

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

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B. Tech 7th Semester Examination

Automobile Engineering (OS)

ME-7002

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 : Candidates are required to attempt five questions in all, selecting one question from each of the section A, B, C and D of the question paper and all the subparts of the questions in section E. Use of non-programmable calculators is allowed.

SECTION - A

1. What is a chassis? Give its classification. (20)
2. (a) Describe the parts of a clutch. (10)
(b) Explain the requirement and operation of a clutch. (10)

SECTION - B

3. (a) Compare the selective type of Gear boxes. (8)
(b) Write a short notes on epicyclic gear box with a diagram. State its advantages over other types. (12)
4. What is a Differential? What is its purpose? Explain its construction and working. (20)

SECTION - C

5. What are dampers and explain its importance. Also briefly explain Telescopic dampers and Rocking lever damper with neat sketch. (20)

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6. (a) Derive the fundamental equation of correct steering with a diagram. (10)
(b) Explain general arrangement of steering system and explain the working of steering mechanism. (10)

SECTION - D

7. (a) Explain the principle and construction details of Drum Brakes and Disc Brakes. (10)
(b) What are the requirement for a good tyre? Explain briefly about tubed and tubeless tyres. (10)
8. Define Alternator. Explain its working, construction and operation of Alternator. (20)

SECTION - E

9. Write short note for the following.
 - (i) Four wheel drive.
 - (ii) Clutch drag & clutch slippage.
 - (iii) Clutch linkage.
 - (iv) Universal joint and its requirement.
 - (v) Leaf springs. And its uses.
 - (vi) King pin inclination.
 - (vii) Need for suspension system.
 - (viii) Fading of brakes & brake binding.
 - (ix) Power assisted brakes.
 - (x) Capacity of a battery. (10×2=20)