

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII • EXAMINATION – WINTER • 2014

Subject Code: 172603

Date: 04-12-2014

Subject Name: Rubber Plant & 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)**

- Name any two bladder carcinogens.
- Write the effect of crystalline silica on health.
- Name the chemicals responsible for narcosis.
- Define the term teratogen. Give example.
- Write a short note on general hazards from blowing agents.
- Write about the acute hazard associated with carbon black.
- What is meant by chronic toxicity? Give examples.

Q.2 (a) Calculate annual raw material cost for natural rubber bush from **(07)**

following data:

Weight of one bush:- 100 g

Total production per year:- 20 lac units.

No. of shifts:- One

Also suggest mixing equipment. Assume suitable formulation, cost and other data.

(b) Discuss on various factors affecting cost of production. **(07)**

OR

(b) Discuss on working capital requirement and its financing. **(07)**

Q.3 (a) Describe various components of safety program. **(07)**

(b) Write the advantages of good housekeeping in rubber industry. **(07)**

OR

Q.3 (a) Write a note on any two methods for preventing fires and **(07)**

explosion in industry.

(b) Describe preventive maintenance. **(07)**

Q.4 (a) Explain in detail JIT and RFT. **(07)**

(b) Describe in detail any two methods of waste tyre disposal. **(07)**

OR

Q.4 (a) Write a note on time study. **(07)**

(b) Discuss energy conservation in rubber industry. **(07)**

- Q.5** (a) List the obstacles to an entrepreneur. How these are minimized in govt. industrial estates? **(08)**
- (b) Why plant layout is required? Discuss any two reasons in detail. **(06)**
- Q.5** (a) Write the advantages and disadvantages of locating the plant at rural site. **(06)**
- (b) Discuss transport and storage in manufacture for the rubber industry in detail. **(08)**
