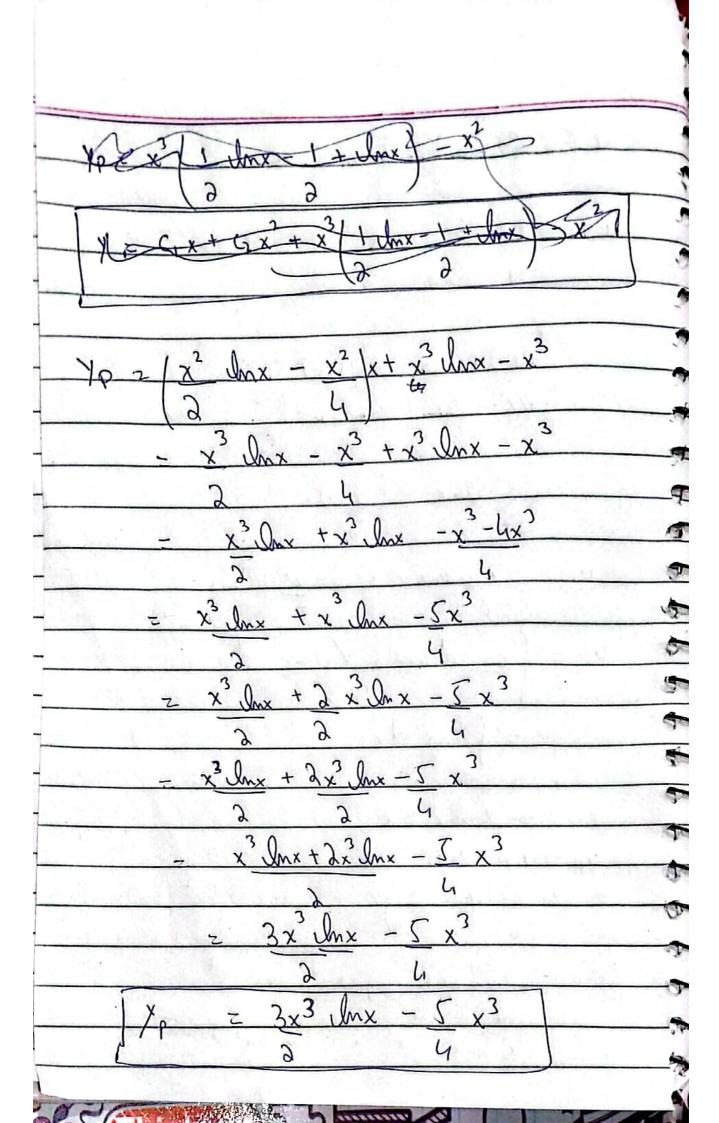
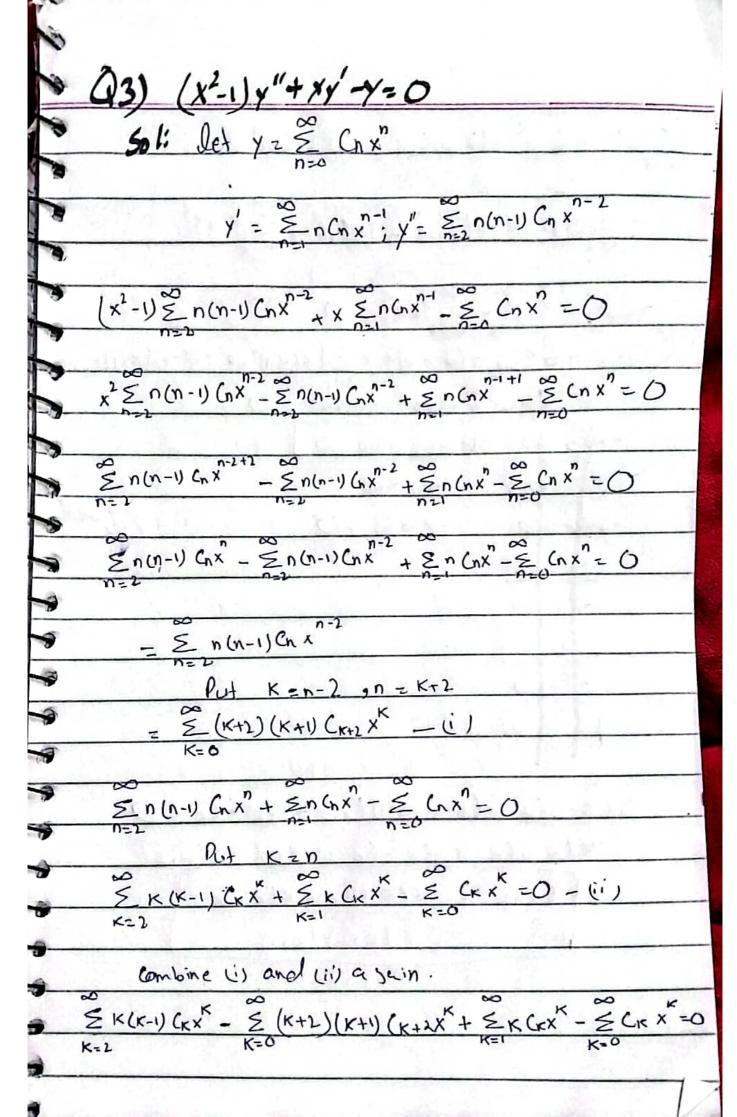
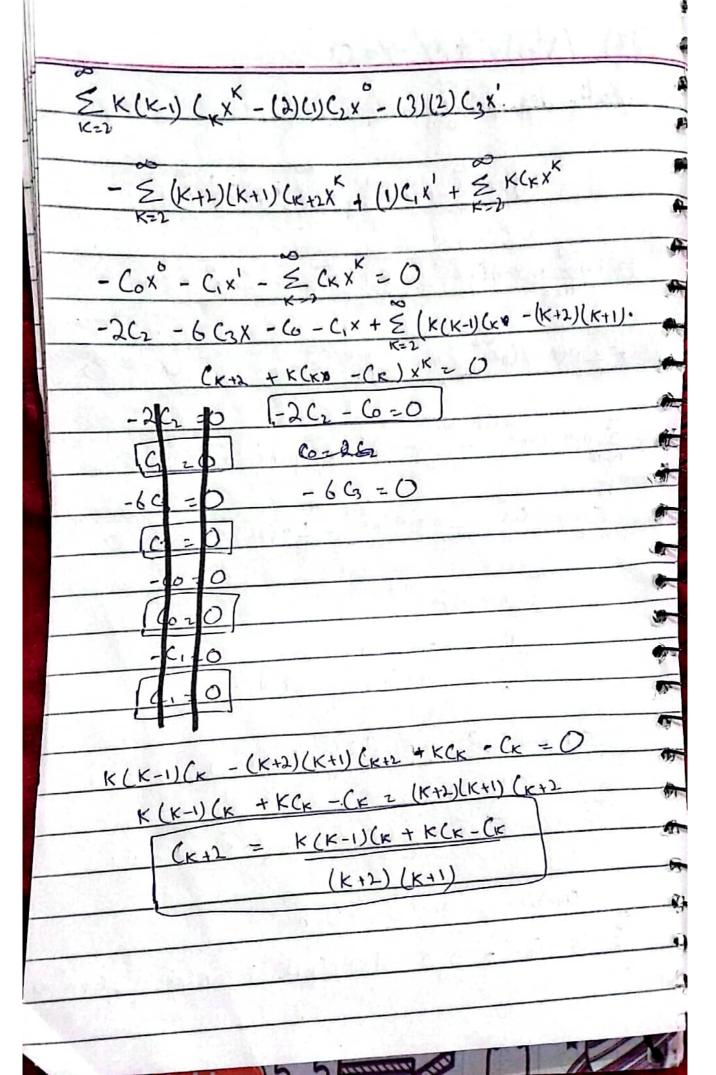


, du= Yx dx du=xdx, v=x2 udv= uv- /vdu  $\frac{\ln x \cdot x^2}{2} - \left(\frac{x^2 \cdot 1}{2} \right) \frac{dx}{x}$  $=\frac{x^2}{2}\left(\frac{1}{x}\right)$ 00000 × dnx dx /lnx-1/x  $\frac{x^3 \ln x - x^3 + x^3 \ln x - x^2}{x^3 \ln x - x^2}$ 



 $y = y + xyp = C_1x_1 c_2x^2 + \frac{3}{3} x^3 ln x - 5x^3$ 

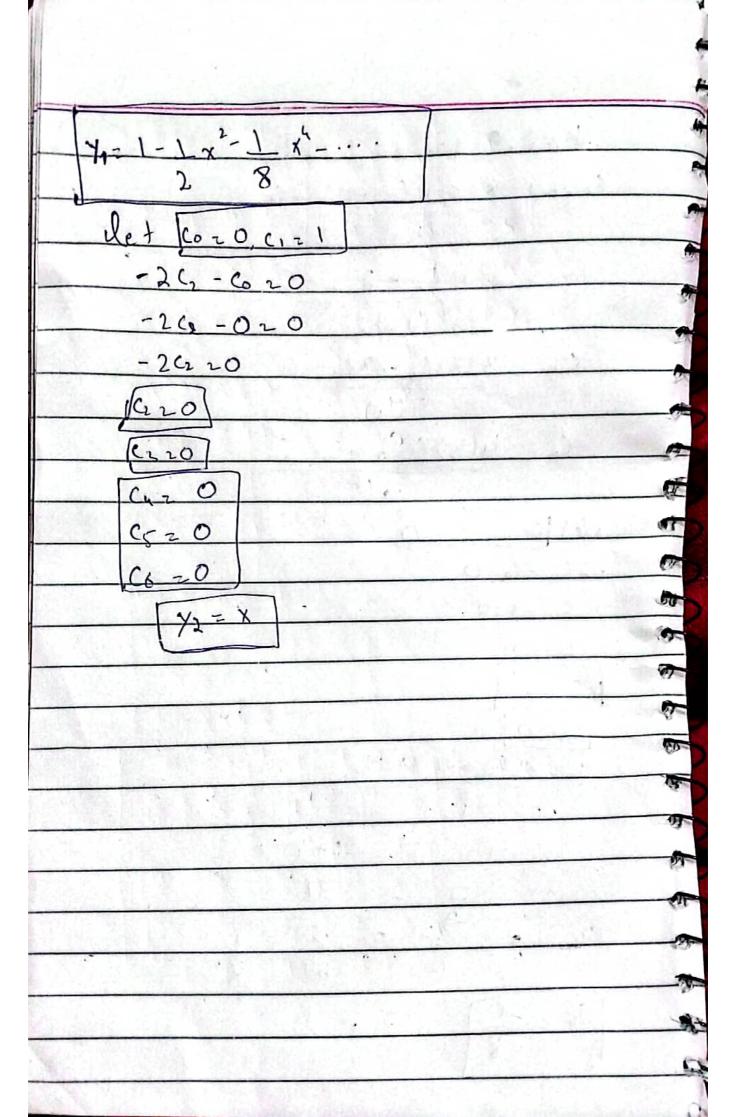




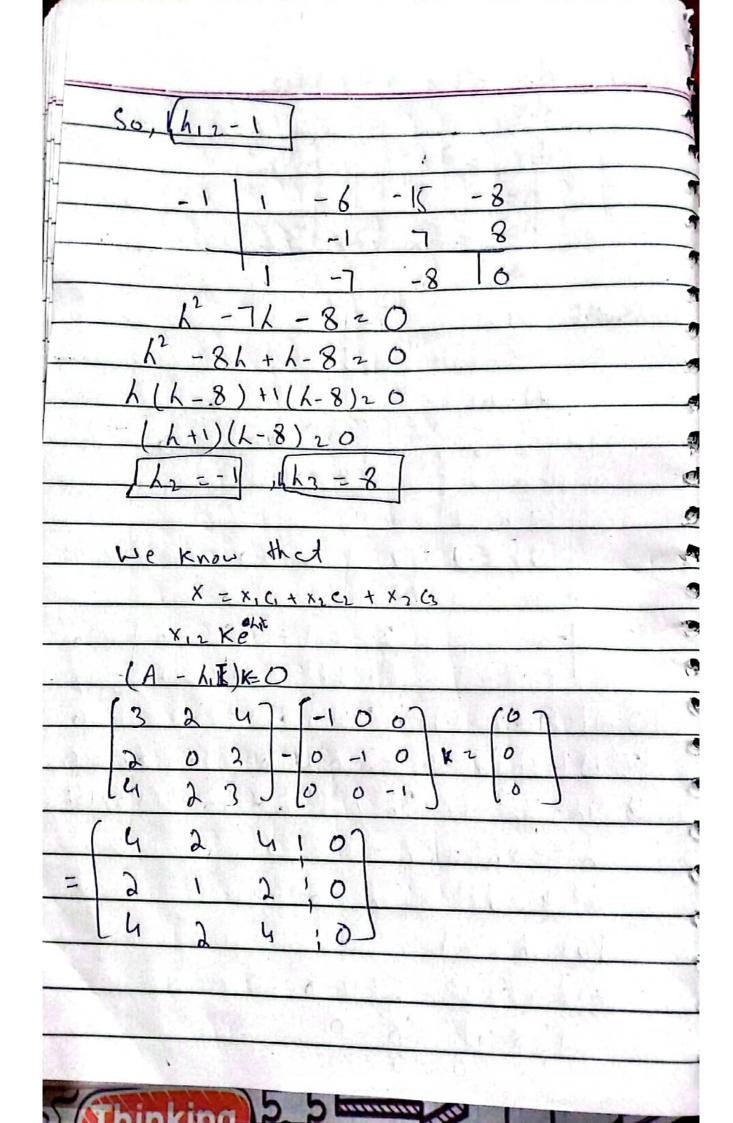
K=2,3,4,... (x+22 K(K-1) (x + K(K - CF (K+2)(K+1) Cn = 2(1)(2+2(2-C2 4(3) C5 - 3(2)(3 +363 -63 5(4) C6 = 4(3) C4 + 4 C4 - C4 6(5) -202 - 120 -26=1 C12-1/2 (320 Cy = 2(-1/2) + 2(-1/2) - 1/2 12 -1-1- = - - A+1/2 -3/2 12 = - 3 = - 1 12 24 8 C1 = -1

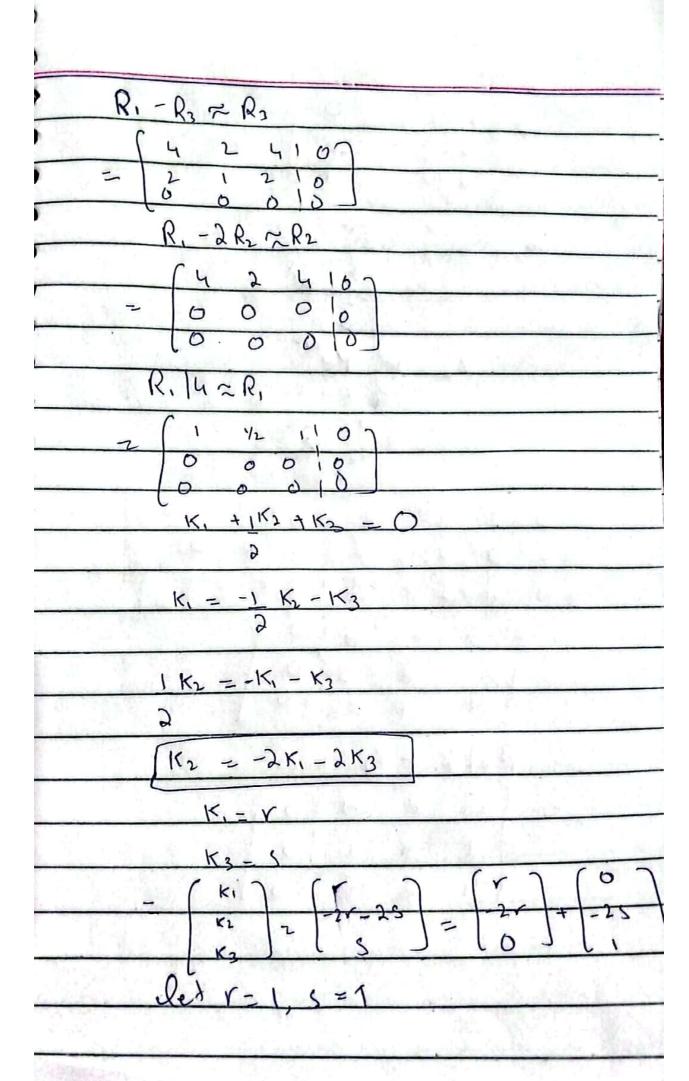
0

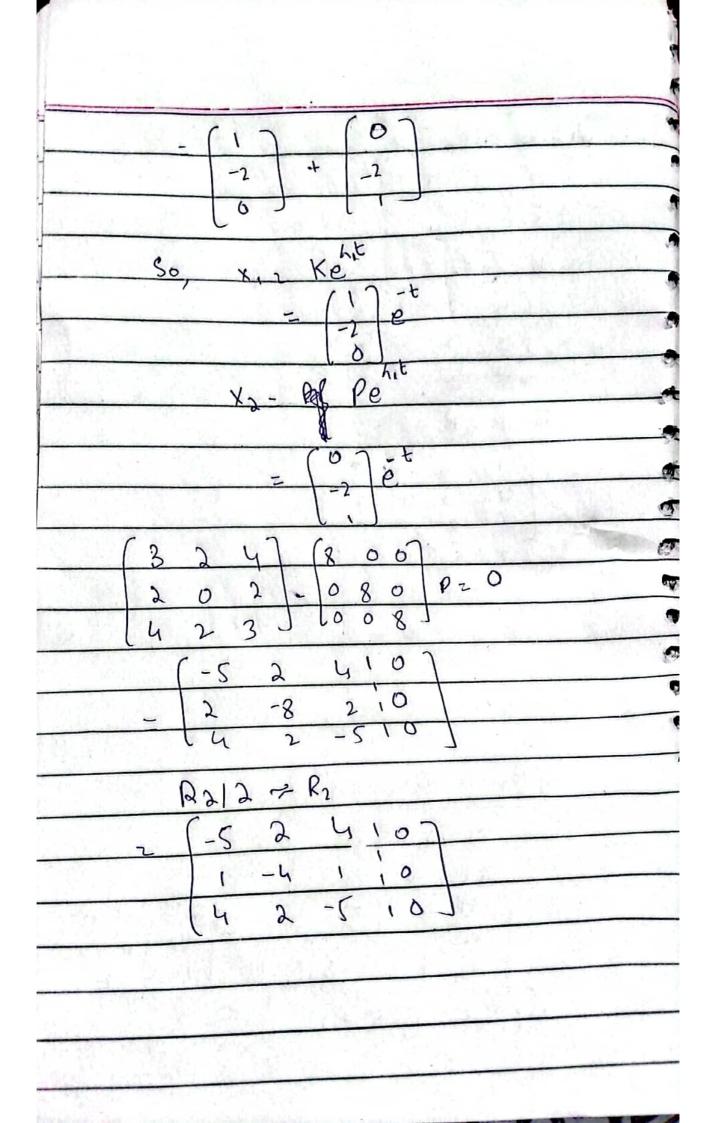
O



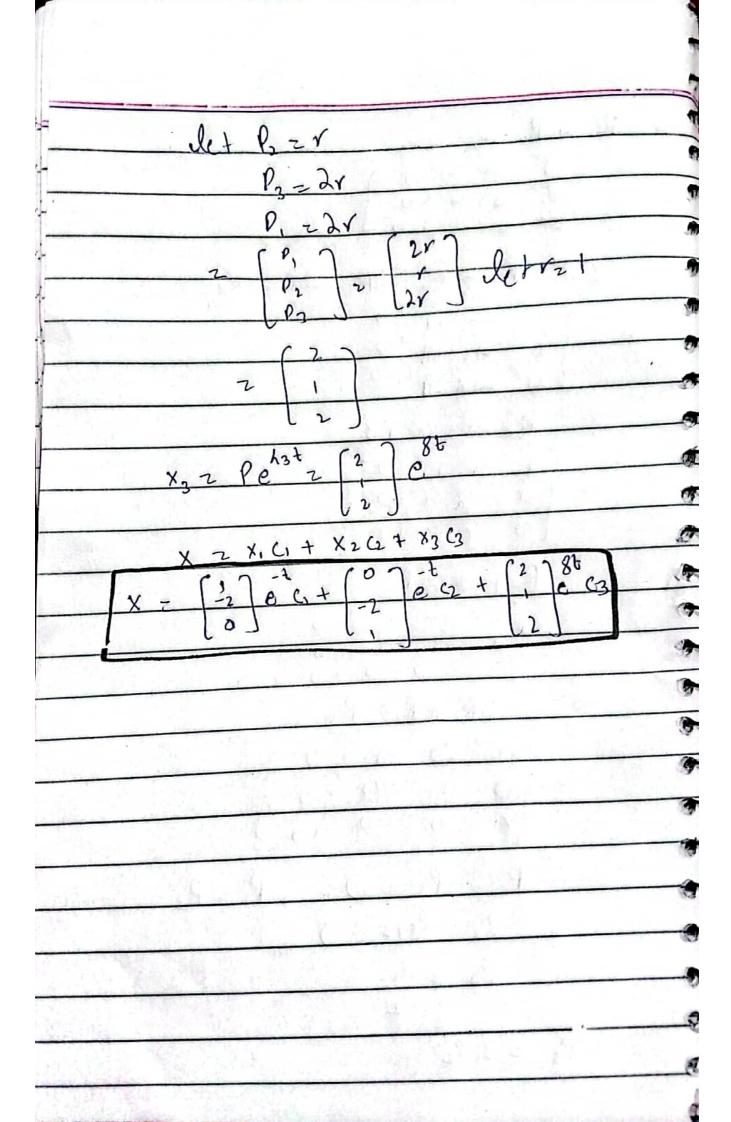
4 6 6 dx = 3x + 2y + 42 (14) \* 422 9x = 3x 10 de = 6x +2y +32 dz 18 401: Az A-KI 400 o h 7-4 2 4 2 3-4 (3-L) -L 2 -2 2 2 +4 2 -L (34) ((L) (3-L)-4) - 2 (2(3-L)-8) + 4 (4+4L) 20 (3-h) (-3h+h2-4) -2(6-2h-8)+16+16h 20 -0-91+362-12+362-13+46+4+4+16+16K20 -63+662+156+820 13 1 - 662 - 156 - 820 Put Lz-1 (1)3 - 6(-1)2 -15(-1)-8 20 -X-6+18-820







3 4 4 6 E R2 ;4R, -R3 R2 - R3 ~ R3 -18 9,0 0010 R21-18 2 R2 0 4R2 + R, ~ R, 0 -1 10 0 - P312 = O P2 = P3 = 2 P2 P3



Head Equations We know that Sol: do = XT' dt. let U(x,t)=XT -(i) where vis temperature, x is the Position and t is time. Put 20 = X"T, and du in Head equation Separation of variable we got KT

y' mx T' mt
$X' = me^{mx}$ , $T = me$ $Y'' = m^2 m^2$ $T'' = m^2 e^{mt}$
$m^2 + h^2 = 0$ , $m + Kh^2 = 0$
$m^2 = -k^2$ $m = -Kk^2$
mzthi -Kit
V 6 1-11-10 000 ble: T= C2P
Put x and T values in eq. (i)  = (C1C3 COSAX+C2SINAX).C3E-KA2t  - (C1C3 COSAX+C3SINAX).E3E
- 10.005 Axt Cosin Ax) C3 E KA2t
- (C, C) coshx+ cosin Lx)e
CIGN TO ANNO MENTERS
C2 C2 Z B
= (A soshx + Bsin Ax) e - Liv
(ii) eq. is the seneral equation of
40t. Know out given condition
to get the pasticular equalion for
Hoof.
$U(x,t) - (A \cos hx + B \sin hx) e^{-Kh^2t}$
Apply () condition
U(0, t) = 0 = (H (050) \ (K)^2 t
$\frac{U(0,t)-D-(A\cos(0)+B\sin(0))e^{KAL}}{O-(A\cos(1)+B(0))e^{KAL}}$
OzAe
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minus (

