

Name:

Enrolment No:



**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination, December 2018**

**Course: Planning and Management of Utilities & Services**

**Semester: V**

**Programme: B Planning**

**Time: 03 hrs.**

**Max. Marks: 100**

**Instructions:**

**SECTION A**

S. No.		Marks	CO
Q 1	What are the major issues of water problems in India?	4	
Q 2	What is Non-revenue water?	4	
Q 3	What is the importance of recycling and reuse of solid waste in its treatment?	4	
Q 4	What is rain garden and what are its advantages?	4	
Q 5	Write a note on fire-fighting demand of water.	4	

**SECTION B**

Q 6	What is the role of Planners in planning of utilities & services for a town?	10	
Q 7	What are the objectives of utilities and services planning and its implications for public health and environmental protection?	10	
Q 8	Please define following: a. Type of sewerage system b. Design Period c. Self-Cleaning Velocity d. Aerobic Treatment of sewage e. Un-aerobic Treatment of sewage	10	
Q 9	What are the duties/ role of a Town Planner prescribed in the Solid Waste Management Rules, 2016?	10	

	<p>OR</p> <p>Explain the stages of planning of wastewater management and treatment system.</p>		
<b>SECTION-C</b>			
Q 10	<p>What is the Integrated Municipal Solid Waste Management hierarchy and steps involved for Development of Municipal Solid Waste Management Plan?</p>	<b>20</b>	
Q 11	<p>What are the basic design considerations for Planning a Drinking Water Supply System for a city? Please elaborate.</p> <p>OR</p> <p>What are the basic design considerations for Planning a Sewerage System for a city? Please elaborate.</p>	<b>20</b>	