

## ECAT Pre General Science Mathematics Chapter 24 Vectors

| Sr | Questions  | Answers Choice   |
|----|--|--|
| 1  | $u, v, w$ and $u \times (v \cdot w)$ are   | A. Equal<br>B. Parallel<br>C. Additive immense of each other<br>D. <b>Meaningless</b>                                  |
| 2  |    | A. A, B, C are coincident<br>B. <b>A, B, C are collinear</b><br>C. Both A and B<br>D. None of these                    |
| 3  | Which of the following is a vector.  | A. distance<br>B. temperature<br>C. energy<br>D. <b>acceleration</b>   |
| 4  | Projection of vector $u$ along $v$ is  | A. $ v  \cos\theta$<br>B. $ u  \cos\theta$<br>C. $ v  \sin\theta$<br>D. $ u  \sin\theta$                               |
| 5  | The area of the rhombus whose vertices are $A(0,0), B(2,1), C(3,3), D(1,2)$ is       | A. 36 square units<br>B. <b>3 square units</b><br>C. 6 square units<br>D. 18 square units                              |
| 6  |   | D. none of these   |
| 7  | If $a + b + c = 0$ then which of the following is true                               | A. $a = b = c = 0$<br>B. $a = b, c = c, a$<br>C. <b><math>a \times b = b \times c = c \times a</math></b><br>D. None   |
| 8  |  | A. 0<br>B. <b>1</b>  |
| 9  |  | D. none of these   |
| 10 | $[i, j, k]$  | A. 0<br>B. 2<br>C. <b>1</b><br>D. -2   |
| 11 | Which of the following is a scalar.  | A. force<br>B. <b>frequency</b><br>C. weight<br>D. acceleration  |
| 12 |  |  |
| 13 |  | D. none of these   |
| 14 | Unit vector in the positive direction of x-axis is                                   |  |
| 15 | If $uv = \text{Proj}_v u$ then   | A. $u$ and $v$ are parallel<br>B. <b><math>v</math> is a unit vector</b><br>C. $u$ is a unit vector<br>D. Both b and c |
| 16 | If the vector $2i + 4j - 7k$ and $2i + 6j + xk$ are perpendicular then $x = ?$       | A. 0<br>B. 2<br>C. <b>4</b><br>D. 7  |
| 17 | If $ a \times b ^2 + (a \cdot b)^2 = \dots$  | A. $ a ^2 +  b ^2$<br>B. $ a ^2 -  b ^2$<br>C. <b><math> a ^2  b ^2</math></b><br>D. None                              |
| 18 | Which of the following is a vector   | A. length<br>B. <b>momentum</b><br>C. volume<br>D. speed   |

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Question Image

- A. [0, 0, 0]
- B. [1, 0, 0]
- C. [0, 1, 0]
- D. [0, 0, 1]

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Question Image

- D. none of these