NAME: OMAJUGHO SPENCER JEMINE

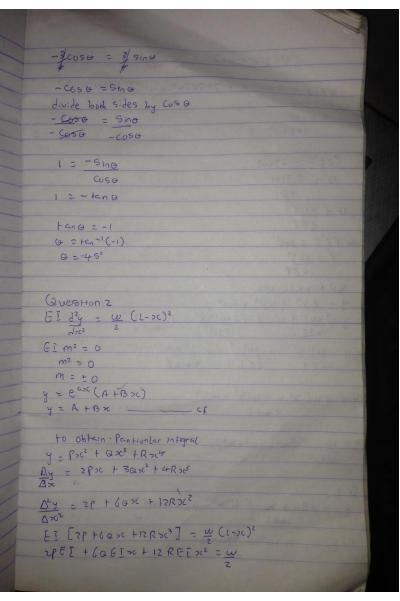
MATRIC NO: 15/ENG06/054

DEPARTMENT: MECHANICAL ENGR

COURSE: ENG381

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Question 1
 m2 + 4m +5 = 0
   -6 = 1/62 - 4ac
   -4+ \((4)^2-4 x 1 x5
m_1=-2+j m_2=-2-j
(F-- y = e-2 (coso + Osino)
D. --- y = Couse + Dsine
 dy = - Csha + Dcusa
 23 = - Ecose - Dsine (111)
Substitute (iii) and ii) into i)
- ( coso - Dsino + 4 C-(sino + D coso ) + 5(coso +
DS.ng) = 65ine
- (coso - Osino - 4 Csino + 40 cuso + 5 ccoso + 50 sino
= 65in0
- (coso +40coso + 50coso - 0 sind -4(sind + 50sino
= 6 Sin 4
  (050 (-C+40+50) + Sind (-D-4C+50) = (Sind
(058 (40+4c) + Sino (-4c+40) = (sina
  Comparing Coefficient
  40+40 = 0
  -40 +40 =6
```

40+40=0	-300
-4C +40 = 6	+
4c 4c = -6	-co
80 = -6	divide
C = -6	- <u>Cos</u>
9 21 11 2 11 12 2	- 505
C = -3	
C = -3 4	1 =
or Sub -3 forc in Equation (1)	
	12
40 + 4x(-3) = 0	
40+-3=0	+ an c
40-3 20	(c
- 40 = 3	0 =
Divide both side by 24	
<u> </u>	
4 4	Quesi
0 = 3	E [224
(I) Entitle stable a second	720
y = Ccosa + D Sma	E I m2
1. y = -3 Cose + 3 9n0 mm	m²:
	m =
65 = e-20 (-3 (050 + 345 me) + 3 (050 + 345 mb	y = e
at 0=0	y = A
and dy = 0 12 1 4 2 2 2 1 4 1 2 2 2 1 1 1 1 1 1 1	
do	to
dy = e-20 (-(9)no + D(050) + ((050 + D5)no) - 20-20+	y = P:
Te 3 5ine + 3 COSG	Ay =
alo= 00 and dy = 0	D'4
	D-05
0 = 3 sin + 13 cos +	EI
4 (4 × 1) × (4 ×	zpE
	No. of Street, or other Persons



(l2-2150 + >c2)	
11 Per 3 12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1
4961 + 120EIX + 24REIx2 = w (12-21xc+x2)	- 0
24REI = CO	+
R = W 246I	A .
2481	Δη
QEI = - zwl	7/20
a = -2wl	C
1251	
Q = -WI	
GET GET	
4 PEI = LOL2	P- 11
C = w12	Parti
451	y =
and shrove in the	
y - P > c2 + Q > c3 + R > c4	4 1
g = (w/2) > 12 + (-w/) x3 + (w/2461) x4	y = 1 24
4 = w2 x2 - w) x3 + 111 x4	
y= wl 202 - wlx + wx4 451 651 2461	y= w
	0
9 7 = 6 W/2 x2 - 4 w/x3 + wxc4	When
2461	407
	y= W1
y=w (2222-6263+x64)	
246]	4-11
	246
G·S	-
	y = w
9 = A + B > c + W [662 > c2 - 462 > c3 + > c4]	96
9ty=0, >c=0 dy=6	
qx dx	

0 = A + 0 + 0

Azo

 $\Delta y = B + \omega \left(12 L^2 \pi - 12 L \pi c^2 + 4 x^3 \right)$ $\Delta \pi = \frac{1}{24} \left(12 L^2 \pi - 12 L \pi c^2 + 4 x^3 \right)$

0=8+0

B=0

Particular Solution

y = W (612 x 22 - 46 x 22 + 304)

2461

y- wx² (61² - 4 (xc + xc²)

y= w>c2 (>c2-41x + 612)

When scal y= wl2 (12-412+612)

y= w12 (312)

y= w19 8EI