

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII (NEW) - EXAMINATION – SUMMER 2018****Subject Code: 2183508/2183511****Date: 07/05/2018****Subject Name: Municipal Waste & Sewage Management****Time: 10:30 AM to 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define Municipal Solid waste. Discuss risk associated with poor management of solid waste. **07**
(b) Classified solid waste and discuss briefly. **07**
- Q.2** (a) What do you understand by collection routes? Discuss the various steps required to prepare layout of collection routes. **07**
(b) What do you mean by solid waste management? Explain the various steps involved in solid waste management with suitable diagram. **07**
- OR**
- (b) Discuss the key functional elements of ISWM. **07**
- Q.3** (a) What do you mean by Onsite handling? Discuss various methods of onsite handling and storage of MSW briefly. **07**
(b) How material recovery can be done from solid waste? Explain with suitable diagram. **07**
- Q.3** (a) Discuss the recovery of biological conversion products from MSW. **07**
(b) Discuss the recovery of thermal conversion products form solid waste with suitable diagram. **07**
- Q.4** (a) Discuss the important points need to be considered during land filling of solid waste. **07**
(b) What do you understand by sanitary works? Discuss its classification. **07**
- Q.4** (a) How many types of collection system are used for MSW based on mode of operation? Explain HCS collection system in brief with a suitable sketch. **07**
(b) Discuss the classification of sewerage system. **07**
- Q.5** (a) Discuss the physical methods of municipal solid waste treatment. **07**
(b) Briefly discuss methods of solid waste stabilization. **07**
- Q.5** (a) Briefly discuss energy recovery system for MSW. **07**
(b) Define self purification process of water bodies. Explain factors that affect self purification process. **07**
