

### PART B

*Answer any two full questions, each carries 15 marks.*

4	a)	Equivalent circuit-2marks, Derivation 3 marks	(5)
	b)	Figure – 1mark, explanation-2marks	(3)
	c)	Block Diagram-3, derivation of input impedance-2marks each	(7)
5	a)	Circuit diagram-1mark, equivalent circuit-2marks, derivation-5marks	(8)
	b)	Circuit diagram-3marks, derivation-4marks	(7)
6	a)	Circuit diagram-1marks, equivalent circuit-2marks, derivation-5marks	(8)

	b)	Circuit diagram-2marks, explanation-5marks	(7)
<b>PART C</b>			
<i>Answer any two full questions, each carries 20 marks.</i>			
7	a)	Circuit diagram-2marks, waveform-2marks, explanation-3marks, derivation-3marks	(10)
	b)	Factors-3 Circuit diagram -2 marks, explanation- 5marks	(10)
8	a)	Circuit diagram-2marks, explanation-3marks, derivation-2marks	(7)
	b)	Equation =3 marks Answer $W/L=20/3$ (5 marks)	(8)
	c)	Equation -2mark, calculation-3marks	(5)
9	a)	Circuit diagram-2marks, explanation with waveforms-4marks, derivation -2mrks	(8)
	b)	Mathematical equation for collector currents -2 explanation-2	(4)
	c)	Circuit diagram- 2marks, equivalent circuit-2marks, derivation-4marks	(8)
****			

