

CHOITHRAM SCHOOL MANIKBAGH INDORE

CLASS XI Session: 2018-19

Subject: Physics
Allotment Date: 06 /07/2018

Assignment No: I
Submission Date: 15 /07/18

Type e S.No	QUESTION	MARKS	LEVEL
OBJECTIVE TYPE			
1.	Under what condition the sum of two vectors is equal to their difference?	1	Knowledge
2.	An aeroplane takes off at an angle of 60° to the horizontal. If the muzzle velocity of the plane is 200km/h, calculate its horizontal and vertical components.	1	Understanding
3.	What are the properties of two vectors \vec{a} and \vec{b} such that $\vec{a} + \vec{b} = \vec{c}$	1	hot
SHORT ANSWER TYPE I			
4.	What should be the angle between two vectors for their resultant to be (i) maximum (ii) minimum?	2	knowledge
5.	The diagonals of a parallelogram are given by the vectors $5i-7j+2k$, and $i-j+3k$. Find the area of the parallelogram.	2	understanding
6.	Given $\vec{A}=0.3\hat{i}+0.4\hat{j}+c\hat{k}$. Calculate the value of c if \vec{A} is a unit vector.	2	logic
7.	If the sum of two unit vectors is a unit vector, then find the magnitude of their difference.	2	Hot
SHORT ANSWER TYPE II			
8.	Show that the magnitude of resultant of two equal vectors of magnitude 'a' is $2a \cos \frac{\alpha}{2}$ where α is the angle between the vectors.	3	understanding
9.	Two equal forces act at a point. The square of their resultant is three times their product. Find the angle between them.	3	Multi conceptual
10.	Sita a student of class XII was suffering from malaria. The area is full of mosquitoes. She was not having mosquito net. Her friend Geeta has an extra net. She gave it to Sita. Also she took Gita to a Doctor, got her medicines. After a week Sita became normal (a) Comment upon the qualities of Sita. (b) The mosquito net over a 7 m X 4m bed is 3m high. The net has a hole at one corner of the bed through which a mosquito enters the net. It flies and sits at the diagonally opposite upper corner of the net (i) Find the magnitude of the displacement of the mosquito (ii) Taking the hole as the origin, the length of the bed as the X-axis, its width as the Y-axis and vertically up as the Z-axis, with the components of the displacement vector.	3	Value based
11.	If a shower of rain appears to be falling vertically downwards with a speed of 12km/h to a person walking due east with a speed of 5 km/h, what is the actual direction of the rain?	5	Logic
12.	$\vec{A} = 4i - 2j + 5k$ and $\vec{B} = i + 2j + k$, what is the vector component of \vec{A} in the direction of \vec{B} and the vector component of \vec{A} in the direction of \vec{B}	5	Hot