

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name: Automobile Pollution and Control

Subject Code: 4TE06APC1

Branch: B.Tech (Automobile)

Semester: 6

Date: 19/04/2017

Time: 02:30 To 05:30

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) Explain Types of Emission. (1)
 - b) What is aldehyde emission? (1)
 - c) List out Noise Control Methods. (1)
 - d) Blow by gases are emitted from Tail pipe. True or False? (1)
 - e) Give the application of NDIR analyzer. (1)
 - f) List out pollution from diesel exhaust. (1)
 - g) List out Add-on systems for treatment of emissions within engine. (1)
 - h) Draw the figure of EGR system mechanically controlled by intake manifold Pressure. (1)
 - i) Write disadvantages of SCR. (1)
 - j) Write advantages of NSR. (1)
 - k) Draw the layout of Gas- Chromatographs. (1)
 - l) For which purpose a dilution tunnel is used. (1)
 - m) Give full name of FTP. (1)
 - n) According to EPA of USA, the following Carbon dioxide is not one of the six major pollutants. True or False? (1)

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

Q-2 Attempt all questions



- a) Write a short note on chassis dynamometers. (7)
- b) Explain the US Standards for heavy duty vehicles. (7)

Q-3 Attempt all questions

- a) List out main sources of hydrocarbon emission in 4 strokes SI engines and explain Flame Quenching. (7)
- b) Explain the US Standards for light duty vehicles. (7)

Q-4 Attempt all questions

- a) Explain effects of design and operating variables on SI engine emissions. (7)
- b) Write a short note on Positive Crankcase Ventilation system. (7)

Q-5 Attempt all questions

- a) Explain source of HC emission over mixing of fuel. (4)
- b) Explain the construction and working of Orsat apparatus. (6)
- c) Write a short note on noise pollution from Vehicle. (4)

Q-6 Attempt all questions

- a) Explain source of HC emission under mixing of fuel. (4)
- b) Write a short note on Flame Ionization Detector. (4)
- c) Explain any two SI engine design parameters to control emission in detail. (6)

Q-7 Attempt all questions

- a) Write a note on sources of pollutant formation in SI engine. (7)
- b) Write types of catalytic converter and explain Three way catalysts. (7)

Q-8 Attempt all questions

- a) Discuss various air pollutants and their effects on human health and environment. (7)
- b) What is meant by global warming? How it is occurring? How the automobiles are related to it? (7)

