

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2023****Subject Code:3172610****Date:12-12-2023****Subject Name:Tyre and Tube Technology****Time:10:30 AM TO 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.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
Q.1	(a) Define the term “Breaker”. Write its importance.	03
	(b) “Radial tyre has improved fuel efficiency than bias tyre”. Justify it.	04
	(c) Discuss in detail about the Tyre nomenclature or sidewall designation with suitable example.	07
Q.2	(a) List the radial tyre components.	03
	(b) Draw the schematic diagram of Diagonal Tyre cross section.	04
	(c) Short note on: “Tread Design”.	07
	OR	
	(c) Explain the manufacturing process of Tyre Bead.	07
Q.3	(a) Write the significance of Post cure Inflation process.	03
	(b) Write advantages and disadvantages of hot tyre retreading.	04
	(c) Describe the Tyre building method for Bias tyre.	07
	OR	
Q.3	(a) Give the functions of carcass plies in tyre.	03
	(b) What is the Aspect Ratio? Write the significance of Aspect Ratio.	04
	(c) Name the Tyre Curing process. Explain any one in detail.	07
Q.4	(a) Give the advantages and disadvantages of Steel cord.	03
	(b) Draw the schematic flaw chart diagram of Dipping process for fabric.	04
	(c) Analyse the tyre performance with respect to tyre stiffness.	07
	OR	
Q.4	(a) List the general requirements of valves.	03
	(b) Draw the formulation for Blue line compound.	04
	(c) Analyse the tyre performance with respect to tyre Rolling Resistance.	07
Q.5	(a) Draw the cross section diagram of Automobile Flap.	03
	(b) Give the importance of Valve Jamming in automobile tube.	04
	(c) Discuss about the Automobile Tube Defects with their Causes and Remedies.	07
	OR	
Q.5	(a) Give the importance of chilling process in Tube manufacturing.	03
	(b) Write a brief note on Agricultural tyre.	04
	(c) Explain the manufacturing process of Cold tyre retreading in detail.	07
