SUBJECT CODE: CH/PE/IM13

M.Sc. DEGREE EXAMINATION, NOVEMBER 2009
BRANCH IV- CHEMISTRY
FIRST SEMESTER
REG.NO ……………………..

COURSE: ELECTIVE
PAPER   : INDUSTRIAL WASTE MANAGEMENT
TIME   : 30 MINUTES   MAX.MARKS : 20

SECTION – A   (20x1=20)

ANSWER ON THE QUESTION PAPER ITSELF.

Answer all the questions.

I   **CHOOSE THE CORRECT ANSWER:**

1.   Phosphate in wastewater is removed by
        a) flocculation   b) neutralization   c) equalization   d) sedimentation

2.   Pick the secondary pollutant from the following
        a) NOx   b) SO_2 c) PAN   d) CH_4

3.   Alkaline scrubbing solution used for removal of NO_x contains
        a) NaOH   b) KOH   c) $NaCO_3$ + $Ca(OH)_2$ d) $Mg(OH)_2$ + $Ca(OH)_2$

4.   Sulphur dioxide causes
        a) Lukemia   b) Acid Rain   c)   Smog   d) Fog

5.   Wastewater from fertilizer industry can cause
        a) ozone depletion   b) eutrophication   c) aforestation   d) deforestation

6.   According to CPCB data, class A water should have a DO of
        a) 6 mg/L or more   b) 2 mg/L or less   c) 10 mg/L   d) less than one mg/L

7.   The antidote for lead and Mercury poisoning is
        a) Egg white   b) Sodium Thiosulphate   c) Gelusil   d) Milk of Magnesia

8.   The strategy that occupies the apex of pollution prevention programme is
        a) recycling   b) reuse   c) recovery   d) reduction

9.   Anaerobic treatment of wastewater/sludge will result in the production of
        a) methane   b) ethylene   c) ammonia   d) carbon monoxide

10.   For favourable microbial growth, C:N ratio in waste should be
        a) 4:1   b) 8:1   c) 14:1   d) 16:1

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II   FILL IN THE BLANKS:

11.   An example of line source of Air pollution is _____.

12.   PAH is _____

13.   Lung fibrosis resulting from exposure to asbestos is called _____.

14.   Slurry of limestone is used in the removal of _____ gas.

15.   Particles with a diameter more than _____ μ are removed in gravity

settling tank.

III   ANSWER IN ONE OR TWO SENTENCES:

16.   Define Glass house effect.

17.   Mention two examples of primary air pollutants

18.   Mention any two salient features of air pollution control act 1981.

19.   Name any two coagulants used in primary treatment.

20.   What is aforestation?

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COURSE: ELECTIVE
PAPER   : INDUSTRIAL WASTE MANAGEMENT
TIME   : 2½ HOURS   **MAX.MARKS : 80**

SECTION – B   **(5x8=40)**
Answer any five questions:

1.   How are the nuclear wastes classified? Describe the method of management of
       high level nuclear wastes.

2.   Polluter pays principle is the best for all environmentalists. Why?

3.   What are the control methods that reduce the emission of oxides of sulphur?

4.   Briefly explain the functions of   i) Wet scrubbers   ii) Electrostatic filters

5.   What are aerated lagoons? How do they reduce BOD of wastewaters?

6.   Explain the significance of rainwater harvesting. Describe any one method of
       rainwater harvesting.

7.   Enumerate the air quality standards prescribed for India

SECTION – C
Answer any two questions.   **(2x20=40)**

8.   a) Describe the methods employed in the control of photochemical pollutants and
           green house gases.
       b) Write an account of EPA and OSHA regulations.

9.   a) What are the major pollutants from Food and Dairy industry and how are they
          treated?   .
       b) Describe the Bhopal Gas tragedy and its after effects

10.   What is solid waste management? Describe how it is done

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