Menoufiya University Faculty of Engineering, Shebin Elkom Civil Engineering Department *Final 2nd Sem. Exam,*	جامعة المنوفية	CVE425B: Environmental Eng. Level: 400 *Time: 3.0 hours* *Sat 21/6/2014*

Try in all questions **(Total grade= 60 marks)**

1- A) Draw a flow chart for modelling procedure.

B) If Θ = 5d, and K = 0.2 d^{-1} (1st order), and C_o = 100 mg/L, calculate C_e in case of PF, CM and PM (m=2) reactors? **12 Marks**

2- A) Mention briefly types of Models.

B) i) How long does it take a pollutant to decrease from concentration 100mg/L to 5 mg/L with a first order decay constant of 0.4 d^{-1} ? **12 Marks**

ii) If the available residence time is 5 days only, what should be the initial pollutant concentration to achieve the 5 mg/L standard?

iii) What should be the decay rate in order to achieve the 5mg/L standard in 5 days?

3- A) Explain "**Thickening**" and "**Stabilization**" processes in sludge treatment **12 Marks**

B) Discuss the theory and application of "**Air floatation**" in sludge thickening.

C) Estimate the sludge flow from Sewage treatment plant service a city of 250000 capita with water consumption of 200 liter/capita/day.

4- A) Discuss with using sketches the different methods of **Sludge dewatering.** **12 Marks**

B) Design and draw drying beds for STP has sludge flow of 200 m^3/day.

C) Explain with brief illustration the "**Preventive Measures**" and "**Pollution Management Order**" of solid waste.

5- A) Discuss the benefits and possible drawbacks of "**Transfer Stations**" in Solid Waste Systems with drawing sketches for their different styles. **12 Marks**

B) Design and draw the sanitary landfill of a city has population of 230,000 capita.

C) Discuss the functions and the items of **Environmental Impact Assessments** Reports of huge Engineering Projects.

With my best wishes *Prof. M. Elsheikh*

This exam contribute by measuring in achieving Program Academic Standards NARS				
Question No.	Q1-b, Q2-a, Q3-a	Q4-b	Q2-b, Q3-b	Q1-a, Q4-a
Skills	A-1, A-4, A-6, A-8, A-11, A-12 & A-13	B-9 & B-10	C-12	D-3, & D-9
	Knowledge & Understanding	Intellectual Skills	Professional Skills	General Skills