

### **Quiz-20**

Q.1 Describe the subspace of  $\mathbb{R}^3$  spanned by the vectors  $(1,1,-1)$  and  $(-1,-1,1)$ .

(A)  $\mathbb{R}^3$  (B) a plane passing through origin (C) a line passing through origin (D) none of these

Q.2 Describe the subspace of  $\mathbb{R}^3$  spanned by the columns of a 3 by 5 echelon matrix with 2 pivots.

(A)  $\mathbb{R}^3$  (B) a plane passing through origin (C) a line passing through origin (D) none of these

Q.3 Describe the subspace of  $\mathbb{R}^3$  spanned by all the vectors with positive components.

(A)  $\mathbb{R}^3$  (B) a plane passing through origin (C) a line passing through origin (D) none of these

Q.4 Decide the dependence or independence of the vectors  $(1,3,2)$ ,  $(2,1,3)$  and  $(3,2,1)$ .

(A) linearly dependent (B) linearly independent (C) both A and B (D) none of these

Q.5 If  $w_1, w_2, w_3$  are independent vectors and  $v_1 = w_2 - w_3$ ,  $v_2 = w_1 - w_3$  and  $v_3 = w_1 - w_2$  then  $v_1, v_2$  and  $v_3$  are \_\_\_\_\_.

(A) linearly dependent (B) linearly independent (C) both A and B (D) none of these