Report

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Energy & Power of Part C:

```
Energy of Z(t) =  Infinity
Power of Z(t) =  0.12045601603624816
```

Comment on Part E:

When we multiplied m(t) * cos (30 pi t) in Time Domain, the result in frequency domain is the Convolution of the two signals.

then we conclude that: Multiplication in Time Domain is Convolution in Frequency Domain.

I wrote the Project in Python and provided Source code of parts in separate files & run main to get:

```
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|Enter ' A ' to get Mode A.      |
|Enter ' B ' to get Mode B.      |
|Enter ' C ' to get Mode C.      |
|Enter ' D ' to get Mode D.      |
|Enter ' E ' to get Mode E.      |
|Enter ' Q ' to Quit Program.    |
--------------------------------
|>>>
```

Figures are separated in each" Part X.PDF" file.