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SARDAR PATEL UNIVERSITY

M.Sc. (Polymer Science & Technology) Semester-III Examination-2016

Saturday, 29th October-2016

2:00 P.M. to 5:00 P.M.

PS03EPST05: ENVIRONMENTAL CHEMISTRY

Total Marks: 70

Note: (1) Attempt all questions.
(2) Figures to the right indicate marks.

Q. 1 Answer the following multiple choice questions. **08**

(1) _____ is major cationic constituent in sea.
(i) Chloride (ii) Bromide (iii) Carbonate (iv) None of above.

(2) Potassium is responsible for the _____ in plants.
(i) carbohydrate transformation (ii) water balance (iii) activation of enzymes
(iv) All of above.

(3) _____ is the secondary pollutant.
(i) PAN (ii) Hydrocarbon (iii) Both of above (iv) None of above

(4) In urban area particulate mass level may range from _____mg/m^3.
(i) 60000-2000000 (ii) 0.06-2 (iii) 6-200 (iv) 60-2000.

(5) Chloride content in water is measured by _____ method.
(i) West-Gaeke (ii) Mohr (iii) diazotization (iv) none of above.

(6) _____is responsible for radioactive pollution.
(i) Mining of ore (ii) Nuclear power plant (iii) Nuclear weapons
(iv) All of above.

(7) _____ can be potentially disposed from the solid waste.
(i) Fly ash (ii) Sugar cane (iii) Both of above (iv) None of above

(8) Glass can be separated by_____ method.
(i) froth floatation (ii) magnetic separation (iii) both of above
(iv) none of above

Q. 2 Attempt **any seven** of the following. **14**

(1) Write down the constituents of Ecosystem.

(2) Differentiate between Endogenic and Exogenic natural cycles.

(3) Define Pollutant. Classify them based on their forms.

(5) Write a brief note on concentration window given by Schwartz.

(6) Write down Alkalinity measurement technique for waste water.

(7) Explain classification of solid wastes.

(8) What are the benefits of potential disposal methods usable for solid waste?

(9) How photometers can be useful to quantify the particulate opacity?

Q. 3 (a) Give an account on particles, ions and radicals in the atmosphere. **06**

(b) Write a note on following natural cycles **06**

(1) Oxygen cycle

(2) Sulphur cycle

OR

(b) Explain Humic substances in detail. **06**

Q. 4 (a) Give an account on Ozone depletion. **06**

(b) Write a detail note on major sources of air pollution. **06**

OR

(b) Enlist primary pollutants present in atmosphere. Explain any one in detail. **06**

Q. 5 (a) Give an account on mode of action of Insecticides and DDT in food chain. **06**

(b) Write a note on following **06**

(1) Inorganic water pollutants

(2) Organic water pollutants

OR

(b) Explain following in detail. **06**

(1) BOD

(2) COD

Q. 6 (a) Write a detail note on Composting. **06**

(b) Discuss following solid waste disposal technique. **06**

(1) Open dumping

(2) Incineration

OR

(b) Give an account on recovery and recycling of paper and metals in solid waste. **06**

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