

Total No. of Questions : 8]

SEAT No. :

PD4026

[Total No. of Pages : 2

[6401] 1903

F.E.

**SYSTEMS IN MECHANICAL ENGINEERING
(2019 Pattern) (Credit System) (Semester -I/II) (102003)**

Time : 2½ Hours]

[Max. Marks : 70

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) Explain Hybrid Vehicle with neat diagram. [10]

b) Classify Automobile and Compare specification of two wheeler and LMV. [8]

OR

Q2) a) Classify Automobile and Compare specification of LMV and Heavy Motor Vehicle (HMT) [10]

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

Q3) a) Write a short note on Active safety and Passive safety in vehicles. [10]

b) Explain steering system with neat diagram. [7]

OR

Q4) a) Explain single plate clutch with neat diagram. [10]

b) Explain antilock braking system in vehicle with neat diagram. [7]

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

b) Explain water cooling system used in vehicle with neat diagram. [8]

OR

P.T.O.

Q6) a) Explain with neat sketch the forging process. State its advantages and disadvantages. **[10]**

b) Explain shielded metal arc welding process with labeled sketch. **[8]**

Q7) a) Explain with neat sketch electric arc welding. **[10]**

b) Write a short note on IOT. **[7]**

OR

Q8) a) Explain with neat sketch the working of water purifier. **[10]**

b) Explain the working of kitchen chimney. **[7]**

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