**OR LAB TEST 2**

**19PW13**

1)

>> syms x y

>> z = exp(x^2)\*exp(6\*y) + cos(x+3) - exp(x)\*log(y)

z =

cos(x + 3) - exp(x)\*log(y) + exp(x^2)\*exp(6\*y)

(i) diff(z,x)

(ii) diff(z,y)

(iii) diff(z,x,2)

(iv) diff(z,y,2)

(v) diff(diff(z,y),x)

(vi) diff(diff(z,x),y)

(vii) diff(z,y,4)

(viii) diff(diff(diff(z,x),y),x)

**2)**

syms s

f1=((s^2)/((s^2 + 16)^2))

subplot(1,2,1);

fplot(f1)

f2=ilaplace(f1)

subplot(1,2,2);

fplot(f2)

**3)**

syms y(x);

(i)

ode1 = diff(y,x,2)-3\*diff(y,x)+y==0;

cond1=y(0)==1;

cond2=subs(diff(y,x),x,0)==4;

conds1=[cond1 cond2];

sol1(x)=dsolve(ode1,conds1)

(or)

%in evaluated form:

ode1 = diff(y,x,2)-3\*diff(y,x)+y==0;

cond1=y(0)==1;

cond2=subs(diff(y,x),x,0)==4;

conds1=[cond1 cond2];

sol1(x)=eval(dsolve(ode1,conds1))

(ii)

eqn=diff(y,x,2)+8\*diff(y,x)-(7\*y)==0;

cond1=y(0)==2;

cond2=subs(diff(y,x),x,0)==7;

cond=[cond1 cond2];

soln(x)=dsolve(eqn,cond)

(or)

%in evaluated form

eqn=diff(y,x,2)+8\*diff(y,x)-(7\*y)==0;

cond1=y(0)==2;

cond2=subs(diff(y,x),x,0)==7;

cond=[cond1 cond2];

soln(x)=eval(dsolve(eqn,cond))