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Total Number of Pages:2

B.TECH
PES2C001

2nd Semester Regular Examination 2016-17
ENVIRONMENTAL STUDIES & HEALTH CARE ENGINEERING

BRANCH(S): ALL

Time: 3 Hours

Max Marks: 100

Q.CODE: Z926

Answer Part-A which is compulsory and any four from Part-B.
The figures in the right hand margin indicate marks.

Part – A (Answer all the questions)

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

- a) Which of the following Gas is responsible for Green House Effect?
(i)SO₂(ii) N₂O₅(iii) CO₂(iv) H₂S
- b) Which of the following gas depletes the Ozone layer?
(i)SO₂(ii) CFC(iii) CO₂(iv) Cl₂
- c) **PM₁₀** is the abbreviation used for _____.
- d) The chemical that is added to muddy water to get a clear water in wells is known as -----.
- e) Increase in organic pollutants in water ----- the dissolved oxygen content hence ----- the BOD of water.
- f) Environmental conditions of an area are derived from satellite imagery is known as -----.
- g) The cyclic change of nutrients material between the living organisms & their nonliving environment is called-----.
- h) The unit of measurement of intensity of sound is given by-----.
- i) Hepatitis is caused by (i) protozoa (ii) virus (iii) bacteria (iv) insects
- j) The diagram that illustrates the feeding relationships between plants and animals in that certain area is -----.

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

- a) Why the value of COD is always greater than BOD for a waste water?
- b) What is ecological succession?
- c) What are photochemical oxidants, give two examples?
- d) Mention at least two anthropogenic causes of air pollution?
- e) What are the objectives of EIA?
- f) Give some examples of secondary air pollutants.
- g) Name any two hazardous domestic wastes.
- h) What are ecological pyramids?
- i) What do you mean by deforestation? Explain its causes and ill effects.
- j) Why pretreatment is necessary before the other stages of water treatment?

Part – B (Answer any four questions)

- Q3** a) What are the roles of producers, consumers and decomposers in the functional aspects of an ecosystem? **(10)**
- b) Discuss the role of information technology in telemedicine. **(5)**
- Q4** a) Discuss the step by step approach for preparation and evolution of Environmental Impact statement (EIS) for environmental clearance. **(10)**
- b) What are the different environmental parameter for which impact assessment is to be done? **(5)**
- Q5** a) Explain Municipal Solid waste (MSW) management with a simple flow sheet and explain it. **(10)**
- b) Explain what is 10% rule in ecosystem with examples. **(5)**
- Q6** a) Discuss various safety measures taken for control of occupational hazards in an Integrated steel industry? **(10)**
- b) Define detritus food chain, how is it different from grazing food chain? **(5)**
- Q7** a) What are the sources of waste water? Discuss different steps involved to make it usable. **(10)**
- b) What do you mean by Eutrophication? Explain **(5)**
- Q8** a) Briefly discuss the cause effect and control measures of surface water acidification. **(10)**
- b) What do you mean by point and non point sources of water pollution? Explain various measures for its effective control. **(5)**
- Q9** a) Explain the source, path and receiver concept of noise pollution control with suitable examples. Mention any two physical properties of sound. **(8+2)**
- b) 10ml of sewage water was refluxed with 20ml of 0.2N $K_2Cr_2O_7$. The unreacted dichromate required 12ml of 0.1N ferrous ammonium sulphate (FAS) solution. 25 ml of distilled water (blank titration) required 28ml of same FAS solution under same conditions. Compute COD of the sample? **(5)**