

Total No. of Questions : 8]

[Total No. of Printed Pages : 1

Roll No

AU-604 (GS)
B.E. VI Semester Examination, June 2020
Grading System (GS)
Automotive Design and Assembly Drawing
Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. Explain with neat sketch the salient features and working of DOHC (Dual Overhead Cam Shaft).
2. Determine the maximum, minimum and average pressure in a plate clutch when the axial force is 4kN. The inside radius of the contact surface is 50mm and the outside radius is 100mm. Assume uniform wear.
3. Discuss energy absorption and heat dissipation through the brake.
4. Derive the design equation for power transmission and clutch dimensions for single plate clutch .
5. Design a leaf spring for the following specification Total load=140 kN; Number of springs supporting the load=4, Maximum number of leaves=10; Span of the Spring=1000 mm; Permissible deflection=80mm.
Take young's modulus, $E=200 \text{ kN/mm}^2$ and allowable stress in spring material as 600 MPa.
6. Draw the assembly drawing of a connecting rod assembly by assuming suitable dimensions.
7. Discuss the different design considerations for chassis assembly.

OR

Explain with suitable examples the design factors for connecting rod assembly.

8. Answer any two of the following:
 - a) Explain how number of active turns depends upon the type of ends of the helical compression spring.
 - b) Explain the role of supporting ribs and cup formation in piston head.
 - c) For a single shoe brake explain following conditions:
 - i) Self energizing
 - ii) Self-locking
