

Total No. of Questions : 8]

SEAT No. :

P9069

[Total No. of Pages : 2

[6178]-4

F.E.

SYSTEMS IN MECHANICAL ENGINEERING

(2019 Pattern) (Semester - I/II) (102003) (Credit System)

Time : 2½ Hours]

[Max. Marks : 70

Course Outcome :

CO 3 : List down the types of road vehicles and their specifications.

CO 4 : Illustrate various basic parts and transmission system of a road vehicle.

CO 5 : Discuss several manufacturing processes and identify the suitable process.

CO 6 : Explain various types of mechanism and its application.

Instructions to the candidates:

- 1) Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 Q.7 or Q.8*
- 2) Assume suitable data if necessary.*
- 3) Figures to the right indicate full marks.*

Q1) a) List the specifications of vehicle and explain any four specifications of Light Motor Vehicle (LMV) **[10]**

b) Explain Electric Vehicle with neat diagram. **[8]**

OR

Q2) a) Explain with neat sketch the various components in SI engine. **[10]**

b) Classify Automobile and Compare specification of LMV and Heavy motor vehicle (HMV). **[8]**

Q3) a) Explain steering system with neat diagram. **[10]**

b) Explain with neat sketch the differential gearbox **[7]**

OR

Q4) a) Explain antilock braking system in vehicle with neat diagram. **[10]**

b) Explain with neat sketch the working of Disc brake. **[7]**

P.T.O.

Q5) a) Explain with neat sketch the forging process. State its advantages and disadvantages. [10]

b) Explain with neat sketch drilling, chamfering, grooving, and taper turning operations. [8]

OR

Q6) a) Explain with neat sketch piercing, lancing, perforating, deep drawing, and embossing sheet metal operations. [10]

b) Explain with neat sketch sand casting. [8]

Q7) a) Explain with neat sketch the working of air conditioner. [10]

b) Explain with neat sketch the working of water purifier. [7]

OR

Q8) a) Explain with neat sketch solar water heater. State its advantages. [10]

b) Explain the working of electric geyser. [7]