

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM
III B.Tech II Semester Supplementary Examinations, November-2025
Automobile Engineering
(MECHANICAL ENGINEERING)

Time: 3 hours

Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from **Each unit**
All Questions Carry Equal Marks

		UNIT-I	
1.	a)	What are the main components of an automobile? Describe all of them briefly.	[7M]
	b)	Sketch and explain splash lubrication systems.	[7M]
		(OR)	
2.	a)	Explain the operation of the typical turbocharger with sketch.	[7M]
	b)	Why crankcase ventilation essential in a engine, explain with a simple sketch working of it.	[7M]
		UNIT-II	
3.	a)	Explain with a simple sketch, working of centrifugal type of clutch and why free play should be provided for clutch.	[7M]
	b)	What are the different types of wheels used in passenger cars and what are the advantages of tubeless tires.	[7M]
		(OR)	
4.	a)	Why synchromesh gear box are more advantageous than constant mesh gear box,] Comment.	[7M]
	b)	Write about functions of a propeller shaft and Hotch – Kiss drive?	[7M]
		UNIT-III	
5.	a)	What are camber and castor angles, what are its significance in steering geometry	[7M]
	b)	Explain the functioning of rigid axle suspension system with a neat sketch.	[7M]
		(OR)	
6.	a)	Explain the Ackerman principle of steering with neat sketch.	[7M]
	b)	Explain the working of torsion bar with neat sketch.	[7M]
		UNIT-IV	
7.	a)	Discuss the construction and operation of a leaf spring suspension system with a neat diagram.	[7M]
	b)	Describe the construction and working of oil pressure gauge and fuel gauge.	[7M]
		(OR)	
8.	a)	Explain hydraulic brake with neat sketch and write its advantages.	[7M]
	b)	Name the components of starting system in an automobile.	[7M]
		UNIT-V	
9.	a)	Discuss in detail engine specifications with regard to lubrication and cooling.	[7M]
	b)	Discuss in detail the service details of Crank shaft and cylinder block.	[7M]
		(OR)	
10.	a)	What are different safety systems used in automobiles? Explain any two with detail	[7M]
	b)	Write short note electronic dash board instruments.	[7M]