

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2020****Subject Code:3152611****Date:22/01/2021****Subject Name:Toxicity and Safe Handling of Rubber Chemicals****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q. 1**
- (a) Write the significance of risk phrases. (03)
 - (b) List the basic principles of occupational hygiene. (04)
 - (c) Mention the EU (European union) classification of health effects with their property and symbol. (07)
- Q. 2**
- (a) Define the term: (i) Carcinogenicity (ii) Mutagenicity (iii) Toxic to reproduction (03)
 - (b) Draw any two hazards symbol with their identification. (04)
 - (c) List the safety precaution in rubber mixing mill. Explain it. (07)
- Q. 3**
- (a) Give the major causes of occurring bladder cancer in rubber industries. (03)
 - (b) How carbon black is hazards on human health? What are causes of carbon black? (04)
 - (c) Discuss about systematic approach to control dust and fumes in rubber industry. (07)
- Q. 4**
- (a) What are the PAHs? Name the rubber chemicals in which it is found. (03)
 - (b) Short Note on first aid & medical facilities used for handling of rubber chemicals. (04)
 - (c) Describe in detail about the Federal Regulation of Occupational Health and safety in workplace. (07)
- Q. 5**
- (a) What is a toxic compound? (03)
 - (b) Mention the general groups which can be classified according to systemic toxic effects. (04)
 - (c) Define the term Dermatitis. Discuss in detail about it (07)
- Q. 6**
- (a) Difference between Acute toxicity & chronic toxicity. (03)
 - (b) List the different factors that can determine toxicity. (04)
 - (c) Discuss in detail about the importance of handling rubber chemicals for skin protection and protective clothing. (07)
- Q. 7**
- (a) Give the preventive measures for occurring musculoskeletal problems in workers of tyre industry. (03)
 - (b) Mention any four rubber chemicals with their hazardous effect and safety precautions. (04)
 - (c) Write a brief note on importance of storage & disposal for rubber chemicals. (07)
- Q. 8**
- (a) Define the term: visible fumes. Write its significance. (03)

- (b) List the causes and remedies of natural rubber latex allergies. (04)
- (c) Write about the code of practice prepared by the British Rubber Manufacturers' Association (BRMA). (07)

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