Spring 2023
MTH501
Assignment # 2

Section Incharge: Lubna Mustafa
Due Date: 10-07-2023

Total Marks 10

Instructions

1. The course is segmented into 3 sections, each of which is supervised by a different faculty member. Information regarding the section incharge can befound in the course information section on the LMS.
2. A distinct assignment file has been given to each section, resulting in a total of 3 separate assignment files. The relevant assignment file can be downloaded from the announcement section of the course. It is important to note that studentscan only view the announcements relevant to their respective sections.
3. You will prepare the solution of assignment on Word file and upload at theassignment interface on LMS as per usual practice.
4. Plagiarism in the submitted assignment will lead to a zero grade. Additionally, any student who submits a solution file that is not applicable to their section willalso receive a zero grade.

Question 1: 10 Marks

Find the coordinate vector of A relative to the basis.

$$S = \{A_1, A_2, A_3, A_4\}$$

$$A = \begin{bmatrix} 5 & 2 \\ 3 & 7 \end{bmatrix};\ A_1 = \begin{bmatrix} 1 & 0 \\ 1 & 0 \end{bmatrix};\ A_2 = \begin{bmatrix} 1 & 1 \\ 0 & 1 \end{bmatrix};\ A_3 = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix};$$

$$A_4 = \begin{bmatrix} 0 & 0 \\ 1 & 0 \end{bmatrix}$$