

SWAYAM Prabha Course Code-07

PROFESSOR'S NAME	Dr. A Bhattacharya	
DEPARTMENT	Mechanical Engineering	
INSTITUTE	IIT Kharagpur	
COURSE OUTLINE	Advanced packaging has permitted the integration of electronics into all manner of products and applications, embedding electronics into every facet of our lives and making them ubiquitous in every engineering system. We are facing an everincreasing demand in the speed and amount of information we need to transmit, communicate and process. To meet this demand and compete in the international marketplace, we have to constantly seek meth-ods to achieve early adoption of new and emerging technologies, improve quality and reliability, and reduce cost.	

COURSE DETAILS

S. No	Module ID/ Lecture ID	Lecture Title/Topic
1	M1L1	Introduction-1
2	M1L2	Introduction-2
3	M1L3	Introduction-3
4	M1L4	Semiconductors and Components-1
5	M1L5	Semiconductors and Components-2
6	M2L1	1st Level Packaging- I
7	M2L2	1st Level Packaging- II
8	M2L3	Area Array Packages- I
9	M2L4	Area Array Packages- II

10	M2L5	Area Array Packages- III
11	M3L1	Flip Chip Technology
12	M3L2	1st Level Interconnections- I
13	M3L3	1st Level Interconnections- II
14	M3L4	1st Level Interconnections- III
15	M3L5	Advanced Packaging
16	M4L1	2nd Level Packaging: PCB- I
17	M4L2	2nd Level Packaging: PCB- II
18	M4L3	2nd Level Packaging: PCB- III
19	M4L4	2nd Level Packaging: PCB- IV
20	M4L5	2nd Level Packaging: PCB- V
21	M5L1	System Integration
22	M5L2	Thermal Management 1: Introduction
23	M5L3	Thermal Management 2: Concepts
24	M5L4	Thermal Management 3: Thermal Resistance
25	M5L5	Thermal Management 4: Heat Sink
26	M6L1	Thermal Management 5: Heat Sink Characterization
27	M6L2	Thermal Management 6: Heat Transfer Correlations
28	M6L3	Thermal Management 7: Practice Problems
29	M6L4	Thermal Mangement 8: Thermal Technologies
30	M6L5	Thermal Management 9: Novel Cooling Technologies
31	M7L1	Shock and Vibration -1
32	M7L2	Shock and Vibration -2

33	M7L3	Shock and Vibration -3
34	M7L4	Shock and Vibration -4
35	M7L5	Electronic Packaging Reliability -1
36	M8L1	Electronic Packaging Reliability -2
37	M8L2	Electronic Packaging Reliability -3
38	M8L3	Electronic Packaging Reliability -4
39	M8L4	Power Electronics Packaging
40	M8L5	Special Topics

References if Any: None