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RR-0826

Third Year B. Sc. (IC) Examination

March / April – 2010

Fundamentals of Chem. Engg. Industrial Economics Management & Chemical Analysis

(Vocational)

Time : **3** Hours] [Total Marks : **70**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :
☛ **T. Y. B. Sc. (IC)**

Name of the Subject :
☛ **Funda. of Chem. Engg. Ind. Eco. Mgt. & Chem. Ana.**

☛Subject Code No. : **0 8 2 6** ☛Section No. (1, 2,.....) : **Nil**

Seat No. :

Student's Signature

(2) All sub questions of question no. **1** are **compulsory**.

(3) Figures to the right indicate full marks of the questions.

1 Answer the following questions in short and to the point : **15**

(i) What are the aims of scientific management?

(ii) Define the term depreciation.

(iii) What is human relation management?

(iv) What is demand?

(v) Define marketing.

(vi) Define forced convection.

(vii) What are the features of automatic control?

(viii) Write Fourier's law.

(ix) Define conduction and radiation.

(x) Write the properties of fluid.

(xi) Which type of detectors are used in HPLC?

(xii) Which carrier gas is used in FID? Why?

(xiii) Why TLC is superior to other type of chromatography?

(xiv) What are the sources in visible region?

(xv) What is the limitation of NMR spectroscopy?

2 (a) State Bernoulli equation and give meaning of each term involved in the equation. 4

OR

(a) Discuss the classification of fluids. 4

(b) State and explain Newton's law of viscosity. 4

OR

(b) Derive equation for heat transfer through hollow sphere. 4

(c) Explain briefly equation of continuity. 3

3 (a) Explain feedback control system giving block diagram for a steam heated process. 4

OR

(a) What are the important factors that an engineer should take care while designing safety valves? 4

(b) Give an account of on-off control. 4

OR

(b) Give differences between manual control and automatic control. 4

(c) Give an account of Alarams. 3

4 (a) Explain the net present value method of investment appraised. 4

OR

(a) Write a note on inventory control. 4

(b) Lay down a scientific selection procedure. 4

OR

(b) Explain fixed costs and variable costs. 4

(c) Explain the cases of depreciation. 3

5 (a) Explain the core concept of marketing management. 4

OR

(a) Write a note on 'Location Choice'. 4

(b) Explain the role of incentives in management of human resources. 4

OR

(b) What is break-even analysis? What are its limitations? 4

(c) Explain cost-plus pricing. 3

6 (a) Explain the column use in gas chromatography. 4

OR

(a) Which transitions occurs in X-ray, U.V.-visible and IR spectra? 4

(b) Write a note on atomic absorption. 4

OR

(b) Describe various types of pumps used in HPLC. 4

(c) Describe the terms : 3

(i) Accuracy

(ii) Average deviation

(iii) Mean.