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**B.E/B.Tech DEGREE END SEMESTER EXAMINATIONS, NOV/DEC 2012**

**Manufacturing Engineering**

**Eighth Semester**

**MF9035 –ELECTRONIC MANUFACTURING TECHNOLOGY**

**(REGULATIONS 2008)**

Time:3 hr

Max.Mark:100

Answer **ALL** Questions

Part A (10 x 2 =20 Marks)

1. Give the specification of a typical largest produced silicon ingot.
2. What is a PCB?
3. What will excessive heat cause in electronic packaging?
4. Give some examples of Multi leaded through hole components.
5. State the purpose of flux in soldering process.
6. List out the types of SMT assemblies.
7. State true or false, "localised joule heating is a concern for high power electronic devices" justify your answer.
8. Write a brief note on functional test of populated PCB.
9. What is plastic strain? Give an example in electronic manufacturing.
10. What do you meant by accelerated tests?

Part B (5 x 16=80 Marks)

11. i) Explain the factors affecting quality and reliability of a electronic product. 8  
ii) Explain about criteria for rework and rework processes in electronic manufacturing. 8
12. a.i) Explain about various steps in wafer preparation. 8  
ii) Sketch and indicate important elements of multilayer PCB. 8  
Or  
b.i) Explain about essential characteristics of PCB. 8  
ii) Explain with necessary diagrams various steps in flexible circuit manufacturing process. 8
13. a.i) Enumerate the ways in which automated insertion of through hole components carried out. 8

- ii) Describe about Tape Automated Bonding (TAB). 8  
Or
- b.i) Explain about Embedded packaging. 8  
ii) Enumerate about various component types in THT with examples. 8
14. a.i) Enumerate various precautions to be followed in solder paste packaging, storage and handling. 8  
ii) Explain with a neat sketch principle of chip shooter in SMT process. 8  
Or
- b.i) Explain about passive SMT components. 8  
ii) Explain with a flow chart SMT assembly process. 8
15. a.i) Explain about the conditions and procedure for insulation resistance test. 8  
ii) Explain briefly about reflow soldering process. 8  
Or
- b.i) Explain X-Ray technique can be a precursor for other analysis in electronic package testing. 8  
ii) Explain briefly about electrical testing of PCB assemblies. 8
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