BAU301

Model Question Paper-1 with effect from 2022-23 (CBCS 2022 Scheme)

USN | | | | | | | | | | |

Third Semester B.E. Degree Examination

Automotive Engines

TIME: 03 Hours **Max. Marks: 100**

Note: Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

		Module -1	*Bloom's Taxonomy Level	COs	Marks
Q.01	a	Sketch and explain the construction and working of 4-stroke spark ignition engine	L3, L2	C1	10
	b	Illustrate Actual valve timing diagram of four stroke engine	L2	C1	10
		OR			
Q.02	a	Discuss the air standard otto cycle with sketch and equations	L2	C1	10
	b	Compare 2 stroke and 4 stroke engines	L4	C1	10
		Module-2			
Q. 03	a	Illustrate the Air – Fuel mixer requirements for steady state operation	L2	C2	10
	b	Explain the working of simple fixed venturi carburettor.	L2	C2	10
		OR			
Q.04	a	What are the different types of Nozzles used in fuel systems? Explain any three with a neat sketch	L1	C2	10
	b	With a neat diagram and explain electronic fuel injection system	L2	C2	10
		Module-3			
Q. 05	a	Explain the phenomenon of knocking in CI engine. What are the methods to control diesel knock	L2	C3	10
	b	Articulate stages of combustion in SI engine	L3	C3	10
		OR			
Q. 06	a	Illustrate the advantages and disadvantages of Induction swirl	L2	C3	10
	b	Articulate factors affecting flame propagation in SI engine	L3	C3	10
		Module-4			
Q. 07	a	Sketch and Explain waste gate method of controlling Turbocharger	L3, L2	C3	10
	b	Illustrate the advantages and limitations of Air cooling system	L2	C3	10
		OR			
Q. 08	a	Sketch and Explain pressure cooling system with neat sketch	L3, L2	C3	10
	b	Define Supercharger. Interpret Vane type of Supercharger.	L1	C3	10
		Module-5			
Q. 09	a	Characterize Cetane and Octane number of fuels	L4	C4	10
	b	Demonstrate the Pressure feed lubrication systems	L3	C4	10
		OR			
Q. 10	a	Name different lubricant additives and explain any three	L1	C4	10
	b	Illustrate BIS standards for fuels and lubricants	L2	C4	10

*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.

Model Question Paper-2 with effect from 2022-23 (CBCS 2022 Scheme)

USN | | | | | | | | | | |

Third Semester B.E. Degree Examination

Automotive Engines

TIME: 03 Hours **Max. Marks: 100**

Note: Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

		Module -1	*Bloom's Taxonomy Level	COs	Marks
Q.01	a	Illustrate Actual valve timing diagram of four stroke engine	L2	C1	10
	b	Sketch and explain the construction and working of 4-stroke CI ignition engine	L3, L2	C1	10
		OR			
Q.02	a	Discuss the air standard Disel cycle with sketch and equations	L2	C1	10
	b	Compare SI engine and CI engines	L4	C1	10
		Module-2			
Q. 03	a	Explain the working of simple fixed venturi carburettor.	L2	C2	10
	b	Illustrate the Air – Fuel mixer requirements for Transient operation	L2	C2	10
		OR			
Q.04	a	Sketch and explain Mechanical governor	L3, L2	C2	10
	b	With a neat diagram explain Distributor type pump	L2	C2	10
		Module-3			
Q. 05	a	Explain the phenomenon of ignition lag and affecting factors	L2	C3	10
	b	Articulate the stages of combustion in CI engine	L3	C3	10
		OR			
Q. 06	a	Illustrate the advantages and disadvantages of Induction swirl	L2	C3	10
	b	Articulate factors affecting flame propagation in SI engine	L3	C3	10
		Module-4			
Q. 07	a	Illustrate the advantages and limitations of water cooling system	L2	C3	10
	b	Sketch and Explain vane type of controlling Turbocharger	L3, L2	C3	10
		OR			
Q. 08	a	Sketch and Explain thermosiphon cooling system with advantages and disadvantages	L3, L2	C3	10
	b	Define Supercharger. Interpret centrifugal type of Supercharger.	L1	C3	10
		Module-5			
Q. 09	a	Explain the structure of petroleum	L2	C4	10
	b	Demonstrate the wet sump lubrication systems	L3	C4	10
		OR			
Q. 10	a	Articulate the Properties of lubricants	L3	C4	10
	b	Illustrate BIS standards for fuels and lubricants	L2	C4	10

*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.