

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2017****Subject Code: 2182601****Date: 02/11/2017****Subject Name: Tyre & Tube Technology****Time: 02:30 PM TO 05:00 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** (a) Write the disadvantages of radial and bias tyre. (03)
(b) Draw the four basic tread patterns of tyre. (04)
(c) Discuss in detail about tyre nomenclature with designation. (07)
- Q. 2** (a) “The tyre industry can help in fuel saving of vehicle”. Justify the statement. (03)
(b) List out all the components of tyre. (04)
(c) Discuss in detail about final finish inspection of tyre. (07)
- OR
- Q. 2** (c) Discuss on tyre building drums. (07)
- Q. 3** (a) Draw the structure of given steel cord. (03)
(i) $9+3 \times 0.2$ (ii) $3+9+15 \times 0.18$
(b) Explain the process of bead building in tyre manufacturing. (04)
(c) What is aspect ratio? Give the advantages and disadvantages of aspect ratio. (07)
- OR
- Q. 3** (a) Write the importance of curing bag in tyre vulcanization. (03)
(b) Draw the mixing process chart for passenger car tyre. (04)
(c) List the types of vulcanization for tyre. Explain any one in detail. (07)
- Q. 4** (a) Why inside internal pressure required for curing of tube? (03)
(b) Give the importance of valve jamming process in automobile tube. (04)
(c) Write a note on tyre uniformity and ride comfort test. (07)
- OR
- Q. 4** (a) Give the significance of straining process in manufacturing of tube. (03)
(b) Write the difference between radial tube and bias tube. (04)
(c) Analyze the tyre performance with respect to tyre stiffness. (07)
- Q. 5** (a) List out the raw materials used in solid tyre manufacturing. (03)
(b) What is meant by $12 \times 8 \times 2.5$ and $13-1/2 \times 8 \times 4$ in solid tyre? (04)
(c) Short note on retreading. (07)
- OR
- Q. 5** (a) Write advantages of solid tyre over pneumatic tyre. (03)
(b) What is meant by $28'' \times 1\frac{1}{2}''$ and $4/14$ in cycle tyre? (04)
(c) Explain the Camel back process of cycle tyre. (07)
