LGS GROUP OF COLLEGES

[XII MATHEMATICS] Exercise 7.1,7.2,7.3

TEST# W-T-8

Paper Code: 1208	Name:……	Roll No:
Time: 35 Minutes	Objective + Subjective	Marks = 15

OBJECTIVE TYPE

Q# 1. Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question. **$(1 \times 4 = 4)$**

1	$\left\|\cos a\, \underline{i} + \sin a\, \underline{j} + 0\underline{k}\right\| =$ _____ A. 0 B. 1 C. -1 D. 2
2	A vector with magnitude 1 is called: A. Null vector B. Unit vector C. Zero vector D. Constant vector
3	If vectors $2\hat{\imath} + \hat{\jmath} + \hat{k}$ and $\hat{\imath} - 4\hat{\jmath} + a\hat{k}$ are perpendicular, then α = : A. 1 B. 2 C. 3 D. 4
4	If $\vec{v}$ is any vector then vector of magnitude 5 opposite to $\vec{v}$ is: A. $5\,\vec{v}$ B. $-5\vec{v}$ C. $5\frac{\vec{v}}{\|v\|}$ D. $-5\frac{\vec{v}}{\|v\|}$

SUBJECTIVE TYPE

SECTION - 1

Q# 2. Attempt ALL SHORT Questions: **$(2 \times 3 = 6)$**

i	Find a vector whose magnitude is 2 and is parallel to $-\underline{i} + \underline{j} + \underline{k}$
ii	Calculate the projection of $\underline{a}$ along $\underline{b}$ and projection of $\underline{b}$ along $\underline{a}$ when: $\underline{a} = \underline{i} - \underline{k}$, $\underline{b} = \underline{j} + \underline{k}$
iii	Find the sum of vector $\overrightarrow{AB}$ and $\overrightarrow{CD}$ given the four points $A(1, -1), B(2, 0), C(-1, 3)$ and $D(-2, 2)$

SECTION – II

Attempt LONG Question: **$(5 \times 1 = 5)$**

Q# 3.	**Prove that perpendicular bisectors of the sides of a triangle are concurrent**