CBCS SCHEME

USN | | | | | | | | | | |

17AU44

Fourth Semester B.E. Degree Examination, July/August 2021
Automotive Engines

Time: 3 hrs. Max. Marks: 100

Note: ***Answer any FIVE full questions.***

1 a. Illustrate with a neat sketch about the working principle of Four stroke CI engine. **(10 Marks)**
b. Explain with a neat sketch about the constructional detail of Four strokes SI Engine. **(10 Marks)**

2 a. Compare the two strokes and Four strove engine. **(10 Marks)**
b. Write the major difference between Otto cycle and diesel cycle. **(10 Marks)**

3 a. Illustrate with neat sketch about the working principle of common rail diesel injection systems. **(10 Marks)**
b. Explain with neat sketch the working of unit injector. **(10 Marks)**

4 a. Explain briefly about Pintle and Multihole nozzle. **(10 Marks)**
b. Briefly explain about the need and types of governor for diesel engine. **(10 Marks)**

5 a. Explain briefly the stages of combustion in SI engine. **(10 Marks)**
b. Explain briefly the process of knocking combustion in an SI engine. **(10 Marks)**

6 a. Illustrate with neat sketch about the various stages of combustion in an CI engine. **(10 Marks)**
b. Explain the factors affecting delay period and uncontrolled combustion in CI engines. **(10 Marks)**

7 a. Explain briefly about Turbo charging with waste gate variable geometry. **(10 Marks)**
b. Illustrate with neat sketch about different methods super charging and turbocharging. **(10 Marks)**

8 a. Justify the need for cooling system. **(03 Marks)**
b. Review in detail about types of cooling system for IC engine. **(07 Marks)**
c. Explain in detail about Thermo-Syphon cooling system. **(10 Marks)**

9 a. Briefly explain Mist-type lubrication system. **(10 Marks)**
b. Explain the requirements of lubrication system. **(06 Marks)**
c. Discuss the properties of lubricants. **(04 Marks)**

10 a. Illustrate with neat sketch about pressurized lubrication system. **(10 Marks)**
b. Explain in detail about Dry sump lubrication system with neat sketch. **(10 Marks)**

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