

## APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

### Scheme for Valuation/Answer Key

*Scheme of evaluation (marks in brackets) and answers of problems/key*

**EIGHTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2019**

**Course Code: EC464**

**Course Name: LOW POWER VLSI**

Max. Marks: 100

Duration: 3 Hours

#### PART A

*Answer any two full questions, each carries 15 marks.*

- |   |  | Marks |
|---|--|-------|
| 1 | a) Threshold voltage definition-2 marks,<br>expression-2 marks, body effect-2marks | (6)   |
|   | b) 3marks for each diagram   | (9)   |
| 2 | a) Explanation-3marks  | (3)   |
|   | b) Explanation-4marks,Diagram- 2marks  | (6)   |
|   | c) Derivation-6marks   | (6)   |
| 3 | a) Any three mechanisms-10 marks   | (10)  |
|   | b) Definition-3marks,minimization technique-2marks                                 | (5)   |

#### PART B

*Answer any two full questions, each carries 15 marks.*

- |   |   |      |
|---|---|------|
| 4 | a) Explanation-3marks, Advantage-2marks     | (5)  |
|   | b) Logic diagram-10 marks                   | (10) |
| 5 | a) Any three effects-5marks                 | (5)  |
|   | b) Minimization techniques-10marks          | (10) |
| 6 | a) Working-3marks,diagram-2marks            | (5)  |
|   | b) charge sharing-3marks,Remedy-2marks      | (5)  |
|   | c) Implementation of logic function- 5marks | (5)  |

#### PART C

*Answer any two full questions,each carries 20 marks.*

- |   |  |      |
|---|--|------|
| 7 | a) 4marks for each logic diagram         | (16) |
|   | b) At least two advantages -2 marks each | (4)  |
| 8 | a) Diagram-3marks Explanation-4marks     | (7)  |
|   | b) Diagram-4marks Explanation-4marks     | (8)  |
|   | c) Explanation-5marks                    | (5)  |



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- 9 a) Explanation-2.5+2.5 = 5marks, (10)  
    advantage-2marks,  
    weak '1' explanation-3marks
- b) Implementation 3 + 3 =6marks (6)
- c) Concept-4marks (4)

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