OKURU MERCY UBUGHEVWAN

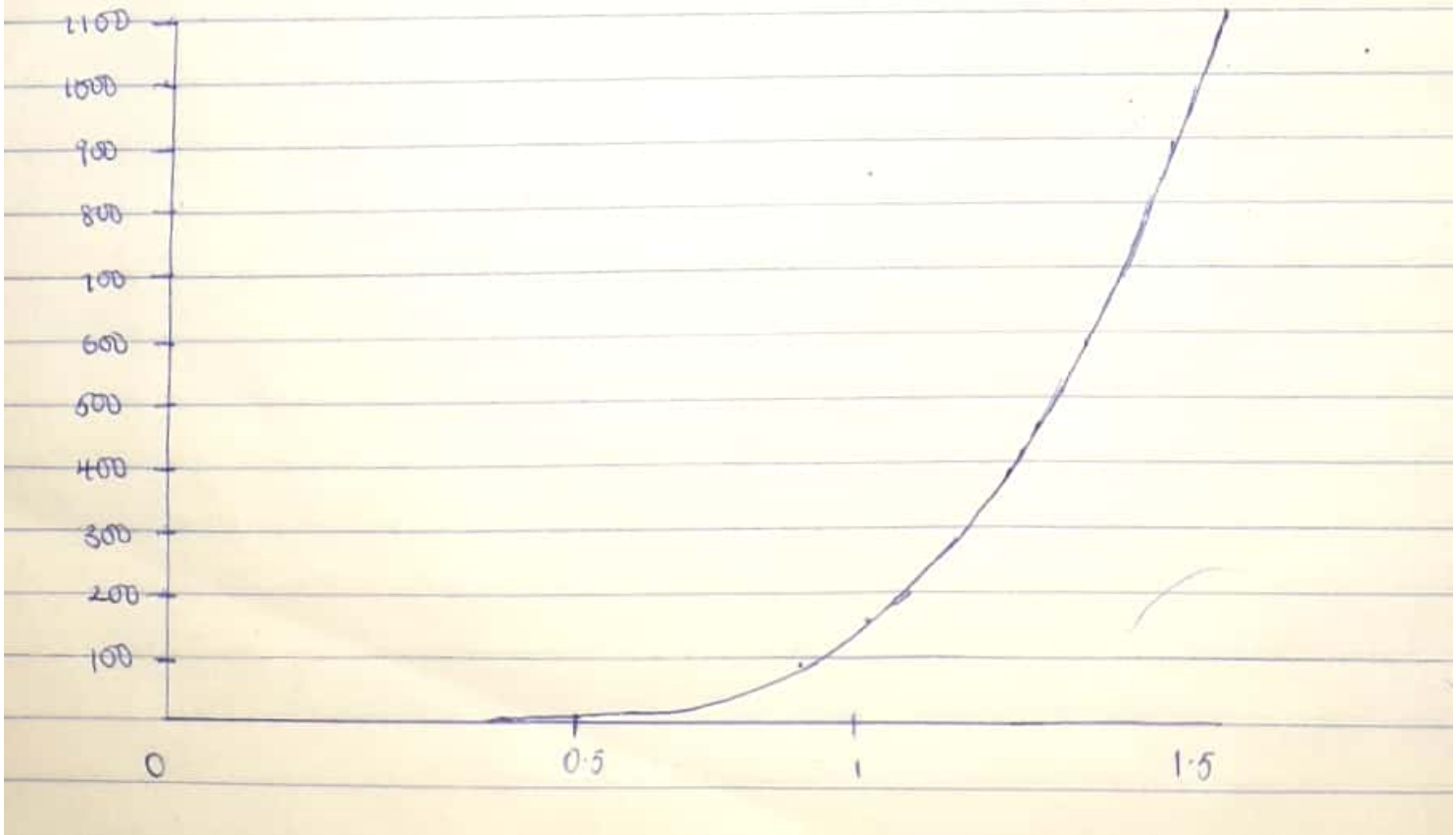
17/MHS07/022

BIOMEDICAL ENGINEERING

ENGINEERING MATHEMATICS

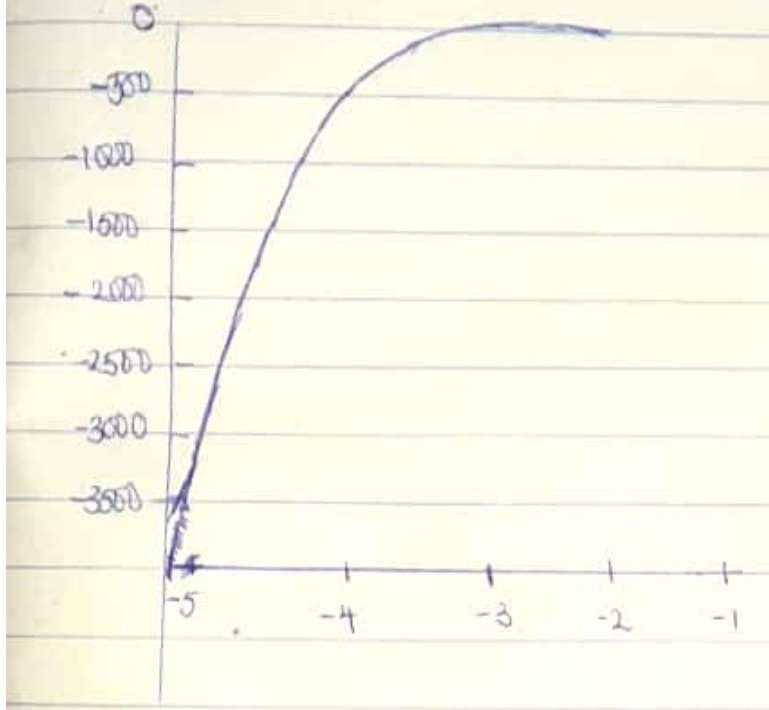
(4) (a) Command window

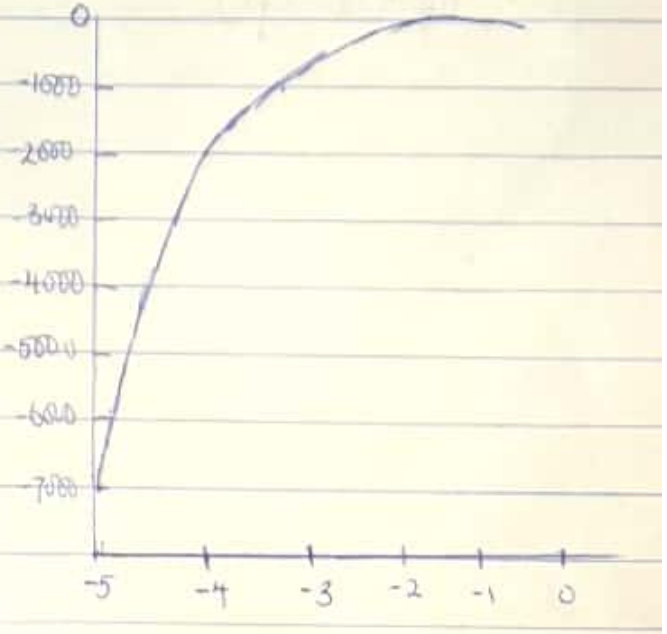
```
clear
clc
syms n(t)
eqn = diff(n,t,2) - diff(n,t) - 12*n == 144*t^3 + 12.5
deqn = diff(n,t)
pretty = [n(0) == 5, deqn(0) == -0.5]
mercy = dsolve(eqn, pretty)
tn = [0:0.1:1.5]
Okuru = subs(mercy, tn)
plot(tn, Okuru)
axis tight
grid on
grid minor
```

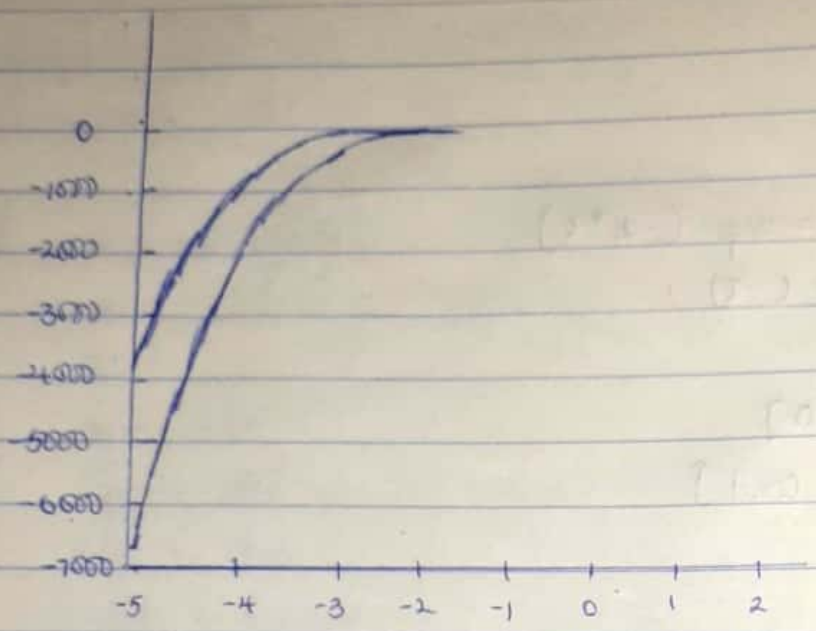


(4b) command window

```
clear
clc
syms y(t) x(t)
Matrix = diff(y, t) - 2*x == exp(-2*t)
m1 = diff(x, t) + y == exp(-t)
m2 = [ola, ola 2]
cond = [y(0) == 0, x(0) == 0]
[yeq xeq] = dsolve(ola 3, cond)
figure (1)
fplot (yeq)
grid on
grid minor
figure (2)
fplot (xeq
grid on
grid minor
```







(4c) command window

```
clear
cls
syms t k a w
ft = k*exp(-a*t)*sin(5*w*t)*cos(3*w*t)
fs = laplace(ft)
```