

SEAT No. _____

No of printed pages: 2

[83]

SARDAR PATEL UNIVERSITY

M. Sc 4th Semester (Surface Coating Technology) (CBCS) Examination

Thursday, 19th April, 2018

PS04ESCT02: Environmental Management

Time: 2:00 pm to 5:00 pm

Marks: 70

N.B. 1) Marks allotted to the question are on its RHS

2) Illustrate your answer whereas necessary with the help of neat sketches and chemical equation

Q.1 Choose the correct Answer from the Followings.

[08]

- Green Chemistry is a tool for _____.
a. Benign Chemistry b. Sustainability c. Applied Chemistry d. Clean Chemistry
- In the case where carbon dioxide is used as a carbon-source building block, if the CO₂ were made from burning fossil fuels it would be considered as _____.
a. depleting b. renewable c. both a & b d. none of these
- Which of the following reaction consider as 100 % atom economical?
a. Addition b. Substitution c. Elimination d. None of these
- The presence of which of the following gases in air checks the UV light from sunlight?
a. SO₂ b. CO₂ c. NO d. O₃
- Acid rain caused due to _____.
a. Ozone and dust b. CO₂ and CO c. SO₃ and CO d. SO₂ and NO₂
- BOD/COD ratio always be _____.
a. equal to 1 b. more than 1 c. less than 1 d. none of these
- In which process decomposition of organic waste is done by exposing it to high temperature in absence of oxygen?
a. Incineration b. Pyrolysis c. Gasification d. none of these
- Green House effect is caused by _____.
a. CO₂ b. CH₄ c. NO d. all of these

CP.T.O.)

Q.2 Answer any seven of the Followings: [14]

1. Enlist tools of green chemistry.
2. How atom economy is different from yield?
3. What is a renewable and depleting feedstock? Give its example.
4. From a green chemistry standpoint, what would the advantages and disadvantages be of using a solvent that is volatile versus one that is not?
5. Define solid waste and classify it.
6. Enlist drivers of EMS.
7. Lists the problems associated with ISO 14001 certification.
8. Write environmental benefit of using reduce, reuse and recycle method for solid waste management
9. List the various air pollution control methods.

Q.3 (a) Define Green Chemistry. Write a note on principles of Green Chemistry. [06]
(b) Describe in detail about the tools of green chemistry [06]

OR

(b) Write a note on Green Solvent. [06]

Q.4 (a) "Energy requirements should be recognized for their environmental and economic impacts and should be minimized". Explain. [06]

(b) Explain in detail real-time, in-process analysis beneficial to green chemistry. [06]

OR

(b) Why should chemists pursue the goals of green chemistry? [06]

Q.5 (a) Define air pollution and explain various air pollutant in detail. [06]

(b) Write a note on thermal treatment of solid waste management. [06]

OR

(b) Write a note on BOD and COD [06]

Q.6 (a) Define EMS according to ISO 14001 standards and write benefits of ISO 14001 certification. [06]

(b) Discuss about waste minimization option for Paint manufacturer. [06]

OR

(b) Explain in brief tools of EMS [06]

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