

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Seventh Semester B.Tech Degree Examination (Regular and Supplementary), December 2020

Course Code: AU415**Course Name: AUTOMOTIVE POLLUTION & CONTROL**

Max. Marks: 100

Duration: 3 Hours

PART A*Answer any three full questions, each carries 10 marks.*

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|---|--|-------|
| 1 | Explain the adverse health effects of IC engine generated air pollutants emissions on human beings. | (10) |
| 2 | a) What are the major causes of engine emissions? | (3) |
| | b) Define particulate matters. Describe in detail how particulate emissions are caused. | (5) |
| | c) Give an account of Green House effect. | (2) |
| 3 | Identify the Six major causes for hydrocarbon emissions from SI engines and explain with sketches wherever needed. | (10) |
| 4 | Explain the effect of operating variables on emission formation in SI engines. | (10) |

PART B*Answer any three full questions, each carries 10 marks.*

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|---|--|------|
| 5 | Explain the formation of pollutants from CI engines. | (10) |
| 6 | What is meant by diesel odour? Explain the mechanism of formation of diesel odour. | (10) |
| 7 | Illustrate ECE Test Cycle with graph. | (10) |
| 8 | a) Define CVS 3. | (1) |
| | b) Give an account on Bharat Stages of emission standards. | (2) |
| | c) Explain FTP Test Cycle with Graph. | (7) |

PART C*Answer any four full questions, each carries 10 marks.*

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| 9 | a) Where the catalytic converter is usually located? | (1) |
| | b) Mention the main characteristics that an active catalyst must possess. | (2) |
| | c) What is the function of an air injector PCV system? Explain with a sketch. | (7) |
| 10 | Illustrate the function of an Evaporation loss control device with a neat sketch. | (10) |
| 11 | What is SCR? Explain with help of a neat sketch. | (10) |
| 12 | Elaborate how you will measure invisible emissions using suitable apparatus. | (10) |
| 13 | Depict the function of an NDIR analyzer with the help of a neat sketch. | (10) |
| 14 | Explain the function of a Smoke meter with the help of a neat sketch. | (10) |
