



Damietta University

Faculty of Science

Geology Department

2<sup>nd</sup> Year Examination (January 2025)

Damietta University

1<sup>st</sup> Semester

Ground Water

Code: (ج 223)

Time: 1 Hour

Full Mark: 60 degree

**Answer with simple sketches the following questions:**

- 1) Explain the following: (22 degree)
- How Transmissivity (T) can dictate the shape of the cone of depression?
  - The interaction between surface water and ground water.
- 2) Discuss the following: (30 degree)
- The different types of aquifers.
  - The consequences of excessive ground water withdrawal.
- 3) The following table represents the data of groundwater aquifer. (8 degree)

Transmissivity m <sup>2</sup> /day	Area of discharge well m <sup>2</sup>	Hydraulic conductivity m/day	Hydraulic gradient	Effective porosity
40000	0.9	1000	1/1000	10 %

**Determine the following:**

- Darcy velocity for the ground water.
- The true velocity of the ground water.
- The amount of ground water discharge flow.
- The saturated thickness of the aquifer.

Best regards

Prof. Dr. M. Abdelgalil