DIGITAL ASSIGNMENT – II

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16BIT0200

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**Solution:**

Here A.E. is:

So the C.F. is

Assume P.I. as

Substituting these values in the equation, we get:

Comparing the coefficients, we get ,

Putting in, we get:

Thus P.I. =

So C.S. is

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**Solution:**

Here A.E. is

D = 2, 2

C.F. =

y1 =, y2 =,

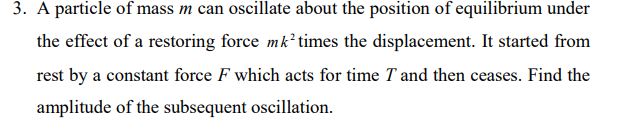
We know

W =

So P.I. =

Cancelling

So C.S. is =



**Solution:**

The force F acting for 0<t<T and ceasing afterwards can be represented by:

Hence the equation of motion of mass m is

Its Laplace Transform is:

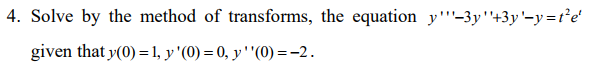
Since initial displacement and velocity are zero,

Taking inverse Laplace transform, we get

, for 0<t<T

and for t>T,

**∴** Amplitude of oscillation is =



**Solution:**

Using Laplace transformation on both sides, we get:

Using the given conditions, we get:

On inversion, we obtain:

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**Solution:**

Let us consider the given equation as (1)

Let us assume the solution of (1) be

Substituting this in eq (1), we get:

or

Where

Let . Then

When , then

Denoting , then

When ,

**∴**

By super-position,