**Straight Lines**

**Type – 1**

**Choose the most appropriate option (a, b, c or d).**

Q 1. The direction cosines of a line whose equations are are

(a)  (b)  (c)  (d) 2, 4, – 3

Q 2. The equations of the line passing through the point (1, 2, 3) having the direction ratios 3, 2,1 are

(a)  (b)  (c)  (d) none of these

Q 3. The equations of the line passing through the points (-2,1,0) and (3, 4,-1) are

(a)  (b)  (c)  (d) none of these

Q 4. The coordinates of a point on the line at a distance 1 unit from the point (-1,-1,- ) are

(a)  (b)  (c)  (d) none of these

Q 5. The equation of the locus of the point ,where r ∈ R, is given by

(a)  (b)  (c) 4x – 3y = 7 (d) z = 2

Q 6. The lines and are perpendicular to each other. Then λ is equal to

(a)  (b) 4 (c)  (d) – 4

Q 7. If the lines and are parallel to each other then the value of the pair (λ, μ) is

(a)  (b)  (c)  (d) none of these

Q 8. The angle between the lines and is

(a)  (b)  (c)  (d) 0

Q 9. If are not equal, then point of intersection of the lines and is

(a) (α – α’, β’, γ – γ’) (b) (α + α’, β + β’, γ + γ’)

(c) (αα’, ββ’, γγ’) (d) none of these because they are nonintersecting

Q 10. The equation of the straight line passing through the origin and perpendicular to the linesandhas the equation

(a) x = y = z (b)  (c)  (d) none of these

Q 11. The shortest distance between the lineand the y-axis is

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

Q 12. The equations of the line of shortest distance between the lines andare

(a)  (b)  (c)  (d) none of these

Q 13. The projection of the line segment joining the point (6,-2,1) and the origin on the lineis

(a) 30 (b) 6 (c) 5 (d) none of these

Q 14. If A = (p, q, r) and B = (p', q', r') are two points on the line Ax = uy = vz such that OA = a, OB = b then pp' + qq' + rr' is equal to

(a) a + b (b) ab (c)  (d) none of these

Q 15. The number of real values of k for which the linesand are intersecting, is

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

Q 16. The distance between the linesandis

(a)  (b)  (c)  (d) none of these

Q 17. The point A(3, -2, 4) is shifted parallel to the lineby a distance 1. The coordinates of P in the new position are

(a)  (b) (3 + ,3,2) (c) (3 - , -1, -4) (d) none of these

Q 18. The image of the origin in the line is

(a)  (b)  (c)  (d) 

Q 19. The distance of the point (1,2, λ) from the lineis 2. Then λ is

(a)  (b)  (c) 1 (d) nonexistent

Q 20. If the lines and are concurrent then

(a) h = -2,k = -6 (b) h =, k = 2 (c) h = 6, k = 2 (d) h = 2, k = 

Q 21. The number of real values of k for which the lines and are coplanar, is

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

**Type 2**

**Choose the correct options. One or more options may be correct.**

Q 22. A point on the lineat a distance from the origin is

(a)  (b) (1, 2, –1) (c)  (d) (–1, –2, 1)

Q 23. The direction cosines of a line passing through the origin and cutting the line at cos–1are

(a)  (b)  (c)  (d) 

**Answers**

1b 2c 3a 4a 5b 6d 7c 8a 9b 10a

11d 12c 13b 14b 15d 16c 17a 18c 19a 20d

21a 22bc 23ad