Code No: R1632042 **R16** SET - 1

III B. Tech II Semester Supplementary Examinations, November – 2019

MICROWAVE ENGINEERING

(Electronics and Communication Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**

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PART –A (14 Marks)

1.	a)	Define cut-off frequency of a waveguide and write its significance.	[2M]
	b)	Draw the schematic diagram of a microstrip line.	[2M]
	c)	Define reentrant cavity.	[2M]
	d)	Write the applications of magnetron.	[3M]
	e)	Write short notes on waveguide irises.	[3M]
	f)	Write the performance characteristics of TRAPATT diode.	[2M]

PART –B (56 Marks)

2.	a)	What are the characteristics and advantages of microwaves? Explain.	[7M]
	b)	What are the various power losses in waveguides? Explain.	[7M]
3.		Discuss about TE modes in circular waveguides.	[14M]
4.	a)	Draw the diagram of two-cavity klystron amplifier and explain its working.	[7M]
	b)	Explain about limitations of conventional tubes at microwave frequencies.	[7M]
5.	a)	What is meant by slow wave structure? List out the various slow wave structures. Discuss the properties of Helical slow wave structure.	[7M]
	b)	Discuss about power output and efficiency of cylindrical magnetron.	[7M]
6.	a)	What is S-matrix? Explain its significance and write the properties of S-matrix.	[7M]
	b)	Explain the operation of circulator and write its applications.	[7M]
7.	a)	Explain about RWH theory for Gunn effect.	[7M]
	b)	Explain the procedure of measurement of low VSWR.	[7M]

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