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MANIPAL INSTITUTE OF TECHNOLOGY
 Manipal University
IVth SEMESTER B.Tech. SEMESTER B.Tech. (E & C) DEGREE
END SEMESTER EXAMINATION - April/May 2017
SUBJECT: Electronic product design and packaging (ECE - 3282)

TIME: 3 HOURS

MAX. MARKS: 50

Instructions to candidates

- Answer **ALL** questions.
- Missing data may be suitably assumed.

1A.	With neat block diagram explain product design phases?
1B.	What are the three basic elements for a successful product development?
1C.	What is Ergonomics? Explain it's important in product design?
(5+3+2)	
2A.	Explain the thermal Design process in IC manufacturing?
2B.	Why is thermal management needed in electronic system?
2C.	What is a heat sink? What are the different parameters and their effect in heat sink design?
(5+3+2)	
3A.	Explain TAB with necessary diagrams? What are their advantages, disadvantages and failure causes?
3B.	What is alpha and beta testing? Explain with a comparative approach.
3C.	What is reliability? How can we increase the reliability of a system which is in use having poor reliability?
(5+3+2)	
4A.	What is electronic packaging? With neat diagram explain the five levels of packaging?
4B.	Explain Flip-Chip bonding with diagrams? State its advantages and disadvantages?
4C.	Give a comparative explanation of Coaxial cable versus shielded twisted pair cable?
(5+3+2)	
5A.	What is noise? Explain different noise sources and their effect in system design?
5B.	What is EMC? Explain the two different approaches for EMC design?
5C.	Why shielding of cable is necessary in come applications? Explain with diagrams.
(5+3+2)	

