## Exam Seat No:\_\_\_\_\_ C.U.SHAH UNIVERSITY **Summer Examination-2020**

## Subject Name: Microwave & Radar Engineering

	Subject Code: 4TE07MRE1			Branch: B.Tech (EC)			
	Semester	r:7 Date:	03/03/2020	Time:	10:30 To 01:30	Marks: 70	
	Instructio (1) (1) (2) (1) (3) (1) (4) (2)	ons: Use of Programmabl Instructions written o Draw neat diagrams Assume suitable data	e calculator & an on main answer b and figures (if ne a if needed.	y other electr ook are strict cessary) at rig	onic instrument is p ly to be obeyed. ght places.	rohibited.	
Q-1	a) b) c) d) e) f) g) h) i) j) k) l) m) n)	Answer the follow What are the applica Define insertion loss Define VSWR What do you mean Define Waveguide What is range of M Define reflection c Give the types of w Define Group Velo Define Phase Velo What do you mean Give the types of r Blind Speed Define return loss.	ving tions of RADAR? by bearing? dicrowave frequence oefficient for transvave guides. bocity city by stub matching nicro strip lines?	ncies? asmission line g?			(14)
Q-2		Attempt all quest	ions	ltage and ou	ront relationship in	transmission	(14)
Q-3	(a) (b) (a)	Explain propagation Attempt all quest What do you mean waveguide	on of wave in rect ions in by circular wa	angular wave	guide. Describe TEM mod	e in circular	(14)
Q-4	(b) (a)	Derive the equation Attempt all quest Briefly explain Tw	n of cut-off freque ions ro-Cavity Klystro	ency of a way	veguide. Cavity Klystron.		(14)
	<b>(b)</b>	Write short note or	n: Micro strip line	es.			



Q-5		Attempt all questions	(14)					
	(a)	Explain the construction and working of Magnetron tube. What are its applications?						
	<b>(b)</b>	b) Explain the amplification process for a helix type travelling wave tube. What						
		its different applications?						
Q-6		Attempt all questions	(14)					
	<b>(a)</b>	Explain the Gun diode characteristics with the aid of Energy band diagram.						
	<b>(b)</b>	Explain working principle of IMPATT diode.						
Q-7		Attempt all questions (1						
-	(a)	What is Faraday's rotation principle? Explain the working of Faraday's rota						
		Isolator. What are its applications?						
	<b>(b)</b>	Describe Directional couplers and Isolators.						
<b>Q-8</b>		Attempt all questions	(14)					
-	(a)	What is Doppler Effect? With block diagram explain Doppler radar.	. ,					
	<b>(b)</b>	Explain Moving Target Indicator RADAR.						

