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C14–EC–603

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BOARD DIPLOMA EXAMINATION, (C–14)

MARCH/APRIL—2018

DECE—SIXTH SEMESTER EXAMINATION

ELECTRONIC PRODUCT DESIGN AND QUALITY ASSURANCE

Time : 3 hours] [*Total Marks* : 80

PART—A 3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Draw the block diagram of product development.

2. Write briefly about the concept of thermal management.

3. Mention the recommendations for decoupling and bypassing.

4. Define parasitic capacitance.

5. Write the uses of logic analyzer.

6. List the signal integrity issues.

7. Define random testing.

8. Define bump testing.

9. List the rules for preparing a manual document.

10. List the contents of a service manual.

PART—B

10×5=50

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. *(a)* Explain customer requirements. 5

(b) Explain product packaging and storage. 5

12. *(a)* Explain the factors for reliability of equipment. 5

(b) Explain quality considerations. 5

13. *(a)* Explain component mounting considerations. 5

(b) Explain routing for better decoupling. 5

14. Explain different types of IC packages. 10

15. Explain the use of software tools for simulation and testing. 10

16. Explain the UL and CE certification of industrial electronic products. 10

17. Explain temperature extreme testing for linear and step stress profiles. 10

18. Explain the types of documents. 10

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