IAUT202 PNEUMATICS ASSIGNMENT BRIEF (2025)

NELSON MANDELA UNIVERSITY

FACULTY OF ENGINEERING, THE BUILT ENVIRONMENT AND TECHNOLOGY

DEPARTMENT OF TECHNOLOGY

Pneumatics Assignment

Module Code: IAUT202 (Introduction to Automation)

Date: 08 October 2025

Time: 7 Day

Pages: 2 pgs.

Total: 40 Marks

Lecturer: Mr L Horrmann

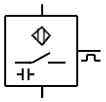
Name: _____Student Number: _____

Question 1:

Draw the symbol for an optical sensor (Retro-reflective) **[2]**

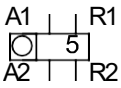
Question 2:

Provide the description of the following switches:



2.1

(1)



2.2

(1)

[2]

Question 3:

Construct a pneumatic circuit, using double acting cylinders, to achieve the following sequence (in series):

C - B - B + 3 second delay A - D+ D- C + A +

The following conditions apply:

- One push button (Start) activates one complete cycle.
- Cylinder C & Cylinder D must use a capacitive sensor.
- Only use limit switches with the normally open contact.
- The circuit design must use the cascading method.
- The circuit diagram must be NEATLY drawn and labelled, including valve port numbers, solenoid labels and limit switch positions. Marks will be deducted for every missing label on the drawing and for untidy work. Use a ruler.

[34]