Reg. No.															

Question Paper Code	13910

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2025

Seventh Semester

Mechanical and Automation Engineering

20MEOE901 – PRODUCTION OF AUTOMOTIVE COMPONENTS

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (MCQ) (10 × 1 = 10 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Which type of fit is used with the block in a wet liner? (a) Slip fit (b) Press-fit (c) Friction fit (d) Hydraulic dilation	1	K1	CO1
2.	Crank shaft is made of (a) Cast iron (b) Hot billet steel (c) Heat treated alloy steel (d) Both (b) and (c)	1	K1	CO1
3.	Which material is used to make the connecting rod? (a) Cast iron (b) Mild steel (c) Aluminium alloy (d) Forged steel	1	K1	CO2
4.	Which types of joints are used when the shafts are inclined? (a) Universal joint (b) Hinge joint (c) Ball and socket joint (d) Pivot joint	1	K1	CO2
5.	Thermoplastic elastomers (TPE) are often used in vehicles for which of the following components? (a) Tires (b) Air filters (c) Seals and gaskets (d) Seat cushions	1	K1	CO3
6.	Which plastic is widely used in fuel tanks of modern vehicles? (a) Polypropylene (PP) (b) High-Density Polyethylene (HDPE) (c) Acrylonitrile Butadiene Styrene (ABS) (d) Polystyrene (PS)	1	K1	CO3
7.	Which of the following is not a part of the transmission system? (a) Clutch (b) Wheels (c) Gear box (d) Axles	1	K1	CO4
8.	On what principle does the braking system in the car work? (a) Frictional force (b) Gravitational force (c) Magnetic force (d) Electric force	1	K1	CO4
9.	Which type of wheels is preferred in sports cars? (a) Disc wheel (b) Wire wheel (c) Magnesium alloy wheel (d) Aluminum alloy wheel	1	K1	CO5
10.	Input of RP data is _____. (a) CAM data (b) CAPP data (c) CAD data (d) PPC data	1	K1	CO5

PART - B (12 × 2 = 24 Marks)

Answer ALL Questions

		Marks	K – Level	CO
11.	Which engine components are manufactured by gravity, squeeze casting?	2	K1	CO1
12.	Draw the engine valve and name its parts.	2	K2	CO1
13.	Why gears are preferred over other transmission components?	2	K1	CO2
14.	Which material is used for slip joint?	2	K1	CO2
15.	Explain robotic weldment.	2	K2	CO3
16.	List the instruments that are fitted in instrument panel.	2	K1	CO3
17.	List the various loads acting on chassis frame.	2	K1	CO4
18.	Compare coil and leaf spring.	2	K2	CO4
19.	Give any two reasons for wear occurrence in tyres.	2	K1	CO5
20.	What is powder coating?	2	K1	CO5

21.	What is an energy absorbing frame?		2	K1	CO4
22.	What is spray painting?		2	K1	CO5

PART - C (6 × 11 = 66 Marks)

Answer ALL Questions

23.	a)	Explain in detail about conventional casting and expendable patterns.	11	K2	CO1
		OR			
	b)	Explain the production methods of push rods, rocker arm, and tappets.	11	K2	CO1
24.	a)	Explain the heat treatment processes of gear production processes.	11	K2	CO2
		OR			
	b)	Explain with neat sketches for clutch manufacturing.	11	K2	CO2
25.	a)	Describe the various types of surface treatment of automotive components.	11	K2	CO3
		OR			
	b)	Explain the injection moulding process with a neat diagram.	11	K2	CO3
26.	a)	Explain the construction and working of mechanical brakes with the help of neat sketch	11	K2	CO4
		OR			
	b)	Illustrate the material selection and manufacturing methods for vehicle frame manufacturing.	11	K2	CO4
27.	a)	Explain in detail about Chemical vapour deposition and physical vapour deposition process.	11	K2	CO5
		OR			
	b)	Explain in detail the spray painting. What is the advantage of it?	11	K2	CO5
28.	a)	Describe the types of extrusion process with a neat diagram.	11	K2	CO3
		OR			
	b)	Discuss the various types of plastics and the type of manufacturing methods using plastics.	11	K2	CO3