	Hall Ticket No									Qu	estion P	aper Code: AECB01	
		ΓUTE	OF	AE	ERC (A	DN uto	AU [.] nom	TIC ous		NGINE	ERIN	IG	
	B.Tech III Semester End Examinations (Regular), February – 2021 Regulation: IARE–R18 BASIC ELECTRONICS ENGINEERING												
Tir	ne: 3 Hours	Max Marks: 70											
		L.	Answe Answe	er an er an	y Fo y Fi	our (ive (Juest Juest	ions ions	from Pa from Pa	rt A rt B			
						PA	RT –	Α					
1.	Describe the concept of	of load li	ne ana	lysis	invol	ved i	in pn	junct	tion diode			[5M]	
2.	2. Outline the symbols of NPN and PNP transistor.											[5M]	
3.	Explain about the operation principle of comparator.											[5M]	
4.	Explain in brief the principle of operation of successive approximation ADC.											[5M]	
5.	Convert the following binary numbers to decimal numbers												
	i)101 ₂ ii)1011 ₂										[5M]		
6.	Find the value of β if i) $\alpha = 0.9$ ii) $\alpha = 0.98$ iii) $\alpha = 0.99$.											[5M]	
7.	Show the relation between I_C , β , I_B and I_{CBO} in bipolar junction transistor.											[5M]	
8.	Discuss in detail about the synchronous counter circuit.											[5M]	
						Ρ.	ART	$-\mathbf{B}$					
9.	Explain in detail about the semiconductor diode using both ideal versus practical cases.										[10M]		
10.	An AC voltage of peak value 20 V is connected in series with a silicon diode and load resistance of 500 Ω . If the forward resistance of diode is 10 Ω , Find:										tance of 500 Ω . If the		
	i) Peak current throug ii) Peak output voltage	n diode	will b	e the	se va	lues	if the	diod	e is assum	ed to be id	deal?	[10M]	
11	Explain the construction	Further the construction and operation of common collector configuration										[10]	
12.	Explain the construction and operation of common collector configuration. In a common base connection, $\alpha = 0.95$. The voltage drop across 2 k Ω resistance which collector is 2V. Find the base current.											n is connected in the [10M]	
13.	Describe the construction and operation of voltage follower circuit.											[10M]	
14.	Explain in detail about the differentiator and integrator circuit.											[10M]	
15.	Discuss the operation of parallel comparator type ADC with circuit diagram.											[10M]	
16.	. Design an astable multivibrator using 555 timer to produce 1Khz square wave form for duty cycle= 0.50 [10M												
17.	. Explain the JK and master slave flip-flop. Give its timing waveform.											[10M]	
18.	Find the boolean algeb	ora expre	ession	for th	ne fol	lowii	ng cire	cuit s	shown in F	igure 1.		[10M]	
			,	Α ——				7					



Figure 1

 $-\circ\circ\bigcirc\circ\circ-$