



Try in the following questions

Question One (30 Marks)

- 1- a)** Discuss the different type of coagulants used for assisting sedimentation in surface water treatment.
- b)** Explain the different types of filtration for purification water supply.
- c)** Design the filtration house and connecting pipes in a water treatment plant of 500,000 m³/day with rate of filtration of 200 m³/m²/day.
- Draw plan and sections** for the designed filtration house with its connecting pipes.

Question Two (25 Marks)

- 2-a)** Write short notes about the location of application of disinfection in water supply, pointing out to different methods, advantage and disadvantage of each.
- b)** “Disinfection by products is a new discover hazard in water supply system” Explain.
- c)** Discuss methods of preventing or reducing different types of Disinfection by products in water supply.

Question Three (25 Marks)

- 3- a)** Discuss the effect of Iron and Hardness on municipal water supply
- b)** Explain with using formula the minerals cause water hardness in water supply.
- c)** Design a water softening plant working 12 hrs/day, of flow 7500 m³/day, raw water hardness 390 mg/l, allowable hardness in treated water 40 mg/l, ion exchange capacity of used resin 30 kg/m³, capacity of regeneration salt 40 kg/m³.

Question Four (20 Marks)

- 4-a)** Write short notes about the common methods employed in Water Desalinations
- b)** “Reverse Osmosis has many applications for desalination of brackish water” Discuss in details.

With my best wishes

Prof. M. Elsheikh

This exam contribute by measuring in achieving Program Academic Standards NARS			
Question No.	Q1-a, Q1-b, Q2-a, Q3-a, Q4-a	Q2-c, Q3-b	Q1-c, Q2-b, Q4-b
Skills	A-3	B-3	C-1
	Knowledge & Understanding	Intellectual Skills	Professional Skills