

PAST MCQ'S OF CHAPTER - 2
FROM ALL PUNJAB BOARD PAPERS -2011-2017

1. **The magnetic of vector product of two non-zero vectors A and B making an angle θ with each other is:**
 (A) $AB \sin \theta$ (B) $AB \sin \theta$
 (C) $AB \cos \theta$ (D) AB
2. **The resultant magnitude of 6N force acting at right angle to 8N force is:**
 (A) 2N (B) 14N
 (C) 8N (D) 10N
3. **Position vector of a point p(a,b,c) in YZ plane is given by:**
 (A) $\vec{r} = a\hat{i} + b\hat{j}$ (B) $\vec{r} = a\hat{i} + c\hat{k}$
 (C) $\vec{r} = b\hat{j} + c\hat{k}$ (D) $\vec{r} = a\hat{i} + b\hat{j} + c\hat{k}$
4. **i. (j.k) is equal to:**
 (A) \hat{k} (B) 1
 (C) 2 (D) 0
5. **The magnitude of rectangular components of a vector are equal, if its angle with x-axis is:**
 (A) 0° (B) 30°
 (C) 45° (D) 90°
6. **The magnitude of dot and cross product of two vectors are $6\sqrt{3}$ and 6 respectively. The angle between them will be:**
 (A) 0° (B) 30°
 (C) 45 (D) 90°
7. **Two vector to be combined have magnitude 60N and 35N. The correct answer will be:**
 (A) 15N (B) 20N
 (C) 70N (D) 100N
8. **A single vector having same effect as all the original vector taken together is:**
 (A) Resultant vector (B) Equal vector
 (C) Position vector (D) Unit vector
9. **The vector A has the components A_x and A_y . The magnitude A_x is given by:**
 (A) $A - A_y$ (B) $(A_x - A_y)^{1/2}$
 (C) $(A_x - A_y)^{1/2}$ (D) $(A_x^2 - A_y^2)^{1/2}$
10. **The magnitude of cross and dot product of two vector are equal. The angle between the vector is:**
 (A) Zero (B) 90°
 (C) 180° (D) 45°
11. **If $\vec{F} = 2\hat{i} + 3\hat{j}$ N and $\vec{d} = 4\hat{i} + 4\hat{j}$ m, the work done will be:**
 (A) 13J (B) 18J
 (C) 20J (D) 24J
12. **If R_x is positive and R_y is negative. The resultant lies in the:**
 (A) 1st quadrant (B) 2nd quadrant
 (C) 3rd quadrant (D) 4th quadrant
13. **If the second conditional of equilibrium is fulfilled, the body will be in:**
 (A) Rotational equilibrium (B) Static equilibrium
 (C) Dynamic equilibrium (D) Complete equilibrium
14. **Mathematically units vector is given by:**
 (A) $A - A\vec{A}$ (B) $\hat{A} = A / \vec{A}$
 (C) $\hat{A} = \vec{A} / A$ (D) $\hat{A} = \vec{A} \cdot \vec{A}$
15. **Torque of a force is given by $\tau = \vec{r} \times \vec{F}$. If has maximum value when r and F are at an angle of:**
 (A) 90° (B) 0°
 (C) 30° (D) 60°
16. **Projection of \vec{B} along \vec{A} will be given as:**
 (A) $\hat{A} \cdot \vec{B}$ (B) $\vec{B} \cdot \hat{A}$
 (C) $\frac{\vec{A} \cdot \vec{B}}{A}$ (D) $\frac{\vec{A} \cdot \vec{B}}{\cos \theta}$
17. **If both components of vector are negative, then resultant lies in: (2times)**
 (A) 1st quadrant (B) 2nd quadrant
 (C) 3rd quadrant (D) 4th quadrant
18. **In the third quadrant direction of resultant vector is $\left(\Phi = \tan^{-1} \frac{R_y}{R_x} \right)$**
 (A) $180^\circ - \Phi$ (B) $180^\circ + \Phi$
 (C) $360^\circ - \Phi$ (D) $360^\circ + \Phi$
19. **The result of adding A into $-A$ is:**
 (A) A (B) 2A
 (C) 0 (D) $-A$
20. **The self-dot product of a vector \vec{A} is: (2times)**

- (A) 0 (B) 1
(C) A (D) A^2
21. **The direction of resultant vector having both components R_x and R_y positive will lie in quadrant:**
(A) 1st (B) 2nd
(C) 3rd (D) 4th
22. **If R_x and R_y both are negative. Then the resultant vector lies in:**
(A) 1st quadrant (B) 2nd quadrant
(C) 3rd quadrant (D) 4th quadrant
23. **Which one is a vector:**
(A) Length (B) Volume
(C) Velocity (D) Work
24. **The magnitude of a vector in space has components:**
(A) $A_x^2 + A_y^2$ (B) $A_x^2 - A_y^2$
(C) $\sqrt{A_x^2 + A_y^2}$ (D) $\sqrt{A_x^2 - A_y^2}$
25. **The complete requirements for a body to be in equilibrium is:**
(A) $\sum F = 0$ (B) $\sum \tau = 0$
(C) $\sum p = 0$ (D) $\sum F = 0, \sum \tau = 0$
26. **The vector in space has components:**
(A) 1 (B) 2
(C) 3 (D) 4
27. **The magnetic of $\hat{i} \cdot (\hat{j} \times \hat{k})$ is:**
(A) 0 (B) 1
(C) -1 (D) 2
28. **The resultant of two force 3N and 4N acting at right angle to each other is: (2times)**
(A) 6N (B) 5N
(C) 2N (D) 7N
29. **The force of 10N makes an angle of 30° with y-axis. The magnitude of x component will be:**
(A) 5N (B) 8.66N
(C) 10N (D) Zero
30. **The cross product of vector will be minimum when angle between vector is:**
(A) 35° (B) 90°
(C) 0° (D) 45°
31. **If a body is at rest, then it will be in:**
(A) Static equilibrium (B) Dynamic equilibrium
(C) Translation equilibrium (D) Unstable equilibrium
32. **The resultant of two force 30N and 40N acting at an angle of 90° with each other is: (2times)**
(A) 50N (B) 30N
(C) 40N (D) 70N
33. **When torque acting on a system is zero which of the following will be constant:**
(A) Linear momentum (B) Force
(C) Angular momentum (D) Impulse
34. **Reverse process of vector addition is called:**
(A) Subtraction of vector (B) Resolution of vector
(C) Obtaining unit vector (D) Making a vector negative
35. **The direction of torque can be found by:**
(A) Head to tail rule (B) Right hand rule
(C) Left hand rule (D) Fleming rule
36. **$\vec{A} + \vec{B} = \vec{B} + \vec{A}$ this show that addition of vector is:**
(A) Associative (B) Commutative
(C) Additive (D) Additive inverse
37. **Torque acting on body is given by:**
(A) $\tau = I^2$ (B) $\tau = Ia^2$
(C) $\tau = I^2 a^2$ (D) $\tau = Ia$
38. **Dot product of two non-zero vector is minimum when angle between them is:**
(A) 30° (B) 60°
(C) 45° (D) 90°
39. **The first condition of equilibrium implies that:**
(A) $\sum F = 0$ (B) $\sum \tau = 0$
(C) $\sum p = 0$ (D) $\sum F = 0, \sum \tau = 0$
40. **A vector in space has components:**
(A) 1 (B) 2
(C) 3 (D) 4
41. **The resultant of two force 5N and 12N making an angle of 90° with each other is:**
(A) 17N (B) 7N
(C) 13N (D) 15N
42. **The cross product of a vector \vec{F} with itself result:**
(A) \vec{F} (B) F^2
(C) Zero (D) Non vector

43. IF two equal magnitude and perpendicular to each other vector are added then their resultant makes angle with x-axis is:
 (A) 0° (B) 90°
 (C) 45° (D) 69°
44. IF $\vec{B} = 4\hat{i} + 5\hat{k}$, then its magnitude will be:
 (A) 9 (B) $\sqrt{41}$
 (C) 7 (D) 3
45. A force of 20N acts along x-axis its x-components is:
 (A) 0N (B) 10N
 (C) 20N (D) 30N
46. If the magnitude $\vec{A} \cdot \vec{B} = \frac{1}{2} AB$. Then an angle between \vec{A} and \vec{B} is:
 (A) 30° (B) 45°
 (C) 60° (D) 90°
47. If $\vec{A} = 2\hat{i} + \hat{j} + 2\hat{k}$ then $|A|$ is:
 (A) Zero (B) 3
 (C) 5 (D) 9
48. Both the dot product and cross product of two vectors \vec{A} and \vec{B} is zero, when:
 (A) \vec{A} and \vec{B} are parallel to each other (B) \vec{A} and \vec{B} are antiparallel
 (C) \vec{A} and \vec{B} are perpendicular to each other (D) Either the vector is zero
49. If two non-zero vector \vec{A} and \vec{B} are parallel to each other then:
 (A) $\vec{A} \cdot \vec{B} = 0$ (B) $\vec{A} \cdot \vec{B} = AB$
 (C) $|\vec{A} \times \vec{B}| = AB$ (D) $|\vec{A} \times \vec{B}| = \vec{A} \cdot \vec{B}$
50. The vector product $|\vec{A} \times \vec{B}|$ is:
 (A) θ (B) 1
 (C) A^2 (D) Zero
51. The resultant of two force 30N and 40N acting parallel to each other is:
 (A) 30N (B) 40N
 (C) 70N (D) 10N
52. The direction of vector in space is specified by:
 (A) 1-Angle (B) 2-Angle
 (C) 3-Angle (D) 4-Angle
53. If R_x is negative and R_y is positive, then the resultant vector lies in:
 (A) 2nd quadrant (B) 3rd quadrant
 (C) 4th quadrant (D) 1st quadrant

OBJECTIVE ANSWERS

01	B	02	D	03	C	04	D	05	C
06	B	07	C	08	A	09	D	10	D
11	C	12	D	13	A	14	C	15	A
16	C	17	C	18	B	19	C	20	D
21	A	22	C	23	C	24	C	25	D
26	C	27	B	28	B	29	A	30	C
31	A	32	A	33	C	34	B	35	B
36	B	37	D	38	D	39	A	40	C
41	C	42	C	43	C	44	B	45	C
46	C	47	B	48	D	49	B	50	D
51	C	52	C	53	A				