

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2018****Subject Code: 2173903****Date: 26/11/2018****Subject Name: Thin Film Technology****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
<b>Q.1</b>	(a) Define Thin Films.	<b>03</b>
	(b) What is the Role of Thin Films in Devices explain briefly.	<b>04</b>
	(c) Explain Sol-Gel Synthesis Method.	<b>07</b>
<b>Q.2</b>	(a) Explain Chemical Vapour Deposition Technique.	<b>03</b>
	(b) Explain Four Probe Method For Resistivity Measurement.	<b>04</b>
	(c) Describe Fabrication of Thin film using PLD technique. (With Diagram)	<b>07</b>
	<b>OR</b>	
	(c) Explain Optical Properties of Thin Films.	<b>07</b>
<b>Q.3</b>	(a) Describe Applications of Thin Films in Medical Field.	<b>03</b>
	(b) What are Magnetic Properties of Thin Films?	<b>04</b>
	(c) Write short note on Sputtering Deposition.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) State Applications of Thin Films in Defense and elaborate.	<b>03</b>
	(b) Mention Application of Thin Films in Electronics and explain briefly.	<b>04</b>
	(c) Write a short note on X-Ray Diffraction for Thin Films.	<b>07</b>
<b>Q.4</b>	(a) What is Profilometer?	<b>03</b>
	(b) What are the Advantages and Disadvantages of PLD (Pulse Laser Deposition).	<b>04</b>
	(c) Describe UV-vis Spectroscopy for Characterization.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Explain the Role of Thin Films in Automobile Industry.	<b>03</b>
	(b) Explain Physical Vapour Deposition Method.	<b>04</b>
	(c) How AFM (Atomic Force Microscopy) is used for Characterization.	<b>07</b>
<b>Q.5</b>	(a) What is Molecular Beam Epitaxy?	<b>03</b>
	(b) Explain Two Probe Method and its Drawbacks.	<b>04</b>
	(c) Write short note on SQUID.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Explain Cathodic Arc Deposition.	<b>03</b>
	(b) Explain Spin Coating Technique.	<b>04</b>
	(c) Describe Electrical Properties of Thin Films.	<b>07</b>

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