



SF-7633

B. E. - IV (Sem - VIII) (Chemical) Examination

May / June - 2011

Safety & Waste Management

Time : Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दशांशवैध निशानोंवाणी विगतो उत्तरवडी पर अवश्य लपवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="checkbox"/> B. E. - IV (Sem - VIII) (Chemical)	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="checkbox"/> Safety & Waste Management	<input type="text"/>
Subject Code No. : <input type="text"/> 7 <input type="text"/> 6 <input type="text"/> 3 <input type="text"/> 3	<input type="text"/>
Section No. (1, 2,.....): <input type="text"/> 1, 2	<input type="text"/>
	Student's Signature

- (2) Figures to the right indicate full marks.
(3) Assume suitable data whenever necessary.
(4) Draw a neat sketch whenever necessary.

SECTION - I

- 1 Answer in short. 20
- (i) Define the following terms.
- (a) Fire
(b) Auto ignition temp.
(c) Fire point
(d) TLU-C
(e) TLV-TWA.
- (ii) Give the reasons behind the Bhopal gas tragedy.
(iii) Explain vapour cloud explosion.
(iv) Discuss vacuum purging techniques.
- 2 Answer any two : 14
- (i) Explain the concept of MSDS sheet with one example.
(ii) Explain in short
- (a) Zurich hazard analysis
(b) Hazop analysis
(c) HCCP analysis.
- (iii) Give & discuss the flow chart of Hazard identification & risk assessment procedure.

- 3 Answer any two : 16
- (i) Explain different type of ventilation system & also write down conditions & flowrate for each type of ventilation.
 - (ii) Describe the source, effect & control of noise pollution.
 - (iii) Name the four significant disaster in the history of chemical engg. & explain any one indetail.

SECTION - II

- 4 (a) Attempt the following. 16
(Q.No. 1 to 5 carries 2 marks each)
- (i) List manmade and natural causes of air pollution.
 - (ii) What are the different waste minimization techniques?
 - (iii) What are the environmental laws which are in force in our country ?
 - (iv) Differentiate temporary hardness and permanent hardness.
 - (v) Enlist advanced waste water treatments.
 - (vi) Septic tanks are used for the _____ of deposited solids.
 - (a) Separation
 - (b) anaerobic decomposition
 - (c) aerobic decomposition
 - (d) none of these
 - (vii) Which air pollution control device does not discharged the dust collected as a dry solid ?
 - (viii) Which of the following is used as a coagulant in water treatment ?
 - (a) Chloramine
 - (b) Ferric sulphate
 - (c) Chlorine
 - (d) Hydrogen peroxide
 - (ix) Corona discharge is related to the operation of
 - (a) induction motor
 - (b) electrostatic precipitator
 - (c) Fast breeder reactor
 - (d) Magneto hydrodynamic Generator
 - (x) Which of the following process is involved in the biochemical treatment of sewage ?
 - (a) Reduction
 - (b) Dehydration
 - (c) Oxidation
 - (d) Fermentation
 - (xi) Photo chemical smog reactions occur in presence of _____.
- (b) Write a note : Thermal pollution. 4

- 5 Attempt the following. 8×2=16
- (a) Write principle construction and working of stack monitoring apparatus.
 - (b) Write a note :
 - (i) Electrostatic precipitation
 - (ii) Cyclone separator as air pollution control equipment.
 - (c) Discuss with a neat sketch Trickling filter and conventional activated sludge process.
- 6 Attempt the following : 7×2=14
- (a) Write a note : E-waste management.
 - (b) What are different types of inversion ? Explain in detail formation of inversion.
 - (c) Write a note : Sludge treatment & disposal.
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