

[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
(2125)

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B. Tech 7th Semester Examination
Automobile Engineering (NS)
ME-413

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five questions selecting one question from sections A, B, C and D. Question in section E is compulsory.

SECTION - A

1. (a) Explain components of an automobile. (10)
(b) Explain front and rear wheel drives. (10)
2. (a) Explain principle of friction clutch. (10)
(b) Explain a centrifugal clutch with the help of diagram. (10)

SECTION - B

3. (a) Explain the object of gear box in an automobile. (10)
(b) Explain constructional details and working of constant mesh gear box. (10)
4. Explain constructional details and working of differential. Also give the purpose of differential lock. (20)

SECTION - C

5. (a) Explain the purpose of suspension system in an automobile. (10)

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- (b) Write a note on leaf spring. (10)
6. (a) Explain Caster, Camber, Kingpin inclination. (10)
(b) Explain Rack and Pinion Power steering gear. (10)

SECTION - D

7. (a) Explain the function of brake. What is stopping distance? (10)
(b) Explain types of tyres and their constructional details. (10)
8. Explain constructional details and working of starting system. (20)

SECTION - E

8. (a) State functions of vehicle frame.
(b) What is four wheel drive?
(c) Differentiate between wet and dry type clutch.
(d) Explain briefly universal joint.
(e) What are different types of loads coming on rear axle?
(f) Differentiate between full, three quarter and semi floating axle.
(g) State toe-in.
(h) What are drum brakes?
(i) Explain briefly tyre wear.
(j) What is capacity rating? (2×10=20)