

C.U.SHAH UNIVERSITY

Summer Examination-2019

Subject Name: Automobile Pollution and Control

Subject Code: 4TE06APC1

Branch: B.Tech (Automobile)

Semester: 6

Date: 25/04/2019

Time: 10:30 To 01:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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- Q-1 Attempt the following questions: (14)**
- a) Write the full form of SHED. (1)
 - b) Write the advantages of Turbocharging. (1)
 - c) Give the variables that influence emission of CI engines. (1)
 - d) What is the effect of A/F ratio on emission from SI engine. (1)
 - e) Name the design variables which affects emission of SI engine. (1)
 - f) Write the factors which affect the engine compression ratio. (1)
 - g) Define Suspended Particulate Matters. (1)
 - h) Write advantages & disadvantages of NO_x Storage Reduction catalyst. (1)
 - i) What is the role of Exhaust Gas Circulation for reduction of flame temperature. (1)
 - j) Name the testing and certification authorities for pollution norms of automobile in India. (1)
 - k) Differentiate between Direct injection and Indirect injection. (1)
 - l) List the various types of emission. (1)
 - m) Write the factors leads to production of NO_x. (1)
 - n) Define soot. (1)

Attempt any four questions from Q-2 to Q-8

- Q-2 Attempt all questions**
- a) Discuss CO formation in SI engines.
 - b) Write a short note on noise pollution from vehicle.
- Q-3 Attempt all questions**
- a) Discuss various air pollutants and their effects on human health and environment.
 - b) How emissions are formed during transient operation of IC engines.
- Q-4 Attempt all questions**
- a) List out main sources of hydrocarbon emission in 4 stroke SI engine and explain any one.
 - b) Write a short note on Chassis Dynamometer.



Q-5

Attempt all questions

- a) Explain with neat sketch Gas Chromatography.
- b) Explain with neat sketch FID and write its standards for HC measurement.

Q-6

Attempt all questions

- a) Discuss ESC and ELR test procedure.
- b) Illustrate NDIR analyzers with neat sketch.

Q-7

Attempt all questions

- a) Define Catalytic Converter and explain the types of catalytic converter.
- b) Explain with neat sketch Orsat apparatus.

Q-8

Attempt all questions

- a) Write a short note on sources of pollutant formation in CI engine.
- b) Explain the method adopted for emission standard in INDIA, EUROPE & USA.

