Question 1

1) A linear combination of two or more vectors is the vector obtained by adding two or more vectors (with different directions) which are multiplied by scalar values.
2) A Sequence of vector is said to linearly independent if there exist scalars not all zero , it can also be defined by that a sequence of vectors is linearly dependent if and only if some vector in that sequence can be written as a linear combination of the other vectors

QUESTION 2

SPANNING SET OF R

U= (1,0,1), V= (2,1,3), W= (1,1, -4).

+

1   ──────

────── 2 ──────

3   ──────

Using equation 2

────── 4 ──────

Put equation 4 into equation 1 and equation 3

5 ──────

6 ————————

Compare 5 and 6

+ _____

Put into equation 2

) = b

=

Put

1) Commutativity of vector addition

2) Associativity of vector addition

3) Identity element of addition

4) Distributivity of scalar multiplication with respect to vector addition