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Total Number of Pages : 02

B.Tech.
PCI4D002

4th Semester Regular / Back Examination 2017-18
ENVIRONMENTAL POLLUTION AND MANAGEMENT
BRANCH : CIVIL
Time : 3 Hours
Max Marks : 100
Q.CODE : C1142

Answer Part-A which is compulsory and any four from Part-B.

The figures in the right hand margin indicate marks.

Answer all parts of a question at a place.

Part – A (Answer all the questions)

Q1 Answer the following questions: multiple type or dash fill up type: (2 x 10)

- Minamata disease is caused by _____ pollution
- The use of microorganism metabolism to remove pollutants such as oil spill in the water bodies is known as : _____
- Theoretical oxygen Demand of 300mg/L glucose solution is _____
- Expand EMP _____ & EIS _____.
- The second Stage BOD is due to _____
- Which of the following is not a material in MSW?
[A] agricultural wastes [B] food wastes
[C] glass and plastic [D] wood wastes
- Which of the following method can be employed for plastic and rubber waste Disposal
[A] Incineration [B] Composting
[C] Pyrolysis [D] Sanitary Landfill
- Bacteria that obtain both energy and material from organic sources are called:
[A] Autotrophs [B] Heterotrophs
[C] Phototroph [D] Protists
- Which of the following is not primary air pollutant?
[A] Sulphur Dioxide [B] Nitrogen Oxide
[C] Hydrocarbons [D] Ozone
- The unit of measurement of intensity of sound is in
[A] decibels [B] lux
[C] parsec [D] candela

Q2 Answer the following questions: Short answer type: (2 x 10)

- Write the significance of nitrification and de-nitrification reactions associated with waste water treatment?
- Enumerate the various tests for the parameters associated with water pollution.
- What are the characteristics of solid waste?
- Write the components of biotic environment?
- What is ISO 14000? What are the series of standards in ISO 14000 family?
- Draw a labelled sketch of any one type of instrument for air pollution control in industries.
- What is Eutrophication? Write its effect in aquatic life.
- Define Sound Intensity and Power of Sound. Write the relation Between both.
- Draw flow chart showing functional element of solid waste management.
- Write 5R's.

Part – B (Answer any four questions)

- Q3** a) Write the procedure generally used for cleaning up oil spill? Which are most biological friendly? (10)
b) Determine the ultimate Carbonaceous BOD if deoxygenation coefficient of a test is 0.5/day and BOD_5 is 620mg/L (5)
- Q4** a) Discuss the sources, causes and remediation of ground water pollution. (10)
b) Describe the effect of Eutrophication on Aquatic life and Human health. (5)
- Q5** a) Determine the effective height of a stack , with the following given data: (10)
i. Physical Stack is 160m tall with 0.90 inside diameter
ii. Wind velocity is 2.70m/s
iii. Air temperature is 20°C
iv. Barometric Pressure is 1000millibar
v. Stack gas velocity is 11m/sec
vi. Stack gas temperature is 180°C
b) Explain in detail about the primary and secondary air pollutants with examples. (5)
- Q6** How and in what manner the Environmental Lapse Rate (ELR) and adiabatic Lapse Rate (ALR) affect dispersion of an air pollutant into atmosphere. In this context draw various possible behavior of the emitted plume. (15)
- Q7** a) Write the Expression for Equivalent Noise Level. 60 dB (A) noise lasting for 40minutes is followed by 80 dB (A) noise lasting for 20 minutes. What is L_{eq} of this noise? (10)
b) Write the causes and effects of Noise pollution. (5)
- Q8** a) Discuss the origin of EIA and Key elements of the process with flow diagram (10)
b) Explain environmental auditing with a brief explanation of its processes. (5)
- Q9** a) Explain reuse recycling and recovery of solid waste materials from refuse (10)
b) Enlist various parameters while selecting method of disposal of solid waste. (5)