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| 1075717_549909255068252_805887821_n.jpg | **http://upload.wikimedia.org/wikipedia/commons/9/9c/Inu_peshawar_logo.gifIqra National University, Peshawar****Department of Electrical Engineering****Final – Term Examination summer2020****Date:24/9/2020** |
| **Course Code:** | MTH 101 |  | **Course Title:** | Linear Algebra |
| **Prerequisite:** | NA |  | **Instructor:** | HIMAYTULLAH |
| **Module:** | 1 | **Program:** | BEE | **Total Marks:** | 50 | **Time Allowed:** |  |

Note: Attempt all questions.PLO: program learning outcome C:Cognitive

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| Q1. | (a) | . **Express** the equation of plane passing through the points A(2,-2,1) , B(-1,0,3), C(5,-3,4) | Marks 5 |
| PLO2 C2 |
|  | (b) | **Express** a pair of planes whose intersection is the given line,$x=2-3t, y=3+t , z=2-4t$  | Marks 5  |
| PLO2 C2 |
|  |
| Q2 |  | . $L\left(x,y\right)=(x+1, y, x+y)$ **illustrate** that *L* is linear transformation ?   | Marks 10  |
| PLO1C3 |
|  |  |   |  |
|  |
| Q3 |  | Using the matrix $A=\left[\begin{array}{c}1 2 3\\1 1 2\\0 1 2\end{array}\right]$ then **interpret** to decode the message 77 54 38 71 49 29 68 51 33 76 48 40 86 53 52 | Marks 10 |
| PLO1C3 |
| Q4 |  | Find an equation of the plane passing through the point (-1, 3, 2) and perpendicular to the vector n = (0, 1, -3) | Marks 10C3 PLO1 |
| Q5 |  | Find an Eigen values and Eigen vectors of matrix $A=\left[\begin{matrix}1&1\\-2&4\end{matrix}\right]$. | Mark10 c3 plo1 |