# ECAT (Pre-Eng) Mathematics Chapter 24 Vectors

| Sr | Questions | Answers Choice |
|---|---|---|
| 1 | Question Image | A. direction ratios<br>B. direction cosines<br>C. direction angles<br>D. none of these |
| 2 | Question Image | |
| 3 | A vector of magnitude zero is called | A. Position vector<br>B. Null vector<br>C. Free vector<br>D. None of these |
| 4 | Question Image | |
| 5 | Question Image | |
| 6 | Question Image | C. 0<br>D. 1 |
| 7 | Question Image | |
| 8 | Question Image | |
| 9 | The unit vector along x-axis is | D. none of these |
| 10 | Question Image | A. perpendicular vectors<br>B. parallel vectors<br>C. concurrent vectors<br>D. none of these |
| 11 | 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. 3 square units<br>C. 6 square units<br>D. 18 square units |
| 12 | If a force F = 2i + j +3k acts at point (1,-2,2) of a body then the moment of F about a pint lying on the line of action of the force is | A. 5<br>B. Equal to the moment of the force about origin<br>C. 0<br>D. Cannot be found |
| 13 | If $\|a \times b\|^2 + (a,b)^2$ = _____ | A. $\|a\|^2 + \|b\|^2$<br>B. $\|a\|^2 - \|b\|^2$<br>C. $\|a\|^2\|b\|^2$<br>D. None |
| 14 | The direction cosines of y-axis are | A. 1, 0, 0<br>B. 0, 1, 0<br>C. 0, 0, 1<br>D. 1, 1, 1 |
| 15 | Question Image | A. 12<br>B. 6<br>C. 8<br>D. none of these |
| 16 | Projection of vector u along v is | A. $\|v\| \cos\theta$<br>B. $\|u\| \cos\theta$<br>C. $\|v\| \sin\theta$<br>D. $\|u\| \sin\theta$ |
| 17 | Which of the following does not represent absolute value of a vector | A. magnitude<br>B. length<br>C. norm<br>D. number |
| 18 | Question Image | A. direction ratios<br>B. direction cosines<br>C. direction angles<br>D. none of these |
| 19 | Question Image | |
| | | A. $\|u+v\|$ |

| | | |
|---|---|---|
| 20 | If θ be angle between u,v and u,v determine the sides of a triangle then the third side opposite to angle θ has length | A. \|u-v\|<br>B. \|u\|+\|v\|<br>C. \|u-v\|<br>D. \|u\|-\|v\| |