HCT_IT_CF_012

جامعة التقنية والعلوم التطبيقية
University of Technology and Applied Sciences
مسقط
Muscat

University of Technology and Applied Sciences, Muscat, Sultanate of Oman

Department of Supporting Requirements

Sciences and Mathematics Unit

STUDENT DECLARATION

(Semester 1, Academic Year: 2025-2026)

To: Dr. Eman Rashid Al Kindi
HoU, Sciences and Mathematics – Department of Supporting Requirements, UTAS, Muscat
Acting HoU, Mathematics and Computing Skills – PSC, UTAS, Muscat

Through: Mr. Shajidmon Kolamban
Lecturer in Mathematics, Sciences and Mathematics Unit, Department of Supporting Requirements

Course Code	MATH3202	**Date of Submission**
Course Name	Discrete Structures	
Due Date:	**Tuesday, 9 December 2025**	
Assignment Group	Group 6	

Group Assignment Participants			
	Student ID	**Student Name**	**Signature**
1			
2			
3			

We, the signed students of **Advanced Diploma** (Level), belonging to (Section) 2/3 of the (Course Code/Course Title) **MATH3202 – Discrete Structures** offered by the **Supporting Requirements department**, hereby declare that our submission of **Practical Assignment using Python** as requirement(s) for the said course is a result of our own original work except for source materials explicitly acknowledged by proper citations. We also understand that plagiarism is an offense that can lead to disciplinary action depending on the seriousness of the case.

Examiner's Use Only	**Total Marks: 5**	**Tick Where Appropriate:**
First Examiner	**Marks Given**	
		○ **On time Submission**
Second Examiner (if required)	**Marks Given**	
		○ **Late Submission**
Examiner's Comments:		

Shajidmon Kolamban, Email: shajidmon.kolamban@utas.edu.om, Room No: **N315**

a) Let R be the relation represented by the matrix

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

Find the matrix representing

a) R^{-1} b) $\overline{R}$

b) **Practical Exercise:**

Write a Python code for solving the question given in part (a)

- *Enter the matrix by "input" method, if possible*
- *Attach the printout of the codes and output*
- *Upload python code file (.ipynb) in link that provided in MS Teams*

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