

CBCS SCHEME

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BAU301

Third Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026 Automotive Engines

Time: 3 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.*

Module – 1			M	L	C
Q.1	a.	How internal combustion engines are classified, based on parameters?	10	L1	CO1
	b.	Explain in detail the working of 4-stroke petrol engine.	10	L2	CO1
OR					
Q.2	a.	Derive expression for Air Standard Otto cycle with the help of P-V and T-S diagram.	10	L3	CO1
	b.	Explain 3-important roles piston rings plays with sketch.	10	L2	CO1
Module – 2					
Q.3	a.	Sketch and explain constant vacuum chamber (variable venturi) carburetor.	10	L2	CO2
	b.	Discuss the working principle of MPFI system with a neat sketch.	10	L1,2	CO2
OR					
Q.4	a.	Write short note on single hole nozzle and multi hole nozzle system with sketch.	10	L2	CO2
	b.	Sketch and explain the construction of CRDI system.	10	L2	CO2
Module – 3					
Q.5	a.	With the help of pressure-crank angle diagram discuss the stages of combustion in SI engine.	10	L2	CO3
	b.	Write comparison between diesel and petrol knock.	10	L4	CO3
OR					
Q.6	a.	What are the factors affecting detonation?	10	L1	CO3
	b.	Write short note on : (i) Swirl (ii) Squish	10	L2	CO3
Module – 4					
Q.7	a.	Sketch and explain the construction of Turbo-charger.	10	L2	CO4
	b.	What are the effects of overheating and overcooling in engines?	10	L1	CO4
OR					
Q.8	a.	Discuss the comparison between Turbo chargers and Super chargers.	10	L3	CO4
	b.	Write the working principal of Thermo-Syphon cooling system with a neat sketch.	10	L2	CO4
Module – 5					
Q.9	a.	What are the fuels used in CI and SI engines? Discuss their requirements.	10	L2	CO5
	b.	Explain the working of Wet Sump lubrication system with a neat sketch.	10	L2	CO5
OR					
Q.10	a.	What are the necessities of fuel based and oil based lubrication?	10	L3	CO5
	b.	Discuss the properties of fuels and lubricants.	10	L2	CO5
