

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII • EXAMINATION – WINTER 2013

Subject Code: 172603

Date: 07-12-2013

Subject Name: Rubber Plant and Process Engineering

Time: 10.30 am - 01.00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 Answer the following. (14)

- (i) Explain the concept of RFT.
- (ii) List different ways for reducing physical waste generation.
- (iii) Mention the areas of water pollution in rubber industry.
- (iv) Give any two examples of acute toxicity.
- (v) Write the common effects of blowing agent on health.
- (vi) Differentiate mutagen and clastogen.
- (vii) Write about Polycyclic aromatic hydrocarbons.

Q.2 (a) Discuss the health hazards from various solvents. (07)

(b) Explain the hazards from nitrosoamines. (07)

OR

(b) Write the effect of PBN, DPG, Sulphur and talc on health. (07)

Q.3 (a) List all the information needed to judge the project from financial angle. (08)

(b) Calculate the working capital amount which a bank should grant to the company if it has following inventory: (06)

Raw material inventory cost: Rs. 2,00,000/-

Stock in process cost: Rs. 3,50,000/-

Finished goods inventory cost: Rs. 5,00,000/-

OR

Q.3 (a) List the factors affecting the cost of project. Explain any two in detail. (07)

(b) Calculate breakeven point as percent installed capacity and payback period from the following data: (07)

S.No.	Particulars	Rs. in lacs
1.	Total capital investment	20.75
2.	Net profit	9.0
3.	Fixed cost	7.0
4.	Variable Cost	32.5
5.	Income by sales	51.1

----P.T.O.-----

Q.4 (a) Discuss the features of city site and rural site location for plant. (07)

(b) Describe the handling methods at mixing and calendering stations. (07)

OR

- Q.4** **(a)** List the advantages of industrial estates **(06)**
 (b) Draw the plant layout diagram for rubber band manufacturing industry. **(08)**
- Q.5** **(a)** Explain any three methods for controlling fire hazards. **(07)**
 (b) Write a note on energy conservation in rubber industry. **(07)**

OR

- Q.5** **(a)** Describe Motion economy. Give its advantages. **(07)**
 (b) Which type of maintenance is generally employed in large scale industry? **(07)**
 Explain it in detail.
