

## Log-Log Graph Paper Required

**JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT**  
**TEST -2 EXAMINATION - 2017**

**M.Tech I Semester**

**COURSE CODE: 14M31CE215**

**MAX. MARKS: 25**

**COURSE NAME: SURFACE WATER QUALITY MANAGEMENT**

**COURSE CREDITS: 03**

**MAX. TIME: 1.5 Hr**

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Assume suitable data if required.*

- Q1. a) What are the principal characteristics of rivers that are of interest to surface water quality management? **[2.5 Marks]**  
 b) Discuss some of the important chemical and biological characteristics relevant for river water quality management? **[2.5 Marks]**

- Q2. a) What are the factors which influence the flow at a given point in a river? **[2.5 Marks]**  
 b) Explain any one method of flow determination in a stream **[2.5 Marks]**

- Q3) a) What do you mean by "Morphometry" of a river? Discuss on the empirical relationships between the flow, velocity and depth or area of a river. **[05 Marks]**  
 b) A river is to be characterized as a constant flow – constant area reach between MP74.2 and MP64.7. Assume the following cross-sectional areas (A) were measured for the given flows: **[05 Marks]**

Q(cfs)	500	750	1300	2200	3400
A(ft <sup>2</sup> )	700	850	1000	1600	2000

Estimate the travel time through the reach for flows of 250, 600, 1500 and 3000cfs

- Q4. Write a note on the following: **[05 Marks]**  
 i) Tracer studies in streams  
 ii) Effect of land use on river flow