

Reg. No. :

Name:

Eighth Semester B Tech Degree Examination, April 2017

13.803: AUTOMOBILE ENGINEERING

(2013 Scheme- Model Question Paper)

Time: 3 Hours

Max Marks: 100

PART- A

(Answer all questions. Each question carries 2 Marks)

1. How do you classify Automobiles in general?
2. Explain functions of piston ring.
3. Discuss mist lubrication system
4. Explain CRDI system.
5. Write notes on Hybrid vehicles
6. Explain automobile air conditioning.
7. With the help of a neat sketch explain the following terms.
 - a) Camber
 - b) King pin inclination
8. What are the properties of braking fluid?
9. Describe air suspension system
10. Explain the constructional details of a vehicle tyre. (10 x 2 = 20 Marks)

PART B

Answer **any one** question from each module. Each question carries **20** marks

MODULE 1

11. a) Discuss the requirements of cooling system. (10 Marks)
 - b) Explain the working of side cam shaft and overhead cam shaft types of valve actuating mechanism (10 Marks)
12. a) Differentiate between MPFI and CRDI system (12 Marks)
 - b) Explain Dry sump lubrication system (8 Marks)

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MODULE 2

13. a) Explain the working of bendix starter mechanism. (10 Marks)
- b) Draw the battery ignition system circuit for a four cylinder engine and explain its functioning (10 Marks)
14. a) Why spark advance is essential? Explain centrifugal spark advance system in detail (10Marks)
- b) Explain the functions of
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|-------------------------|--|
| i. direction indicator | iv. Speedometer |
| ii. fuel gauge | v. Speedometer Automotive air conditioning (10Marks) |
| iii. Oil pressure gauge | |

MODULE 3

15. a) Describe the working of multiple plate wet clutch. Give its advantages and limitations. (10 Marks)
- b) Sketch a constant mesh gear box in third gear engaged position and explains its working(10 Marks)
16. a) Describe the working and use of torque convertors. (10Marks)
- b) Distinguish between semi floating and three quarter floating type of rear axles. (10Marks)

MODULE 4

- 17a) With the help of a neat sketch, explain a tandem master cylinder. (10Marks)
- b) Explain the working of air brake system; Give its advantages and disadvantages. (10Marks)
- 18 a) What are the benefits of power steering? Explain electronic power steering system (10Marks)
- b) Explain the construction of chassis and frame (10Marks)