

B.Tech 7th Semester (AUE) F-Scheme

Examination, December-2017

VEHICLE DYNAMICS

Paper-AUE-403-F

Time allowed : 3 hours] [Maximum marks : 100

Note : Attempt any five questions in all. Question number one is compulsory and select at least one question from each section.

1. Write short note on the following: 5×4
- (i) Name different types of vibrations.
 - (ii) Concept of Vibration absorber.
 - (iii) Spring rate
 - (iv) Steering system

Section-A

2. Discuss in detail the Eigen value problems. 20
3. Discuss in detail about Rayleigh's upper bound-Holzer method. 20

Section-B

4. Explain the stability of a vehicle on a slope, on a curve and a banked road. 20
5. Explain choice of suspension spring rate and calculation of effective spring rate. 20

Section-C

6. Explain model of an Automobile multi degrees of freedom system. 20
7. Discuss the forced vibration by matrix inversion. 20

Section-D

8. Explain Dunker-Ley's lower bound method. 20
9. Discuss in detail Gough's tyre characteristics. 20