



## GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

(An Autonomous Institute of Government of Maharashtra)

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Name of Examination : **Summer 2021** - (Preview)

Course Code & Course Name : **IN454C - Elective-III-Automotive Instrumentation**

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Maximum Marks : **60**

Duration : **3 Hrs**

[Edit](#) [Print](#) [View Answer Key](#) [Close](#) **Answer Key Submission Type:** Marking scheme with model answers and solutions of numerical

Instructions:

1. All questions are compulsory.
2. Illustrate your answer with suitable figures/sketches wherever necessary.
3. Assume suitable additional data; if required.
4. Use of logarithmic table, drawing instruments and non programmable calculators is allowed.
5. Figures to the right indicate full marks.

- 1) a) What is the open loop and closed loop system configuration in automobile sector? Also explain limit cycle control. [4]
- b) Explain the concept of electronic engine control system [4]
- c) How electronic instrumentation system works for different physical quantities in automobile ? [4]
- 2) a) How does Ignition system works ? explain its types with their principle of operation . [6]
- b) Write short notes on : 1) carburetor [6]  
2) sensors  
3) Electronic fuel injection system
- 3) **Solve any two sub-questions**
- a) What is the function of clutch ? What are the classifications of clutches? explain any one of them. [6]
- b) Explain digital cruise control system. [6]
- c) Explain the principle of electronic braking system. Also explain ABS. [6]
- 4) **Solve any two sub-questions**
- a) State the classification of brakes .Explain anti brake system [6]
- b) Explain the necessity of gearbox and discuss the functions served by the gearbox. [6]
- c) How does the windows and doors can be controlled electronically in automobile. [6]
- 5) a) Explain steering system. [6]
- b) Explain the following terms [6]  
1. Luminous flux  
2. Luminous intensity  
3. Brightness of luminance

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