**Section - B**

Q.1 Find the Fourier Series for the function (4)

-π ≤ x ≤ π

Using the above series show that

1+ + + ... =

Q.2 Find all eigen values and one eigen vector (4)

Q.3 Obtain equation of the plane through point (2, 4, 5) and perpendicular to the line (2)

Q.4 Find the angle between the planes x + y = 1 and x + z = 1 (2)

Q.5 Solve any four. (2 marks each.)

a. Examine the convergence

1. Find the equation of plane through A( 1,0,-1), B (2 ,-1, 1), C (1, -1, 2)
2. Calculate the determinant of the following matrix

1. Find the point where the line

intersects the plane 3x + 2y + 6z = 6

e. Find region of convergence for power series

f. Find rank of the matrix

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