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| **National University of Computer and Emerging Sciences, Lahore Campus** | | | | |
| C:\Users\saif\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\final design.jpg | **Course:** | **Digital Logic Design** | **Course Code:** | **EE1005** |
| **Program:** | **BS (Computer Science)** | **Semester:** | **Spring 2022** |
| **Duration:** | **10 Minutes** | **Total Marks:** | **10** |
| **Paper Date:** | **14-03-2022** | **Weight** |  |
| **Section:** | **B** | **Page(s):** | **1** |
| **Exam:** | **Quiz 2** | **Reg. No.** |  |
| **Instruction/Notes:** | **Plagiarism will be dealt seriously causing an F in course** | | | |

**Q1.** A Boolean function as product of its max terms is given below:

**T(A,B,C,D) = M0 M1 M2 M5 M8 M9 M10 M11 M13**

Use only **KMaps** to optimize the function into:

1. **Product of Sums (POS) form (5 marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **AB** | **00** | **01** | **11** | **10** |
| **00** |  |  |  |  |
| **01** |  |  |  |  |
| **11** |  |  |  |  |
| **10** |  |  |  |  |

**T(A,B,C,D) =**

1. **Sum of Products (SOP) form (5 marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **AB** | **00** | **01** | **11** | **10** |
| **00** |  |  |  |  |
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| **11** |  |  |  |  |
| **10** |  |  |  |  |

**T(A,B,C,D) =**