Shree H.N.Shukla group of colleges

PHYSICS
S.Y.B.Sc. (Sem. III) (CBCS)
Unit Test examination
PAPER- 301
UNIT - 1 : VECTOR ANALYSIS

DATE :   **TOTAL MARKS : 30**

Instructions: All questions are compulsory.
The right side figure indicates total marks of the question.
Draw the figure wherever necessary.
Write answers of all the questions in main answer sheets.

SECTION-A

Q.1: One marks questions: **[5 MARKS]**

1 Vector means_____.

2 curl theorem is also called_____.

3 _____ theorem gives the relationship between a surface integral to line integral.

4 the divergence of a vector function v is itself a _____.

5 the operator ø turns vector A into vector A' is know as _____.

SECTION – B

Q.2 (A): Short Questions: Write all three : [2 Marks each]   [6 MARKS]

1 Define : divergence.

2 What is called scalar triple product?

3 What is called vectors transform?

Q.2 (B) : Short questions: Write all three: [3 Marks each]   [9 MARKS]

1 Explain vector transform for two dimensional case.

2 Explain product of four vectors.

3 Find the angle between the body diagonal of cube.

Q.2 (C): Write Detail Note on [Any two]: [5 Marks each]   [10 MARKS]

1 Explain triple product.

2 State and prove the product rules for gradients.

3 Describe fundamental theorems of divergence and gradients.

4 Discuss the divergence of a vector point function.