

N-Scheme Model Examination Question Paper*Time : Three hours**(Maximum Marks : 100)*

[N.B : (1) For Part - A. Answer All Questions. All question carry equal marks. (3x10 = 30)
(2) For Part - B. Answer all questions by choosing either A or B. (5 x 14 = 70)]

PART – A**(3x1 = 10)**

1. Mention few advantages of solid fuel.
2. What is volumetric analysis.
3. Discuss about nuclear power.
4. What is cetane number?
5. What is pre-ignition?
6. Mention few factors of emission.
7. Name various type of oil filter.
8. State about reduction catalysist.
9. Name few major euro emission standards.
10. Name few steps to reduce vehicle pollution.

PART – B**(5x14 = 70)**

11. (a) Describe construction and working of junker's gas calorimeter.

(Or)

- (b) A fuel has the following composition: Carbon 90%, Hydrogen 6%, Sulphur 2%, Oxygen 1%, ash 1%. Find the theoretical quantity of air required to burn 1Kg of the above fuel completely. What is the gravimetric composition of the products of combustion?

12. (a) (i) Describe about energy survey in India and also mention power generation capacity.
(ii) Describe about indian initiatives in alternate fuel.

(Or)

- (b) (i) With a neat sketch explain the construction and operation of a LPG engine.
(ii) Explain about bio diesel production path.

13. (a) Explain CI engine combustion stages and factors affecting delay period in detail.

(Or)

- (b) Describe construction and working of orsat apparatus in detail.

14. (a) (i) Explain engine fuel filter with neat sketch.
(ii) Explain various types of oil filter with neat sketch.

(Or)

- (b) (i) Briefly describe selection of silencer in detail.
(ii) Explain various kinds of catalytic converter with neat sketch.

15. (a) Explain bharat stage emission standards and their impacts in today's automobile.

(Or)

- (b) Briefly write about micro processor based control system and their applications in automobile