



B.E DEGREE EXAMINATIONS: APRIL/MAY 2016

(Regulation 2013)

Sixth Semester

AUTOMOBILE ENGINEERING

U13AUTE23: Modern Automobile Accessories

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Carburetor in an engine controls
 - a) Air fuel mixture
 - b) Air quantity
 - c) Fuel quantity
 - d) Fuel quality
2. The theoretical amount of air required to burn the fuel is denoted by
3. Traction control is used
 - a) To increase the driver effort in maintaining speed
 - b) To avoid wheel spin during hard acceleration.
 - c) To reduce tyre wear
 - d) To maintain fuel economy
4. ABS maintains
5. HVAC stands for
 - a) Heating, Ventilation and Air Conditioning
 - b) Heavy vehicle automatic control
 - c) Hydraulic vehicle adaptive control
 - d) Heavy vehicle acceleration control
6. Automatic climate controls provides uniform inside the cabin
7. Electric seat controls adjusts
 - a) Height of the seat
 - b) Thickness of the seat
 - c) Steering reach
 - d) Steering height
8. Cruise control maintains
9. Airbag prevents
 - a) Injury to passengers
 - b) Damage to the vehicle interior
 - c) Accidents
 - d) Damage to the vehicle seat
10. Seat belt tightening system uses mechanism

PART B (10 x 2 = 20 Marks)

(Answer not more than 40 words)

11. Name at least two situation which require alteration in the fuel – air mixture in an engine.
12. Differentiate leaded and unleaded fuel.
13. What are the advantages of Electronically controlled automatic transmission?
14. What is 'X by wire'?
15. Explain the basic working principle of a air conditioning system.
16. What are the requirements of a seat heating system?
17. What is the control system used by cruise control?
18. What is ICE?
19. What is ESC?
20. Strengthening the roof support prevents injury to the passengers during which accidents. Justify.

PART C (5 x 14 = 70 Marks)

(Answer not more than 400 words)

Q.No. 21 is Compulsory

21. What is OBD? Explain with a neat sketch.

22. (a) Discuss the working of steer by wire technology.

(OR)

(b) Explain the functioning of Active Suspension system.

23. (a) Discuss the layout of electronically controlled vehicle heating system.

(OR)

(b) Explain the functioning of Automatic climate control.

24. (a) Explain the functioning of Adaptive Cruise control.

(OR)

(b) With neat sketch explain the working of active steering system.

25. (a) What are the advantages of adjustable steering column? Discuss its effect on safety of the driver in-case of frontal collision.

(OR)

(b) What is the function of ESC? Explain it with reference to a situation.
