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B. M. S. College of Engineering, Bengaluru - 560019

Autonomous Institute Affiliated to VTU

September / October 2023 Supplementary Examinations

Programme: B.E. **Semester: VII**
Branch: Electronics and Communication Engineering **Duration: 3 hrs.**
Course Code: 16EC7GE2EP **Max Marks: 100**
Course: Electronics and Packaging **Date: 25.09.2023**

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

UNIT - I

1. a) Illustrate Venn diagrams about the microsystem packaging. **10**

   b) Discuss the role of packaging in automotive systems highlighting with examples. **10**

UNIT - II

2. a) Describe the process involved in wafer fabrication. **10**

   b) Explain the double solder ball process to increase the reliability of the wafer. **10**

UNIT - III

3. a) Explain the photolithography process with positive and negative photoresists. **10**

   b) Describe the materials and classification involved in Single chip packaging. **10**

OR

4. a) With relevant diagram, explain the vacuum evaporation process used for growth of hybrid circuits. **10**

   b) Describe Electroless and electroplating with relevant equations. **10**

UNIT - IV

5. a) Deduce an expression for voltage across the capacitance of the receiver. **10**

   b) What are the package design parameters required for packaging. Explain electrical package consideration in detail? **10**

UNIT - V

6.	a)	Discuss the process of surface mount technology and explain the benefits of the technology	**10**
	b)	Highlight the significance of role of materials with schematic representation in microsystems packaging.	**10**

OR

7.	a)	Describe the generic assembly issues for the different assembly types.	**10**
	b)	Explain in detail the SMA soldering process through conveyorized reflow technique. What are the drawbacks of the same?	**10**

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