

**RVK/KW/13/3298/3629**

**Faculty of Engineering & Technology**  
**Eighth Semester B.E. (Mech. Engg.)/Eighth Semester**  
**B.E. P.T. (Mech.) Examination**  
**AUTOMOBILE ENGINEERING (New)**

**Elective—III**

**Sections—A & B**

Time—Three Hours]

[Maximum Marks—80

**INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
- (2) Answer **THREE** questions from Section A and **THREE** questions from Section B.
- (3) Due credit will be given to neatness and adequate dimensions.
- (4) Assume suitable data wherever necessary.
- (5) Illustrate your answers wherever necessary with the help of neat sketches.

**SECTION—A**

1. (A) Define 'an Automobile'. Name Major components of an Automobile. Explain any two of them in brief.

7

(B) Explain Fuel Supply System in the Diesel Engine.

6

2. (A) What is the necessity of Lubrication in an Engine ?  
List out the methods and explain any one of them  
with neat sketch. 7

(B) What is the necessity of a Clutch in an  
Automobile ? Explain with neat sketch Single Plate  
Clutch. 6

3. (A) What is the necessity of transmission system in an  
automobile ? Explain with a neat sketch Constant  
Mesh Gear Box. 7

(B) Explain with neat sketch Automatic Transmission.  
Also state, advantage over manual transmission  
system. 6

4. (A) List out the various types of brake system used in  
Automobile and explain Air-braking System with neat  
sketch. 7

(B) Explain with neat sketch the construction and working  
of differential in an Automobile. 6

5. Write short notes on (any **THREE**) :—

(i) Parts of Engine and its Materials

(ii) Fluid clutch

(iii) Gear Selector Mechanism

(iv) Torque tube drive. 14

## SECTION—B

6. (A) Explain the following terms :—

Camber, Castor, toe-in, toe-out.

What are the effects of each on steering characteristic  
of Vehicle ? 7

(B) Differentiate between air assisted power steering and  
oil assisted power steering. 6

7. (A) Explain the necessity of suspension. Describe the  
working of telescopic type shock absorber with neat  
sketch. 7

(B) What is the independent suspension system ? Explain  
its types and state working of any one of them with  
neat sketch. 6

8. (A) Explain the Battery Ignition System used in automobiles  
with neat sketch. Also, state its salient features. 7

(B) Explain working principles and operations of  
Alternator. 6

9. (A) Explain Electronics Ignition System with neat circuit  
diagram. 7

(B) Explain Navigational aids and intelligent vehicle highway  
system. 6

10. Write short notes on (any **THREE**) :—

(a) Automobile air conditioning

(b) Collision avoidance technique

(c) Intelligent Vehicle highway system

(d) Engine Overhauling and its Tune up. 14