

**M. SC. (ENVIRONMENT SCIENCE AND TECHNOLOGY) SEM
- II (CBCS) (2013 COURSE) : WINTER - 2017**

SUBJECT: ENGINEERED SYSTEMS FOR WATER & WASTE WATER

Day: **Tuesday**
Date: **14/11/2017**

W-2017-0987

Time: **10.00 AM TO 01.00 PM**
Max Marks: **60**

N.B:

- 1) Answer any **FIVE** questions.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat and labeled diagram **WHEREVER** necessary.
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- Q.1** a) Explain the purpose and design consideration of plain sedimentation tank. (06)
b) Write a note on disposal of screen waste. (06)
- Q.2** a) Write a note deflouridation. (06)
b) Give the significance of flow measurement devices. Describe only one in detail. (06)
- Q.3** a) Design a screen chamber for 2 MLD. Assume suitable data. (06)
b) Give drinking water standards, as per BOS. (06)
- Q.4** a) Write a note on sludge conditioning. (06)
b) Describe two low cost treatment methods for waste water. (06)
- Q.5** Describe the principle and working of secondary sedimentation tank to treat sewage with a diagram. (06)
- Q.6** Write short notes on any **THREE** of the following: (12)
- a) Break point chlorination
 - b) Water quality characteristics
 - c) Oil and grease removal
 - d) Sludge disposal

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