Course Code: 1MSCP1
Course: Mathematical Physics
Credit: 3
Last Submission Date: April 30 (for January Session)
October 31, (for July session)

Max. Marks:-30
Min. Marks:-11

Note:-attempt all questions.

Que.1 Write the Bessel's function and also find the solution of bessel's function $J_n(x)$.

Que.2 Prove that $J_{1/2(x)} = \sqrt{2/\pi x}\ sinx$

Que.3 Write the properties of Laplace trans form.

Que.4 Fine the Fourier transforms.

Que.5 Write the properties of green's function G (x,y) and prove it.

Que.6 Solve the differential equation $x^2\frac{d2\ \psi}{dx2} + 2x\ \frac{d\psi}{dx} = x^2$

Que.7 Evaluate the following integral using Cauchy integral formula.

$\int \frac{4-3z}{cz(z-1)(z-2)}$ dz, where c is the circule (z) = $3/2$.

Que.8 Find the sufficient condition for f (z) to be analytic

show that f (z) = z^3 is analytic in the entire

Z- plane . by the Cauchy Riemannequation.