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COURSE: B.Sc(hons.)Physics

ROLL NO.: 81

**SOURCE CODE:**

clc;

clear;

clf;

n=input("order of functions=")

k=input("level of accuracy [k]=")

i=0;

x=0:0.01:10

while i<=n

p=0

for j=0:k

a=factorial(j)\*factorial(i+j)

b=(-1)^j

m=i + 2\*j

z=(x/2).^m

p=p+((b/a)\*z)

end

disp(p,"J["+string(i)+"]=")

xlabel("x","fontsize",5)

ylabel("J","fontsize",5)

a=gca()

a.x\_location="origin"

a.y\_location="origin"

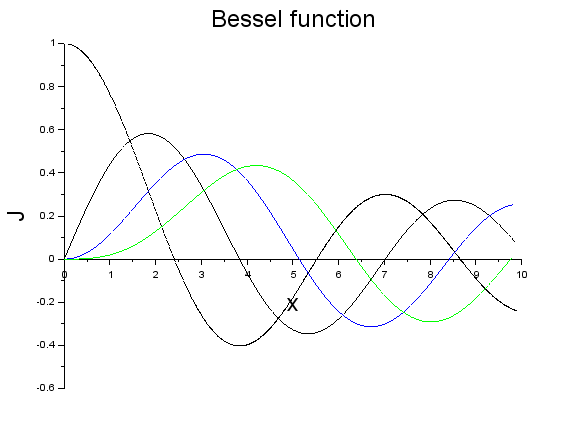
title('Bessel function','fontsize',5)

plot2d(x,p,i)

i=i+1

end

**OUTPUT:**

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