

CEL879 Major Examination  
INDUSTRIAL WASTE MANAGEMENT & AUDIT  
IIT Delhi

(Part A: 20 + Part B: 80)

Time: 120 min

Each question carries 2 marks. Either place a tick or fill in the blanks. Your answers should be based in context of the

Constructed wetlands using following process/processes to treat wastewater.

- a. Physical
- b. Chemical
- c. Biological
- d. All the above

UASBR uses..... growth of the micro-organisms.

- a. Attached growth
- b. Suspended growth
- c. Granular growth
- d. UA growth.

Trickling filter is a .....growth based unit process.

- a. Attached
- b. Suspended
- c. Aerobic
- d. Anaerobic

Chromium is major pollutant from...

- a. Pulp paper units
- b. Textiles
- c. Leather manufacturing
- d. Plastic making

Submerged MBR requires.....energy as compare to Stream MBR.

- a. more
- b. less
- c. same
- d. none of the above

Equalization basins are used to equalise

- a. Flow rate
- b. Organic loads
- c. Both a and b.
- d.  $BOD_5$

Order of  $BOD_5$  of wastewaters from distilleries (D), textile (T), municipalities (M) and electroplating (E) units is :

- a.  $D > T > E > M$
- b.  $M > D > M > E$
- c.  $D > T > M > E$
- d.  $M > T > D > E$

Which of the following can better handle the shock loads?

- a. ASP
- b. Oxidation Ditch
- c. Trickling Filter
- d. MBR

Order of the cost of electro-mechanical components in Oxidation ditch (OD), SBR, Constructed Wetlands (CW) and MBR is:

- a.  $CW > MBR > OD > SBR$
- b.  $MBR > SBR > OD > CW$
- c.  $MBR > OD > SBR > CW$
- d.  $SBR > MBR > OD > CW$