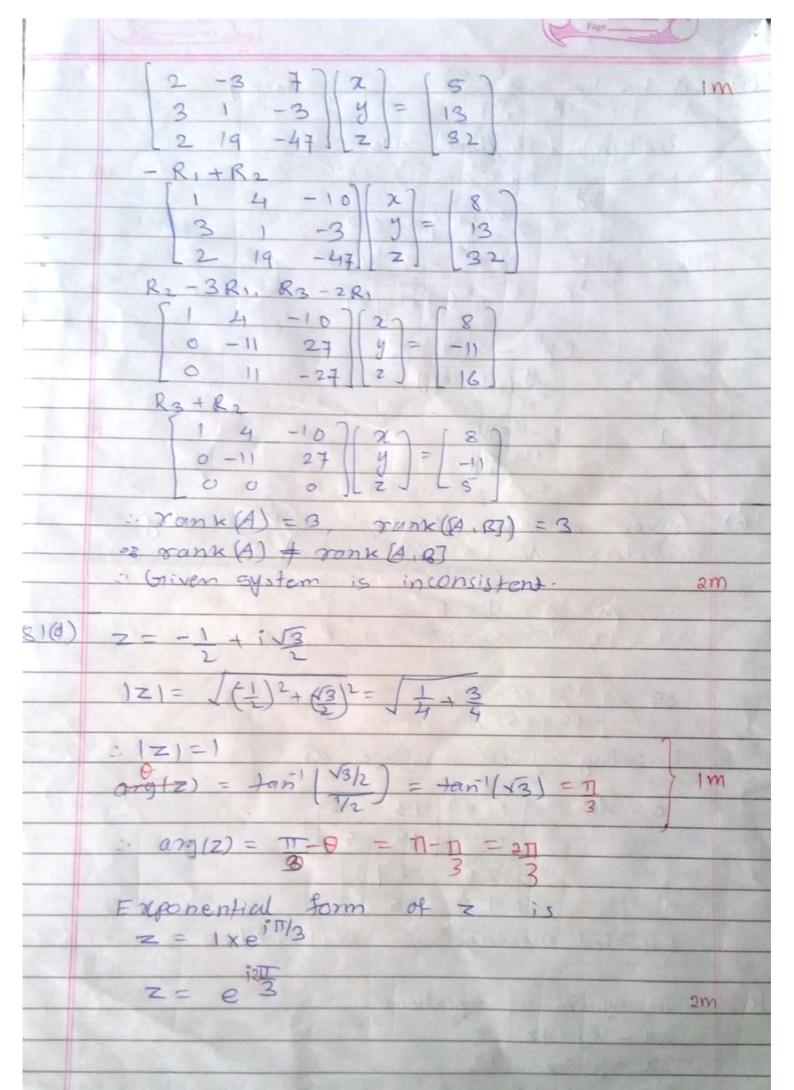
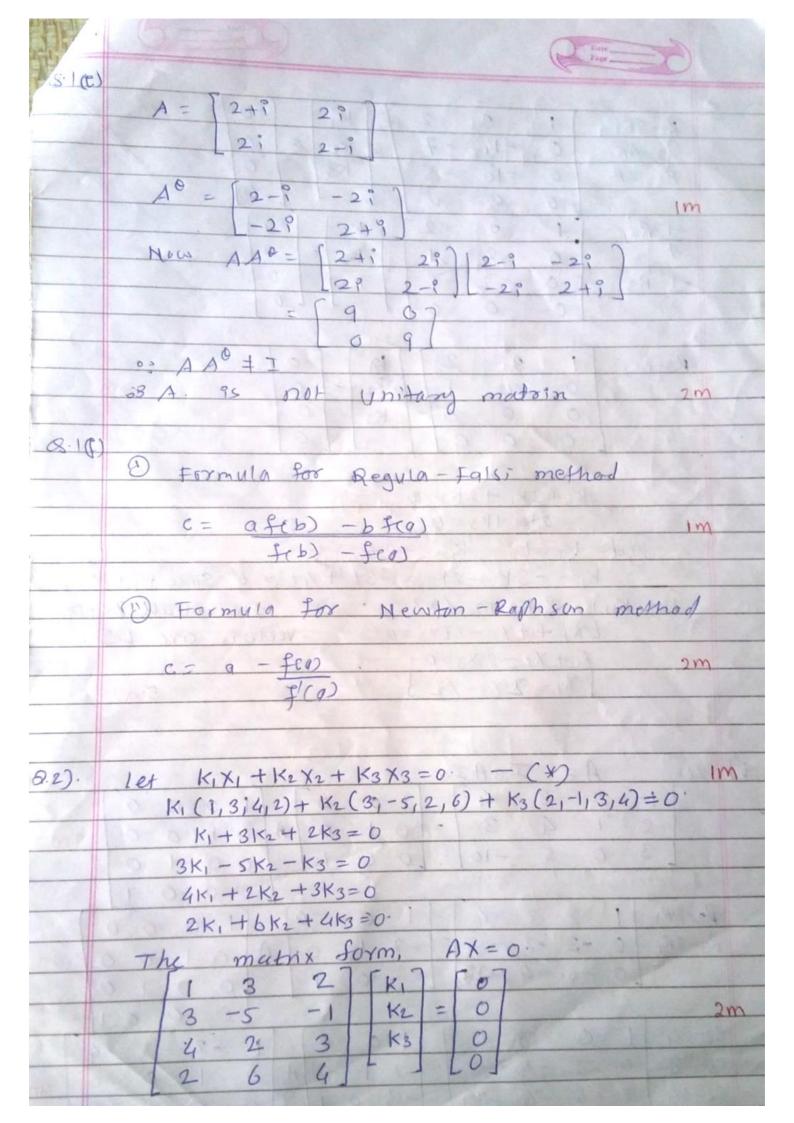
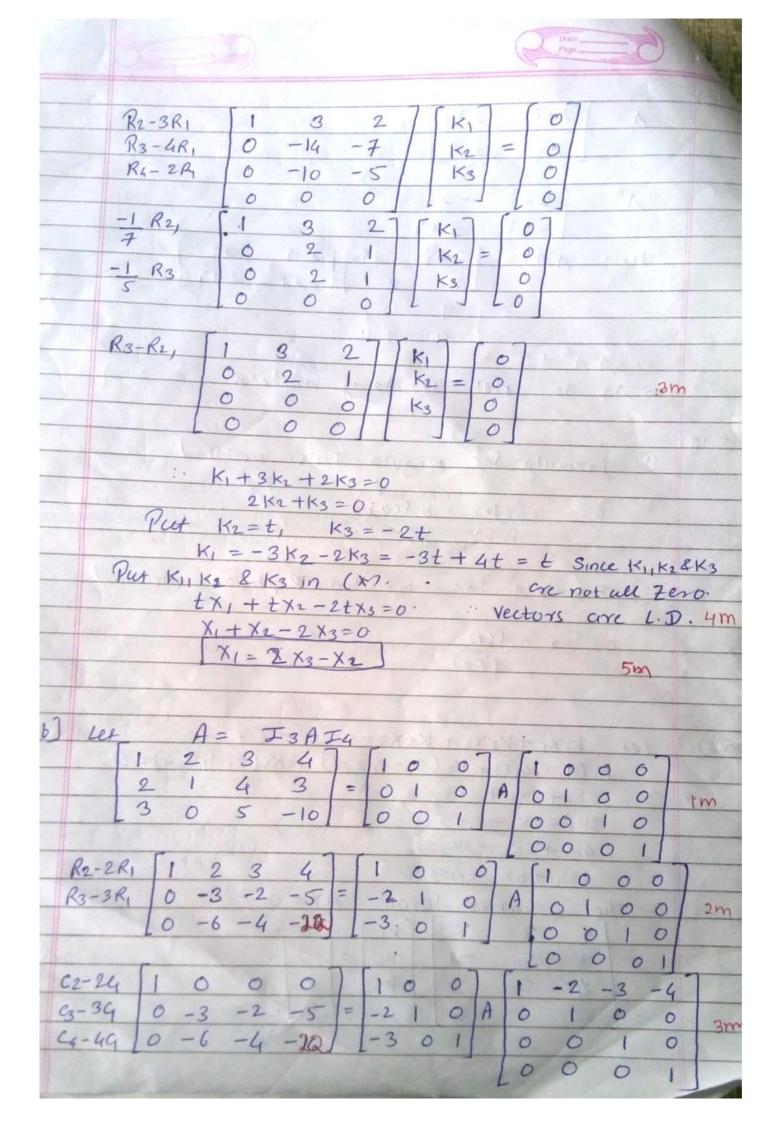
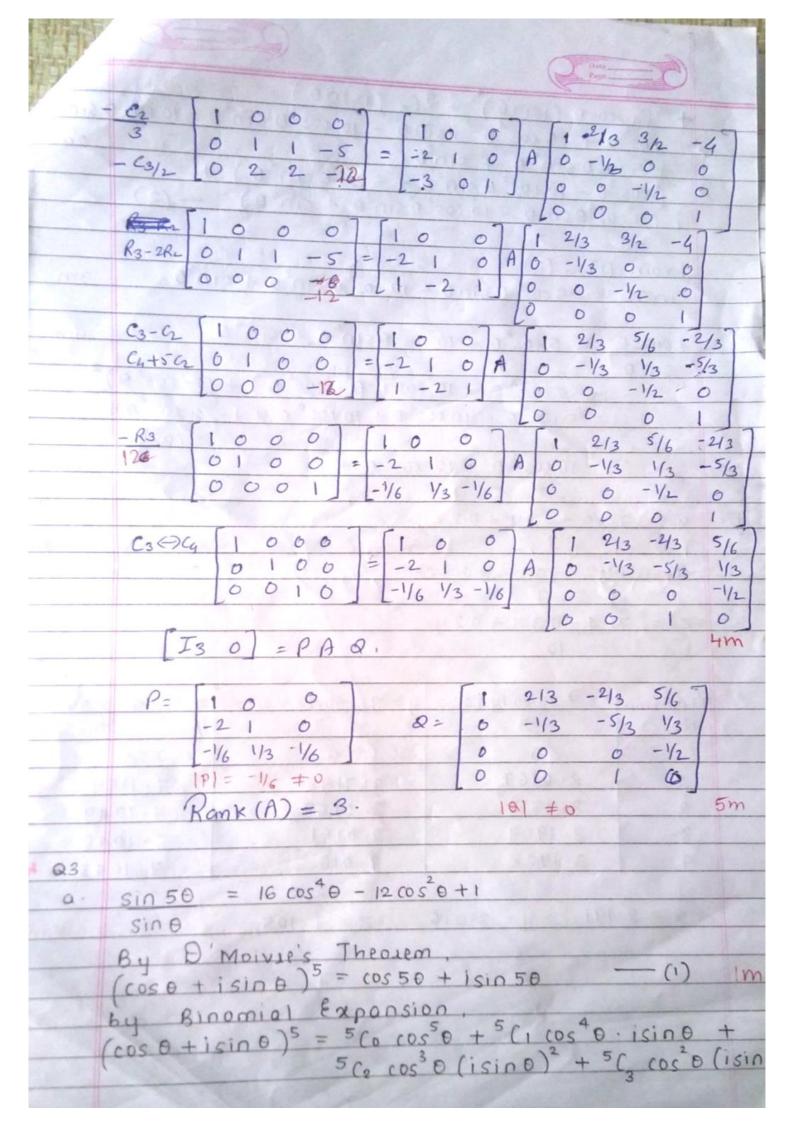
FE AM-1 IAT 1 SOLUTION

FE SEM I TAT 1 SOLUTION Since $x^2 - y^2$ Applying 1' Hospital's onle
8.1(a) Let $L = \lim_{x \to y} \alpha^{0} - y^{x}$ (o form) Applying 1' Hoppifal's ovie $L = \lim_{x \to y} y^{x^{0-1}} - y^{x} \cdot \log y$ $\chi \to y$ χ
Therefore 1' Hopital's over $ \begin{array}{cccccccccccccccccccccccccccccccccc$
Therefore 1' Hopital's over $ \frac{1}{x} = \lim_{x \to y} yx^{-1} - y^{x} \cdot \log y $ $ \frac{1}{x} = \lim_{x \to y} yx^{-1} - y^{x} \cdot \log y $ $ \frac{1}{x} = \lim_{x \to y} yx^{-1} - y^{x} \cdot \log y $ $ \frac{1}{x} = \lim_{x \to y} yx^{-1} - y^{x} \cdot \log y $
$\frac{1}{x \rightarrow y} = \frac{1}{x} \left(\frac{1 + \log x}{1 + \log x} \right) - 0$
$\frac{1}{x+y} = \frac{1}{x} \left(\frac{1+\log x}{x}\right) - 0$
2 (1+(0gx)
2 (1+1092)
2 (1+1092)
= 889-1- 42 rolls
22 (1+ (n) 2)
2 = 1 - 1009 2m
)+ logy 2m
8.1(b) Given message MOVE and encoding
matrix A= [11]
011
13 15 22 5
$B = \begin{bmatrix} 13 & 22 \\ 15 & 5 \end{bmatrix}$
Encoding given message as
C = AB = [1] [13 22]
[01] [15 5]
= (28 27)
15 5
Encoded message is 28,15,27,5. 2m
QICO (inches of equations
8.10 Given system of equations $2\pi - 3y + 7z = 5$
372 +y-37 = 13
2x+194-47z=32
writing in matrin form









```
+ \frac{5}{6} (4 \cos \theta (i \sin \theta)^{4} + \frac{5}{6} (i \sin \theta)^{5}
= \cos^{5} \theta + \frac{15}{5} \cos^{4} \theta \cdot i \sin \theta - 10 \cos^{3} \theta \sin^{2} \theta - 10 \cos^{3} \theta \sin^{3} \theta
  + 5 cos 0 sin 0 + sin 0 i
  = (cos 0 - 10 cos 0 sin 0 + 5 cos 0 sin 0) +
     (5 cos + sin 0 - 10 cos + sin 0 + sin 0) - (2)
 from (1), (2)
  sin50 = 5 cos 0 sin0 - 10 cos 0 sin 0 + sin 0
                                                                  3m
 : sins0 = 5'cos40 - 10 cos 0 sin 0 + sin40
 " sin o
            = 5\cos^4\theta - 10\cos^2\theta (1-\cos^2\theta) + (1-\cos^2\theta)^2
            = 5 \cos^4 \theta - 10 \cos^2 \theta + 10 \cos^4 \theta + 1 - 2 \cos^2 \theta + \frac{1}{2}
            = 16 cos 10 - 12 cos 0 + 1
  x = 7.85 + 0.14 + 0.2 Z
  4 = 19.3 - 0.1 x +0.3 z
 Z = 71.4 - 0.3 \% + 0.2 \%
Tteration x = 4.85+0.14+0.22 4=19.3-0.1x+0.32
                                                       z = 71.4-0.3x+0.24
  NO.
                                                                10
                                                                       Im
                 0
                                       0
                                                           0
                                                                       2m
              2,6167
  1.
                                   2.7198
                                                           7.1159
                                                                       3m
              3, 1817
                                    3.0167
                                                       7.1049
  2.
              3.1909
                                    3.0161
                                                           7.1046
  3.
              3.1908
                                    3.016
                                                          7.1046 4m
  4.
1, 9 = 3.191
                 , 4 = 3.016 , Z = 7,105
```

5m