Set-A   **AHSANULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY**
Department: Arts and Sciences
Program: B. Sc in Computer Science and Engineering
Exam Name: Quiz#1 (Section A)   **Semester: Fall, 21**
Year: 2ⁿᵈ   **Semester: 2ⁿᵈ**
Course Number: Math 2203   **Course Name: Mathematics II**
Total Marks: 20   **Time: 25 Minutes**

Answer all the following questions:	Marks
1. Find the projection of the vector $4\hat{\imath} - 3\hat{\jmath} + \hat{k}$ on the line passing through the points (2, 3, -1) and (-2, - 4, 3).	6
2. Prove that the set of vectors defined by $W = \{(x, y, z) \mid x, y, z \in \mathbb{R}\}$ is a vector space.	5
3. Find whether the following set of vectors is linearly dependent or independent. S = {(3, 0, 4, 1), (6, 2, -1, 2), (-1, 3, 5, 1), (-3, 7, 8, 3)}	9

Set-B   **AHSANULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY**
Department: Arts and Sciences
Program: B. Sc in Computer Science and Engineering
Exam Name: Quiz#1 (Section A)   **Semester: Fall, 21**
Year: 2ⁿᵈ   **Semester: 2ⁿᵈ**
Course Number: Math 2203   **Course Name: Mathematics II**
Total Marks: 20   **Time: 25 Minutes**

Answer all the following questions:	Marks
1. Find the projection of the vector $9\hat{\imath} - 4\hat{\jmath} + \hat{k}$ on the line passing through the points (2, -1, 3) and (-2, 3, - 4).	5
2. Prove that the set of vectors defined by $V = \{(x, y) \mid x, y \in \mathbb{R}\}$ is a vector space.	6
3. Find whether the following set of vectors is linearly dependent or independent. S = {(4, - 4, 8, 0), (2, 2, 4, 0), (6, 0, 0, 2), (6, 3, -3, 0)}	9