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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:** | **EE-227** |
| **Program:** | **BS (Computer Science)** | **Semester:** | **Spring 2022** |
| **Duration:** | **15 Minutes** | **Total Marks:** | **10** |
| **Paper Date:** | **06/04/2022** | **Weight** |  |
| **Section:** | **2N** | **Page(s):** | **3** |
| **Exam:** | **Quiz 3** | **Roll No.** |  |
| **Instruction/Notes:** | **Calculators are strictly not allowed in all exams**  **Plagiarism will be dealt seriously causing an F in course** | | | |

**Question 01: [5 M]**

Design a dual 8–to–1-line decoder using a 3–to–8-line decoder and two 8 x 2 AND-ORs.

**Question 02: [5M]**

Implement the following Boolean function with an 8–to–1-line multiplexer and a single inverter with variable *D* as its input:

***F*(*A*, *B*, *C*, *D*) = ∑*m*(2, 4, 6, 9, 10, 11, 15)**