Assignment.

1) Form P.D.E.

(i) $z = (x+a)(y+b)$

(ii) $z = A e^{-p^2 t} \cos px$

(iii) $z = e^{mx} \phi(x+y)$

(iv) $z = f(x+ay)$

2) Solve the following P.D.E.—

(i) $zp - zq = x+y$.

(ii) $p - q = \frac{z}{(x+y)}$

(iii) $xzp + yzq = xy$.

(iv) $(x^2+y^2)p + 2xyq = z(x+y)$.

3) Find the General complete soln/Integrals of following eqns —

(i) $q = (z+px)^2$

(ii) $p^2+q^2-2px-2qy+2xy=0$.

(iii) $(D^2-DD'-6D'^2)z = \cos(2x+y)$

(iv) $(D^3+D^2D'-DD'^2-D'^3)z = e^y \cos 2x$.

(v) $(D+1)(D+D'-1)z = e^{2x-y}$.

(vi) $(D^2-D'^2+D+3D'-2)z = x^2y$.

4) Solve the following P.D.E —

(i) $(D^2+3DD'+2D'^2)z = 2x+3y$.

(ii) $r+s-2t = (2x+y)^{1/2}$