RDL724 Minor I Exam Total Marks: 15 29/08/2016

(LH 619; 1-2 PM)

TECHNOLOGIES FOR WATER AND WASTE MANAGEMENT

Q. 1 Choose the MOST APPROPRIATE answer (5)
(Pl. attempt a-e in alphabetical order ONLY)

(a) Phosphorus uptake by PAO's is coupled with

(i) SCFA uptake (ii) PHA storage (iii) PHA degradation (iv) Both i &ii (v) Both i & iii (vi) None of the above

(b) Following conditions would help in controlling the nitrification

(i) Low pH (ii) Higher aeration (iii) short sludge age (iv) Both i &ii (v) Both i & iii (vi) None of the above

(c) Under anoxic conditions OHO's are responsible for

(i) SCFA production (ii) Biodegradable COD removal (iii) PHA degradation (iv) Both i &ii (v) Both i & iii (vi) None of the above

(d)To maintain proper phosphorus removal by PAO's, the following condition/s must be maintained in the FIRST reactor

(i) Absence of Nitrate (ii) Absence of oxygen (iii) Availability of the RBCOD (iv) Both i & ii (v) Both i & iii (vi) All of the above (vii) None of the above

(e) Which of the following has two anoxic reactors in sequence?

(i) Bardenpho (ii) UCT (iii) Modified UCT (iv) A2O

2. Why do we use "Indicator organisms" to detect microbiological contamination of water? Mention important "Indicator organisms" & briefly describe MPN test. **(2.5)**
3. Using Schematic drawing compare 5 stage PhoRedox with UCT system. What advantage the later offers and Why? **(2.5)**
4. What is the role of flocs in wastewater treatment? Describe structure of flocs with diagrams. How do non-flocculating bacteria contribute to floc formation? **(3)**
5. *Mention FOUR differentiating features that can be used to distinguish Nutrient deficient foam from Nocardial foam?* **(2)**

OR

5. *Differentiate between Dispersed Growth Problems and Pin flocs.* **(2)**

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