

Tribhuvan University
Institute of Engineering
2082 Chaitra

Exam	Model Question		
Level	BE	Full Marks	60
Program	BME	Pass Marks	24
Year/Part	III/I	Time	3 Hrs

Subject: Automotive Technology (ENME 301)

- ✓ *Candidates are required to give their answers in their own words as far as practicable.*
- ✓ *Attempt **All** questions.*
- ✓ *The figures in the margin indicate **Full Marks**.*
- ✓ *Assume suitable data if necessary.*

- 1 Compare the fuel air cycle and real cycle with respect to assumptions and practical applications. [5]
- 2 What are the different airless fuel injection systems in an CI engine? Compare the individual pump system and common rail system with key differences. [2+4]
- 3 Discuss the electronic ignition system and its benefits over conventional ignition systems.[5]
- 4 Explain how multi-grade oils perform under both low and high temperature conditions. [4]
- 5 Describe the working principle of an automatic transmission system and its advantages over manual transmission. [5+2]
- 6 Compare manual steering and power steering systems with their working principle. [5]
- 7 Describe the main components of an Anti-lock Braking System (ABS). [5]
- 8 What do tire specifications mean? Mentions common tire markings. [3]
- 9 How does the engine's charging system work? Discuss with a necessary layout. [5]
- 10 Which pollutant gas is primarily controlled by the Exhaust Gas Recirculation (EGR) system, and how does the system achieve this control? [5]
- 11 Compare CAN (Controller Area Network) and LIN (Local Interconnect Network) bus systems in terms of speed, complexity, and applications. [5]
- 12 Distinguish between series, parallel, and plug-in hybrid electric vehicles (PHEVs). [5]
