Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S7 (S,FE) Examinations May 2026 (2019 Scheme)

Course Code: MET435
Course Name: AUTOMOTIVE TECHNOLOGY

Max. Marks: 100 **Duration: 3 Hours**

PART A

Answer all questions, each carries 3 marks.

		Marks
1	What do you mean by scavenging in 2-stroke SI engines?	(3)
2	List the functions of Carburettor.	(3)
3	Compare between dry and wet clutch.	(3)
4	Explain the working of Epicyclic gearbox	(3)
5	Explain the functions of automobile suspension system.	(3)
6	Discuss about bleeding of brakes.	(3)
7	Sketch and explain the layout of steering system	(3)
8	List out the EV battery parameters	(3)
9	Discuss about airbag system.	(3)
10	Explain Adaptive Cruise Control (ACC) in a vehicle system	(3)

PART B

Answer any one full question from each module, each carries 14 marks.

Module I

11	a)	Explain the working of a 2 stroke SI engine	(7)
	b)	Explain common rail direct injection (CRDI) systems. Write the merits and demerits of CRDI fuel supply system.	(7)

OR

12	a)	With the aid of a line diagram, explain battery coil Ignition system for 4-cylinder petrol engine.	(7)
	b)	Explain the internal combustion engine components and its functions. State the materials used for different parts with justification.	(7)

Module II

13	a)	Explain the working of diaphragm clutch. What are the advantages of diaphragm clutch	(7)
	b)	Explain the working of a torque converter	(7)

OR

14	a)	State the requirements of an automotive clutch. Explain the working of and clutch	(7)
	b)	With the aid of line diagram explain constant mesh gear box.	(7)

Module III

15	a)	With the aid of line diagram explain Double Wishbone suspension system	(7)
	b)	Explain anti-lock braking system in automobiles.	(7)

OR

16	a)	With the aid of line diagram explain Hydro pneumatic suspension	(7)
	b)	Explain hydraulic drum braking system	(7)

Module IV

17	a)	Explain power assisted steering.	(7)
	b)	Explain the working of a Ni-Cadmium battery.	(7)

OR

18	a)	Explain Ackerman steering gear mechanism. List out the merits of Ackerman steering mechanism over Davis steering mechanism.	(7)
	b)	Explain the working principle of fuel cell.	(7)

Module V

19	a)	Explain forward collision warning system in automobiles.	(7)
	b)	With the aid of line diagram, explain how comfort air-conditioning is done in automobiles.	(7)

OR

20	a)	Explain how seat belt tightening system works in an automobile.	(7)
	b)	Give an account of active and passive safety systems in automobiles.	(7)

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