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No. of Printed Pages: 2

SARDAR PATEL UNIVERSITY
M.Sc. (SEMESTER-I) EXAMINATION
Monday, 27th April 2015.
TIME: 10.30 A.M. to 01.30 P.M.
APPLIED AND INDUSTRIAL CHEMISTRY: PS01ECHE02

Note:- Figure to the right indicate full marks.

Total marks: 70

Q. 1. Choose the correct answers from the options given below.

[8]

- Heat flow mechanism through gaseous is known as _____.
(a) Conduction (b) Convection (c) Radiation (d) Reflection
- The Venturi effect is the reduction in ____ that results when a fluid flows through a constricted section of pipe.
(a) Fluid pressure (b) Kinetic energy (c) Flow (d) None of above
- Crystallization operation is possible due to _____ of liquid.
(a) Saturation (b) Super saturation (c) Temperature (d) Pressure
- Heat sensitive material is distilled by _____ distillation.
(a) Low heat (b) Vacuum (c) Column (d) Heating
- Sodium hypochlorite (NaOCl) in basic condition, act as a _____ agent.
(a) Chlorinating (b) Reduction (c) Oxidizing (d) none of above
- Milk is the bad source for vitamin _____.
(a) A&B (b) B&E (c) D&C (d) None of above
- Portland cement is made by heating _____ with small quantities of other materials in Kiln.
(a) Stones (b) Calcium carbonate (c) Metals (d) All of above
- In medicinal chemistry term, "Starting material" is called as _____ for drug discovery.
(a) New Prescribed (b) Lead metal (c) Starting (d) Lead compound

Q. 2. Answer the following. [Any seven]

[14]

- Write a note on Thermal Insulators
- Explain the principle and driving force of Filtration.
- List down the methods for achieving super saturation for Crystallization.
- What is the difference between sulfonation and Sulfation?
- Write the synthesis of Phthalic anhydride.
- Write the ideal characteristics of steel.
- Explain the difference between unit process and unit operation.
- Draw and label the figure of Rota meter.
- Explain effect of heat on milk.

(PTO)

Q. 3. [A] Write a note on open pan evaporator. [6]

[B] Draw the figure of Rotary Dryer and explain its advantages and disadvantages. [6]

OR

[B] (i) Explain the mechanism of crystallization and also explain its principle. [3]

(ii) Explain the characteristics of filter media. [3]

Q. 4. [A] Explain the manufacturing of BHC by unit process. [6]

[B] Write a note on continuous nitration of benzene by unit process. [6]

OR

[B] (i) Explain the advantage of continuous process compare batch to process in brief. [3]

(ii) Describe unit process of p-nitro acetanilide. [3]

Q. 5. [A] Explain the manufacturing of glass. [6]

[B] Explain the manufacturing of cement. [6]

OR

[B] Write Brief note on mixing of additives to cement. [6]

Q. 6. [A] Write a note on Pasteurization. [6]

[B] Discuss important method which can be used for lead identification. [6]

OR

[B] Write a short note on composition of milk and ice-cream. [6]
