



Total Mark [100 Marks]

Answer all the following Questions

Marks

Question (1) [25]

Discuss the different types of pipes used in water distribution networks and sewerage system provide proper information: (25)

Question (2) [20]

- (a) Discuss various components of water distribution systems (5)
- (b) Discuss using sketch the Hydrologic Cycle and its elements..... (5)
- (c) Discuss Factors affecting Consumption rate..... (10)

Question (3) [35]

- (a) Mention five different methods for prediction of future population (5)
- (b) The following table shows the population in millions of a country during the years 1910 – 2010, in ten years intervals. (30)

Year	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010
Pop.	23.2	31.4	39.8	50.2	62.9	76	92	105.7	122.8	131.7	151.1

- 1) Find the equation of the least square parabola fitting the data.
- 2) Estimate the population in 2030 & 2050

Knowing that :

$$\Sigma Y = aN + b\Sigma X + c\Sigma X^2$$

$$\Sigma XY = a\Sigma X + b\Sigma X^2 + c\Sigma X^3$$

$$\Sigma X^2Y = a\Sigma X^2 + b\Sigma X^3 + c\Sigma X^4$$

Question (4) [20]

Discuss briefly Planning of Sanitary Landfill.....(20)

End of Exam - Good luck

This exam measures the following ILOs														
Question Number	Q1	Q2-a	Q2-b	Q2-c	Q4	Q2-a	Q3-a	Q3-b	Q4		Q2-a	Q3-a	Q3-b	Q4
Skills	a1-1	a1-2	a1-1	a1-2	a1-2	b2-1	b2-1	b2-1	b2-1		c1-1	c1-1	c1-1	c1-1
	Knowledge & Understanding Skills					Intellectual Skills				Professional Skills				