MULTIPLE CHOICE QUESTIONS

(From Past Papers 2006-2011)
(Lahore + Gujranwala Board)

(1) For two vectors $\overline{a},\overline{b}$ if $\overline{a}=m\overline{b}$ then (GRW 2006)
(a) $\overline{a}\ and\ \overline{b}$ are parallel
(b) $\overline{a}\ and\ \overline{b}$ are perpendicular
(c) $\overline{a}\ and\ \overline{b}$ are coplanar
(d) none

(2) Let $\overrightarrow{OA}=\overline{a}$, $\overrightarrow{OB}=\overline{b}$ then $\overrightarrow{AB}$ is (GRW 2006)
(a) $\overline{a}-\overline{b}$
(b) $\overline{a}+\overline{b}$
(c) $\overline{b}-\overline{a}$
(d) $\overline{b}+\overline{a}$

(3) Two vectors $\underline{a}\ and\ \underline{b}$ are coplanar if $p\underline{a}+q\underline{b}=0$ implies (LHR 2006)
(a) $p=0,q\neq 0$
(b) $p\neq 0,q=0$
(c) p = 0, q = 0
(d) $p\neq 0,q\neq 0$

(4) The value of $(\hat{i}-\hat{j}).(\hat{j}-\hat{k})\times(\hat{k}-\hat{i})=$ (LHR 2006)
(a) 1
(b) 0
(c) $\hat{i}-\hat{k}$
(d) $\hat{j}-\hat{k}$

(5) Projection of $\overline{v}$ along $\overline{u}$ is (LHR 2006)
(a) $\frac{\overline{u}.\overline{v}}{|\underline{u}|}$
(b) $\frac{\overline{v}.\overline{u}}{|\underline{v}|}$
(c) $\frac{\overline{u}.\overline{v}}{|\underline{u}||\underline{v}|}$
(d) $\frac{\overline{u}.\overline{u}}{|v|}$

(6) The work done by a force $\overline{F}$ through a displacement $\overline{d}$ is (GRW 2007)
(a) $Fd\sec\theta$
(b) $Fd\sin\theta$
(c) $\overline{F}.\overline{d}$
(d) $F.\overline{d}\tan\theta$

(7) The angle between the vectors $2\hat{i}+3\hat{j}+\hat{k}$ and $2\hat{i}-\hat{j}-\hat{k}$ (GRW 2007)
(a) $\frac{\pi}{6}$
(b) $\frac{\pi}{4}$
(c) $\frac{\pi}{2}$
(d) π

(8) The projection of vector $\overline{u}=a\hat{i}+b\hat{j}+c\hat{k}$ along $\hat{i}$ is (GRW 2007)
(a) a
(b) c
(c) b
(d) a + b

(9) A constant force $\overline{F}$ acting on a body, displaces it from A to B. The work done by Force F is equal to (GRW 2007)
(a) $F\times\overline{AB}$
(b) $\overline{AB}.F$
(c) $-F.\overline{AB}$
(d) $-F\times\overline{AB}$

(10) Position vector of a point (-1, 2, 3) (LHR 2007)
(a) $\hat{i}+2\hat{j}+3\hat{k}$
(b) $-\hat{i}+2\hat{j}+3\underline{k}$
(c) $\hat{i}-2\hat{j}-3\underline{k}$
(d) $-\hat{i}-2\hat{j}-3\hat{k}$

(11) $\hat{k}\times\hat{j}=$ (LHR 2007)

(a) $\hat{j}$
(b) $\hat{k}$
(c) $-\hat{j}$
(d) $-\hat{i}$

(12) $\hat{i}.\hat{k}=$ (LHR 2007)

(a) $\hat{j}$
(b) k
(c) 0
(d) 1

(13) $\hat{j}.\hat{k}\times\hat{i}=$ (LHR 2007)

(a) $\hat{i}$
(b) $\hat{j}$
(c) 1
(d) $\hat{k}$

(14) Cosine of the angle between two non zero vectors $\underline{a}$ and b is (LHR 2008)

(a) $\underline{a}.\underline{b}$
(b) $\dfrac{|\underline{a}||\underline{b}|}{\underline{a}.\underline{b}}$
(c) $\dfrac{\overline{a}.\overline{b}}{|\underline{a}||\underline{b}|}$
(d) $\dfrac{\overline{a}\times\overline{b}}{|\underline{a}||\underline{b}|}$

(15) If $\overline{A}\times\overline{B}=0$ and $\overline{A}.\overline{B}=0$ then (LHR 2008)

(a) $\overline{A}$ and $\overline{B}$ are parallel
(b) $\overline{A}$ and $\overline{B}$ are perpendicular
(c) $Either\ \overline{A}=0\ or\ \overline{B}=0$
(d) both a & b

(16) If P = (2, 3), Q = (6, -2) then $\overline{PQ}$ is (LHR 2008)

(a) $4\hat{i}+5\hat{j}$
(b) $-4\hat{i}+5\hat{j}$
(c) $4\hat{i}-5\hat{j}$
(d) $5\hat{i}-4\hat{j}$

(17) If A and B are parallel then $\overline{A}\times\overline{B}=$ (LHR 2008)

(a) 0
(b) 1
(c) -1
(d) 2

(18) If the terminal point B of a vector $\overline{AB}$ coincides with initial point A then $\overline{AB}$ is called

(a) Position vector
(b) Equal
(c) Zero vector
(d) Unit vector

(19) If $(\overline{u}\times\overline{v}).\overline{w}=|\overline{u}\times\overline{v}||\overline{w}|\cos\theta$ then $|\underline{w}|\cos\theta$. is called (GRW 2008)

(a) Area of parallelogram
(b) Area of parallel piped
(c) Volume of parallel piped
(d) Height of parallel piped

(20) $\hat{i},\hat{j},\hat{k}$ are called (GRW 2008)

(a) Zero vectors
(b) Unit vectors
(c) Parallel vectors
(d) Equal vectors

(21) A unit vector is a vector those magnitude is: (GRW 2009)

(a) 0
(b) 2
(c) 1
(d) not defined

(22) If α, β, γ are direction angles of a vector then $\cos^2\alpha + \cos^2\beta + \cos^2\gamma$ is equal to. (GRW 2009)

(a) 3 (b) 2
(c) 1 (d) 0

(23) If 1 and $\sqrt{3}$ are x and y components respectively of a vector then its angle with x – axis is (LHR 2009)

(a) 30° (b) 45°
(c) 60° (d) 90°

(24) The magnitude of dot and cross products of two vectors are 6 and $6\sqrt{3}$ respectively, then angle between the vectors (LHR 2009)

(a) 90° (b) 60°
(c) 30° (d) 45°

(25) If 2 and 2 are x and y components respectively of a vector then angle with x – axis is (LHR 2009)

(a) 30° (b) 45°
(c) 60° (d) 90°

(26) The magnitude of dot and cross product of two vectors are 1 and 1 respectively, the angle between vectors is (LHR 2009)

(a) 90° (b) 60°
(c) 45° (d) 30°

(27) If $\vec{a}$ and $\vec{b}$ have same direction then $\vec{a}.\vec{b}$ = (LHR 2010)

(a) $ab\sin\theta$ (b) 0
(c) – ab (d) ab

(28) If any two vectors in scalar triple product are equal then its value is (LHR 2010)

(a) 1 (b) 2
(c) 0 (d) – 1

(29) Length of the vector $2\underline{i} - \underline{j} + 2\underline{k}$ is (LHR 2010)

(a) 6 (b) 4
(c) 3 (d) 5

(30) The value of $(\underline{i}\times\underline{j})\times\underline{k}$ is (LHR 2010)

(a) 1 (b) 0
(c) i (d) k

(31) $\underline{k}\times\underline{i}$ is equal to (GRW 2010)

(a) 0 (b) $\hat{j}$
(c) $\hat{k}$ (d) $-\hat{j}$

(32) If u, v and w are conterminous edges of a tetrahedron then volume (LHR 2011)

(a) $\frac{1}{2}[\underline{u}\,\underline{v}\,\underline{w}]$ (b) $\frac{1}{3}[\underline{u}\,\underline{v}\,\underline{w}]$
(c) $\frac{1}{4}[\underline{u}\,\underline{v}\,\underline{w}]$ (d) $\frac{1}{6}[\underline{u}\,\underline{v}\,\underline{w}]$

(33) Magnitude of the vector $\underline{v} = 2\underline{i} + 3\underline{j} + 4\underline{k}$ is (LHR 2011)
(a) 29 (b) $\sqrt{29}$
(c) 28 (d) $\sqrt{28}$

(34) Zero vector is perpendicular to (LHR 2011)
(a) Every vector (b) Unit vector only
(c) Position vector only (d) Not any vector

(35) $\hat{j}.\hat{k}\times\hat{i} =$ (LHR 2011)
(a) $\hat{i}$ (b) $\hat{j}$
(c) $\hat{k}$ (d) 1

(36) Length of the vector $-\underline{i}+2\underline{j}+2\underline{k}$ is (GRW 2011)
(a) 3 (b) 4
(c) 5 (d) 6

(37) $(\underline{i}\times\underline{j})\times\underline{k}$ equals to (GRW 2011)
(a) 1 (b) 0
(c) i (d) $\underline{k}$

MULTIPLE CHOICE QUESTIONS

(From Past Papers 2008-2011)
(Faisalabad + Sargodha + Rawalpindi Board)

(1) The distance of a point P(x, y, z) from origin is called __________ of vector $\overrightarrow{op}$ (FSD 2008)
(a) difference (b) addition
(c) magnitude (d) dirction cosine

(2) The cross product $\underline{U}.(\underline{V}\times\underline{W})$ represents (FSD 2008)
(a) area of parallelogram (b) volume of parallelepiped
(c) height of parallelepiped (d) none of these

(3) $\underline{a} = 2\underline{i}+4\underline{j}-7\underline{k}$ *and* $\underline{b} = 2\underline{i}+6\underline{j}+x\underline{k}$ if a perpendicular to $\underline{b}$ then x = …(FSD 2008)
(a) -7 (b) 6
(c) 5 (d) 4

(4) The cross product is also called (FSD 2008)
(a) scalar product (b) dot product
(c) vector product (d) none of these

(5) The position vector of any point in xy-plane is: (FSD 2009)
(a) $x\underline{i}+y\underline{j}=r$ (b) $\underline{r}=y\underline{j}+z\underline{k}$
(c) $\underline{r}=x\underline{i}+z\underline{k}$ (d) $\underline{r}=x\underline{i}+y\underline{j}+z\underline{k}$

(6) If the vectors $2\underline{i}+4\underline{j}-7\underline{k}$ and $2\underline{i}+6\underline{j}+x\underline{k}$ are perpendicular, then x equals: (FSD 2009)
(a) 5 (b) 4
(c) 2 (d) 1

(7) The vector product of two vectors is defined only if vectors are in (FSD 2009)
(a) Plane
(b) Space
(c) Cartesian plane
(d) Every where

(8) The scalar triple product $(\underline{U} \times \underline{V}).\underline{W} =$ (FSD 2009).
(a) $(\underline{W} \times \underline{U}).\underline{V}$
(b) $(\underline{V}.\underline{V}.\underline{V})$
(c) $\underline{U} \times (\underline{V}.\underline{W})$
(d) $\underline{U}.\underline{V}.\underline{W}$

(9) The angle between $2\underline{i} + 3\underline{j} + \underline{k}$ and $2\hat{i} - \hat{j} - \hat{k}$ is (FSD 2010)
(a) $\frac{\pi}{6}$
(b) $\frac{\pi}{4}$
(c) $\frac{\pi}{2}$
(d) π

(10) The work done by the force $2\underline{i} - \underline{i} - \underline{k}$ in moving an object through a displacement $3\underline{i} + 2\underline{i} - 5\underline{k}$ is (FSD 2010)
(a) 3
(b) 5
(c) 7
(d) 9

(11) If $\sqrt{3}$ and 1 are x and y-components of a vector, then its angle with x-axis is (FSD 2010)
(a) 90°
(b) 45°
(c) 60°
(d) 30°

(12) The scalar quantity in the following is (FSD 2010)
(a) Time
(b) Displacement
(c) Velocity
(d) Force

(13) If $\underline{A} = [3, -4, 0]$, then $|\underline{A}| =$............ (SGD 2009)
(a) 25
(b) 16
(c) 5
(d) 0

(14) The angle between the vectors $|\underline{A}| = a_1\underline{i} + a_2\underline{j}$ and $\underline{B} = b_1\underline{i} + b_2\hat{\underline{j}}$ is (SGD 2009)
(a) $\text{Cos}^{-1}\frac{a_1b_1 + a_2b_2}{|\underline{A}||\underline{B}|}$
(b) $\text{Cos}^{-1}\frac{a_1b_1 - a_2b_1}{|\underline{A}||\underline{B}|}$
(c) $\text{Cos}^{-1}\frac{a_1b_1 + a_2b_1}{\underline{A}.\underline{B}}$
(d) $\text{Cos}^{-1}\frac{a_1b_2 - a_2b_1}{|\underline{A}||\underline{B}|}$

(15) If θ is the angle between vectors $\underline{U}$ and $\underline{V}$, then projection of $\underline{U}$ along $\underline{V}$ equals (SGD 2010)
(a) $\frac{\underline{U}.\underline{V}}{|\underline{V}|}$
(b) $\frac{\underline{U} \times \underline{V}}{\underline{V}}$
(c) $\frac{\underline{U}.\underline{V}}{\underline{U}}$
(d) $\frac{\underline{U} \times \underline{V}}{\underline{V}}$

(16) In $(\underline{U} \times \underline{V}).\underline{W} = |\underline{U} \times \underline{V}|.|\underline{W}|$, then $|\underline{W}| \cos\theta$ is called (SGD 2010)
(a) Area of parallelogram
(b) Height of parallelepiped
(c) Volume of parallelepiped
(d) Dot product of $\underline{U}$ and $\underline{W}$

(17) Direction cosines of the vector $\underline{3i}-\underline{i}+\underline{2k}$ are (SGD 2011)

(a) $\frac{-3}{\sqrt{14}},\frac{1}{\sqrt{14}},\frac{2}{\sqrt{14}}$ (b) $\frac{3}{\sqrt{14}},\frac{-1}{\sqrt{14}},\frac{2}{\sqrt{14}}$

(c) $\frac{3}{\sqrt{14}},\frac{-1}{\sqrt{14}},\frac{-2}{\sqrt{14}}$ (d) $\frac{3}{\sqrt{14}},\frac{1}{\sqrt{14}},\frac{2}{\sqrt{14}}$

(18) A unit vector perpendicular to the plane containing $\underline{a}$ and $\underline{b}$ is (SGD 2011)

(a) $\frac{\underline{a}\times\underline{b}}{\underline{a}.\underline{b}}$ (b) $\frac{|\underline{a}\times\underline{b}|}{\underline{a}.\underline{b}}$

(c) $\frac{\underline{a}\times\underline{b}}{|\underline{a}\times\underline{b}|}$ (d) $\frac{\underline{a}.\underline{b}}{\underline{a}\times\underline{b}}$

(19) If the vectors $\underline{U}$ and $\underline{V}$ are perpendicular to each other then (SGD 2011)

(a) $\underline{U}\times\underline{V}=\underline{0}$ (b) $\underline{U}.\underline{V}=\underline{0}$

(c) $\underline{U}=\underline{V}\times\underline{U}$ (d) $\underline{V}=\underline{V}\times\underline{U}$

(20) The volume of the parallelepiped with $\underline{U},\underline{V},\underline{W}$ as coterminous edges is (SGD 2011)

(a) $(\underline{U}\times\underline{V})\times\underline{W}$ (b) $\underline{W}\times(\underline{U}\times\underline{V})$

(c) $\underline{U}.\underline{V}\times\underline{U}$ (d) $\underline{U}.\underline{V}.\underline{W}$

(21) Projection of vector $\underline{U}$ along vector $\underline{V}$ is. (RWP 2008)

(a) $\frac{\underline{U}.\underline{V}}{|u|}$ (b) $\frac{\underline{U}.\underline{V}}{|v|}$

(c) $\frac{V}{\underline{U}.\underline{V}}$ (d) $\frac{\bar{U}}{V}$

(22) Sine of the angle between two non zero vectors $\underline{a}$ and $\underline{b}$ is, (RWP 2008)

(a) $\frac{a\times b}{ab}$ (b) $\frac{a\times b}{|a||b|}$

(c) $\frac{a\times b}{|a||b|}$ (d) $\frac{|a||b|}{|a\times b|}\delta$

(23) The projection of $\vec{A}$ on $\vec{B}$ is: (RWP 2009)

(a) $\frac{\vec{A}.\vec{B}}{A}$ (b) $\frac{\vec{A}.\vec{B}}{B}$

(c) $\frac{\vec{A}.\vec{B}}{AB}$ (d) $\vec{A}.\vec{B}$

(24) If $\vec{a}$ and $\vec{b}$ are parallel vectors, then $\vec{a}\times\vec{b}$ equals: (RWP 2009)

(a) 0 (b) 1

(c) -1 (d) 2

(25) If $\underline{u}.\underline{v}=0$, then angle between $\underline{u}$ and $\underline{v}$ is (RWP 2010)

(a) $\frac{\pi}{2}$ (b) π

(c) $-\frac{\pi}{2}$ (d) $\frac{\pi}{3}$

(26) $(2\underline{a}+3\underline{b})\times(5\underline{a}+7\underline{b})$ equals (RWP 2010)

(a) $\underline{b} \cdot \underline{a}$
(b) $\underline{b}+\underline{a}$
(c) $\underline{a} \times \underline{b}$
(d) $\underline{b} \times \underline{a}$

(27) Projection of vector $\underline{U}$ Upon $\underline{V}$ is equal to: (RWP 2011)

(a) $\underline{u}.\hat{\underline{v}}$
(b) $\underline{v}.\hat{\underline{u}}$
(c) $\hat{\underline{u}}.\underline{v}$
(d) $-\underline{u}.\hat{\underline{v}}$

(28) Vectors $\underline{a}$ and $\underline{b}$ are perpendicular vectors if: (RWP 2011)

(a) $\underline{a}.\underline{b}=0$
(b) $\underline{a}\times\underline{b}=0$
(c) $\underline{a}+\underline{b}=0$
(d) $\underline{a}-\underline{b}=0$

MULTIPLE CHOICE QUESTIONS

(From Past Papers 2008-2011)

(D.G Khan + Bahawalpur/R.Y Khan + Multan Board)

(1) Which of the following is not a unit vector? (MTN 2008)

(a) [1, 1, 1]
(b) [1, 0, 0]
(c) [0, 1, 0]
(d) [0, 0, 1]

(2) If $\underline{a}$ and $\underline{b}$ have same direction then $\underline{a}.\underline{b}=$ .... (MTN 2008)

(a) ab
(b) –ab
(c) $ab\sin\theta$
(d) none of these

(3) The projection of $\underline{v}=a\underline{i}+b\underline{j}+c\underline{k}$ along $\underline{k}$ is (MTN 2008)

(a) a
(b) c
(c) c
(d) –b

(4) If $\underline{a}=a_2\underline{j}+a_3\underline{k}$ and $\underline{b}=a_2\underline{j}+a_3\underline{k}$, then the direction of $\underline{a}\times\underline{b}$ is along (MTN 2008)

(a) z – axis
(b) x – axis
(c) y – axis
(d) negative x – axis

(5) Each question has four possible answers. Chose the correct answer and encircle it. (MTN 2008)

For unit vectors $\hat{i},\hat{j}$ and $\hat{k}$

(a) $\hat{i}\times\hat{k}=\hat{j}$
(b) $\hat{i}\times\hat{k}=\hat{i}$
(c) $\hat{i}\times\hat{k}=\hat{k}$
(d) $\hat{i}\times\hat{k}=-\hat{j}$

(6) $|\underline{U}\times\underline{V}|$ gives (MTN 2008)

(a) area of parallelogram
(b) area of triangle
(c) area of a quadrilateral
(d) area of trapezium

(7) If α, β, γ are direction angles, then $Cas^2\alpha+Cos^2\beta+COs^2\gamma$ is equal to (MTN 2008)

(a) 0
(b) 3
(c) 1
(d) 4

(8) Area of triangle with vertices A(1, -1, 1), B(2,1, -1) with $|\vec{A}\times\vec{B}|=9$ is (MTN 2008)

(a) $\frac{9}{4}$
(b) $\frac{9}{2}$
(c) 9
(d) zero

(9) $(\hat{i}-\hat{j}).(\hat{j}-\hat{k})\times(\hat{k}-\hat{j})$ equals (MTN 2009)

(a) 1 (b) 0

(c) $\underline{i}-\underline{k}$ (d) $\hat{\underline{j}}-\hat{\underline{k}}$

(10) If $\underline{a}\times\underline{b}=0$ and $\underline{a}.\underline{b}=0$, then (MTN 2009)

(a) $\underline{a}$ and $\underline{b}$ are parallel (b) $\underline{a}$ and $\underline{b}$ are perpendicular

(c) Either $\underline{a}=0$ or $\underline{b}=0$ (d) Both $\underline{a}$ and $\underline{b}$ are non zero

(11) If $\left|\alpha\hat{\underline{i}}+(\alpha+1)\hat{\underline{j}}+2\hat{\underline{k}}\right|=3$, then (MTN 2009)

(a) $\alpha=1,2$ (b) $\alpha=-1,-2$

(c) $\alpha=-1,2$ (d) $\alpha=1,-2$

(12) If $\hat{\underline{n}}$ is the unit vector perpendicular to the plane containing $\overline{A}$ *and* $\overline{B}$, then $\hat{\underline{n}}$ equals (MTN 2009)

(a) $\dfrac{\overline{A}\times\overline{B}}{\left|\overline{A}\times\overline{B}\right|}$ (b) $\dfrac{\left|\overline{A}\times\overline{B}\right|}{\overline{A}\times\overline{B}}$

(c) $\dfrac{\overline{A}\times\overline{B}}{AB\cos\theta}$ (d) $\dfrac{\overline{A}\times\overline{B}}{AB\sin\theta}$

(13) $(\underline{i}\times\underline{k})\times\underline{j}$ equals to: (MTN 2010)

(a) 1 (b) $-\underline{j}$

(c) 0 (d) $\underline{i}$

(14) Length of the vector $-\underline{i}-2\underline{j}+2\underline{k}$ is (MTN 2010)

(a) 6 (b) 3

(c) 4 (d) 5

(15) Zero vector is both parallel and perpendicular to (MTN 2010)

(a) Every vector (b) Only to unit vector

(c) Position vector (d) Parallel vectors

(16) If a constant force $\underline{F}$ displaces the body from A to B then work done is: (MTN 2010)

(a) $\underline{F}\times\overline{AB}$ (b) $\underline{F}.\overline{AB}$

(c) $\underline{F}.\overline{BA}$ (d) $\underline{F}\times\overline{BA}$

(17) For two non zero vectors $\underline{a}$ and $\underline{b}$, a,b equals: (MTN 2011)

(a) abCosθ (b) abSinθ

(c) ab (d) -ab

(18) If $\underline{a}$ = [1,0,0]; b=[0,2,0]; $\underline{c}$= [0,0,3], then $\underline{a}(\underline{b}\text{x}\underline{c})$ is (MTN 2011)

(a) 1 (b) 2

(c) 3 (d) 6

(19) For two non zero vectors $\underline{a}$&$\underline{b}$ $|\underline{a}\times\underline{b}|$ is: (MTN 2011)

(a) abCosθ (b) abSinθ

(c) abCosθ $\hat{\underline{n}}$ (d) abSinθ $\hat{\underline{n}}$

(20) If $\underline{a}=\underline{i}-2\underline{j}+3\underline{k}$ and $\underline{b}=3\underline{i}+2\underline{k}$ are vectors, then angle between them is: (MTN 2011)

(a) 0
(b) $\frac{2}{\pi}$
(c) $\frac{\pi}{2}$
(d) π

(21) If $\hat{i}.\hat{j}.\hat{k}$ are the unit vectors then $\hat{i}.\hat{i}=\hat{j}.\hat{j}=\hat{k}.\hat{k}$ equals (D.G.K 2008)

(a) 0
(b) 1
(c) 2
(d) 3

(22) The unit vector $\hat{n}$ perpendicular to the plane containing $\overline{A}$ and $\overline{B}$ is (D.G.K 2008)

(a) $\frac{\overline{A}\times\overline{B}}{\left|\overline{A}\times\overline{B}\right|}$
(b) $\frac{\left|\overline{A}\times\overline{B}\right|}{\overline{A}\times\overline{B}}$
(c) $\frac{\overline{A}\times\overline{B}}{AB\cos\theta}2$
(d) $AB\sin\theta$

(23) The projection of $\overline{A}$ *to* $\overline{B}$ is (D.G.K 2009)

(a) $\frac{\overline{A}.\overline{B}}{A}$
(b) $\frac{\overline{A}.\overline{B}}{B}$
(c) $\frac{\overline{A}.\overline{B}}{AB}$
(d) $\overline{A}.\overline{B}$

(24) $(\underline{i}-\underline{j})(\underline{j}-\underline{k})\times(\underline{k}-\underline{i})$ (D.G.K 2009)

(a) 0
(b) 1
(c) $\underline{i}-\underline{k}$
(d) $\underline{j}-\underline{k}$

(25) If $\underline{u}=k\underline{v}$ then vector $\underline{u}$ and $\underline{v}$ are in the same direction when (D.G.K 2010)

(a) $k<0$
(b) $k=0$
(c) $k>0$
(d) $k\neq 0$

(26) The volume of parallepiped equals to (D.G.K 2010)

(a) $\underline{u}\times\underline{v}$
(b) $(\underline{u}\times\underline{v})$
(c) $\underline{u}\times(\underline{v}\times\underline{w})$
(d) $\underline{u}\times(\underline{u}\times\underline{w})$

(27) The work done by a force $\underline{F}$ during displacement $\underline{d}$ is (D.G.K 2011)

(a) $\underline{F}\times\underline{d}$
(b) $\underline{d}\times\underline{f}$
(c) $\underline{F}.\underline{d}$
(d) F.d

(28) If $\underline{i}-3\underline{j}+4\underline{k}$ and $\lambda\underline{i}+9\underline{j}-12\underline{k}$ are parallel vectors then $\lambda=$ (D.G.K 2011)

(a) -3 (b) 3
(c) -2 (d) 2

(29) Norm of a vector is also called (BWP 2008)

(a) Dot product (b) Cross product
(c) Magnitude (d) Position vector

(30) If $\underline{a}\times\underline{b}=0$, then vectors $\underline{a}$ and $\underline{b}$ are (BWP 2008)

(a) Parallel (b) Non-parallel
(c) Perpendicular (d) Equal

(31) If $|x\underline{i}-\underline{j}+\underline{k}|=\sqrt{6}$, then x equals (BWP 2009)

(a) ±2 (b) ±3
(c) ±1 (d) 0

(32) The value of $(\underline{i}\times\underline{j})$ k is (BWP 2009)

(a) 0 (b) -1
(c) 1 (d) 2

(33) The volume of parallelopiped is equal to (BWP 2010)

(a) $(\underline{u}\times\underline{v}).\underline{w}$ (b) $(\underline{u}\times\underline{v})\times\underline{w}$
(c) $\underline{u}\times(\underline{v}\times\underline{w})$ (d) $\underline{u}\times(\underline{u}\times\underline{v})$

(34) Two non zero vectors $\underline{u}$ and $\underline{v}$ are perpendicular when (BWP 2010)

(a) $\underline{u}.\underline{v}=1$ (b) $|\underline{u}.\underline{v}|=1$
(c) $\underline{u}.\underline{v}=0$ (d) $\underline{u}.\underline{v}\neq0$

(35) (i x k) x j equals to (BWP 2011)

(a) 1 (b) 0
(c) -j (d) i

(36) Length of the vector $2i-j+2k$ is (BWP 2011)

(a) 6 (b) 5
(c) 4 (d) 3

ANSWER KEYS

(Topical Multiple Choice Questions)

1	a	12	b	23	a	34	d	45	d	56	c	67	b	78	c	89	c	100	b
2	c	13	b	24	a	35	d	46	a	57	a	68	c	79	d	90	c	101	d
3	a	14	d	25	b	36	b	47	c	58	a	69	a	80	b	91	d	102	b
4	b	15	d	26	b	37	d	48	c	59	d	70	c	81	c	92	b	103	a
5	d	16	a	27	a	38	b	49	d	60	d	71	b	82	c	93	a	104	c
6	a	17	c	28	b	39	d	50	c	61	b	72	a	83	a	94	c	105	c
7	b	18	d	29	a	40	a	51	c	62	a	73	b	84	b	95	a	106	b
8	a	19	a	30	a	41	a	52	c	63	a	74	d	85	a	96	b	107	b
9	a	20	c	31	a	42	c	53	a	64	c	75	b	86	b	97	c	108	c
10	b	21	d	32	d	43	a	54	b	65	a	76	b	87	c	98	b	109	d
11	a	22	a	33	a	44	a	55	a	66	a	77	a	88	a	99	a	110	d

(KIPS Exercise)

1	c	11	a	21	c	31	a	41	b
2	c	12	b	22	b	32	d	42	b
3	b	13	c	23	c	33	c	43	b
4	c	14	b	24	a	34	a	44	a
5	b	15	a	25	b	35	a	45	a
6	d	16	c	26	a	36	b	46	c
7	c	17	d	27	a	37	c	47	c
8	b	18	b	28	b	38	b	48	b
9	c	19	a	29	d	39	d	49	c
10	b	20	b	30	a	40	b	50	c

(From Past Papers 2006-2011)
(Lahore + Gujranwala Board)

1	a	11	d	21	c	31	b
2	c	12	c	22	c	32	d
3	d	13	c	23	c	33	b
4	b	14	c	24	b	34	a
5	a	15	c	25	b	35	d
6	c	16	c	26	c	36	a
7	c	17	a	27	d	37	b
8	a	18	c	28	c	KIPS COLLEGE	
9	b	19	d	29	c		
10	b	20	b	30	b		

(From Past Papers 2008-2011)
(Faisalabad + Sargodha + Rawalpindi Board)

1	c	11	d	21	b
2	b	12	a	22	b
3	d	13	c	23	b
4	c	14	a	24	a
5	a	15	a	25	a
6	b	16	b	26	d
7	b	17	b	27	a
8	c	18	c	28	a
9	c	19	b	KIPS	
10	d	20	c		

(From Past Papers 2008-2011)
(D.G Khan + Bahawalpur/R.Y Khan + Multan Board)

1	a	11	c	21	b	31	a
2	a	12	d	22	a	32	c
3	b	13	c	23	b	33	a
4	b	14	b	24	a	34	c
5	d	15	a	25	c	35	b
6	a	16	b	26	c	36	d
7	c	17	a	27	c	KIPS COLLEGE	
8	b	18	d	28	a		
9	b	19	b	29	c		
10	c	20	c	30	a		