VIT UNIVERSITY
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SCHOOL OF ADVANCED SCIENCES

DEPARTMENT OF MATHEMATICS

FALL SEMESTER 2017∼2018

MAT2002 – Applications of Differential and Difference Equations

L23+L24 Slot

Lab Experiment Wise Questions

Instructions:

(*i*). Format the E-Record as mentioned in the prescribed format uploaded in V-Top Course Page Menu and mention the Register Number, Name, Slot Details, Course Code and Course Title in the first page of the document. Also mention the Register Number and Name in every page of the document.

(*ii*). Submit the soft copy of E-Record for all the following questions as a single PDF document into V-Top Login properly.

Experiment No. – 8

Vertical deflection in swimming pool diving board

1. Write the MATLAB code which computes the Laplace Transform of

$$f(t) = \begin{cases} t^2, & \text{if } t < 2 \\ t-1, & \text{if } 2 < t < 3 \\ 7, & \text{if } t > 3 \end{cases}$$

2. Write the MATLAB code which solve the differential equation $y'' + 2y' + 10y = 1 + 5(t-5)$, $y(0) = 1$ and $y(0) = 2$ using laplace transform.

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