

COLLEGE OF ENGINEERING & TECHNOLOGY



Department : Mechanical Engineering.

Lecturers : Ass. Prof. Rola Afify

Marks: 40

Course Name : Industrial Hydraulic System

Course Code: ME763E

Date : 14 /06/2023

Final Examination paper

<i>Student Name</i>	
<i>I.D</i>	

Marks

Question	Actual	Available
1		10
2		10
3		10
4		10
Total		40
Lecturer	Name: Rola Samir Afify	Sign
	Date: 06/2023	

FINAL EXAMINATION PAPER

Question One [10M]

- a) Declare how Energy is transferred throughout a Hydraulic System. [4M]
- b) Mention the components of fluid power system and what different between hydraulic and Pneumatic systems. [6M]

Question Two [10M]

- a) Declare Servo Valve Working Principle. [3M]
- b) Hydraulic systems use primarily four types of conductors. Compare between these types. [4M]
- c) A pipe handles a flow rate of $0.002 \text{ m}^3/\text{s}$. Find the minimum inside diameter that will provide an average fluid velocity not to exceed 6.1 m/s . [3M]

Question Three [10M]

- a) Compare between Static and dynamic seals. Mention types of each category. [4M]
- b) The heard noise is not just the sound coming directly from the pump. Discuss. [3M]
- c) Declare the types of thermal hydraulics. [3M]

Question Four [10M]

For the following hydraulic circuit (sequence cylinders), shown in the figure, write down the full name of each component [3M] and the function of each component [4M] also, explain (using sketches) the operation of the hydraulic circuit [3M].

