

Reg.No. _____



Karunya UNIVERSITY

(Karunya Institute of Technology & Sciences)
(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

End Semester Examination – Nov/Dec – 2016

Code : **14EC3043**
Sub. Name : **RF MEMS**

Semester : **2016-17 ODD**
Duration : **3hrs**
Max. marks : **100**

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	What is the need of RF MEMS switch and explain in detail about the switch parameters.	CO1	10
	b.	Discuss about the micro machined passive inductors	CO1	10
(OR)				
2.	a.	Discuss the effect of Inductor layout in RF MEMS inductor	CO1	14
	b.	What are bi-stable relays?	CO1	6
3.	a.	Discuss electrostatic switching in detail with neat diagram.	CO1	12
	b.	What are the various RF MEMS components and discuss their merits and demerits?	CO1	8
(OR)				
4.	a.	Describe a micro-mechanical filter using comb drives in detail.	CO2	10
	b.	Explain the nature of propagation of wave in piezoelectric substrates?	CO2	10
5.	a.	Elaborate the working of Area tuning capacitors and its quality factor.	CO1	10
	b.	Design any RF transducer and explain the propagation of waves in the device with its capabilities, limitations and applications	CO2	10
(OR)				
6.	a.	Explain in detail about switched delay line and polymer based MEMS phase shifter with neat diagram and equations	CO3	20
7.	a.	Explain in detail about the microshield and membrane supported transmission lines with neat diagram. What are its merits and demerits over micromachined transmission lines	CO4	14
	b.	Compare MEMS and conventional phase shifter	CO3	6
(OR)				
8.	a.	What is a reconfigurable antenna and how it is useful?	CO4	8
	b.	Explain the reliability thermal issues of microstrip antennas.	CO4	12
<u>Compulsory:</u>				
9.	a.	How does micromachining helps in improving the performance of the antenna. Explain in detail	CO4	20

ALL THE BEST