

[03 - 3216]

III/IV B.E. DEGREE EXAMINATION.

Second Semester

Mechanical Engineering

Elective — II : AUTOMOBILE ENGINEERING

(Effective from the admitted batch of 2006–2007)

Time : Three hours

Maximum : 70 marks

Question No. 1 is compulsory.

Answer any FOUR from the remaining.

All questions carry equal marks.

Answer to question No. 1 must be at one place.

Assume suitable data wherever necessary.

1. (a) Name various components mounted on the chassis frame.
- (b) How do you classify automobiles?
- (c) What is the purpose of pressure plate in a clutch?
- (d) Name the main components of an automobile transmission.

- (e) Why does a radial-ply tyre give comfortable ride at high speeds and a cross-ply tyre of low speeds?
- (f) Why do we have a differential in automobile?
- (g) What is lock position in steering?
2. (a) Explain briefly the various types of chassis construction with the help of suitable diagrams. (7)
- (b) How do you check the alignment of chassis frame? Explain clearly. (7)
3. (a) What is the function of a clutch? Explain the working of a single plate clutch with neat sketch.
- (b) Explain in detail various causes of clutch troubles. How can these be remedied?
4. (a) What is transfer box? When it is used? Explain the construction and working of any transfer box. (10)
- (b) Explain the necessity of a transmission in a vehicle. (4)
5. (a) Discuss in detail the procedure for overhaul of the propeller shaft. (7)
- (b) Discuss the common sources of trouble in the propeller shaft and the rear axle. Describe the appropriate remedies in each case. (7)

6. Draw the neat sketch of battery ignition system for a four cylinder engine and describe the working of this system. (14)
7. (a) Discuss the various brake troubles and their causes. (5)
- (b) Explain the working of drum brake system with the help of a neat sketch. (9)
8. (a) Explain vehicle security system. (5)
- (b) Draw and explain the simple wiring circuit of a car lighting system. (9)
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