Student Exam No._____

GANPAT UNIVERSITY

B. Tech. Semester: VIII-Mechanical Engineering

CBCS Regular Examination May– June 2017

2ME805/3 Automobile Engineering

Time: 3 Hour **Total Marks: 70**

Instruction: 1 Attempt all Questions.
2 Assume suitable data if necessary.
3 Draw neat sketch wherever essential.
4 Be precise and to the point in answering the descriptive question.

Section – I

Que. – 1 **(A)** Give formulation of total vehicular resistance at constant velocity. **(6)**

(B) Describe dynamic axle loads with neat sketch. **(6)**

OR

Que. – 1 **(A)** Describe diaphragm clutch with neat sketch. **(6)**

(B) Define universal joint. Explain constant velocity joint. **(6)**

Que. – 2 **(A)** Describe basic rack and pinion steering system in detail with neat sketch. **(6)**

(B) Difference between independent and dependent suspensions. Explain any one independent suspension. **(5)**

OR

Que. – 2 **(A)** Describe mechanical brake. Explain parking brake with neat sketch. **(6)**

(B) Define the following :- **(5)**
(i) Camber. (ii) Caster. (iii) King Pin Inclination. (iv) Under Steering.
(v) Toe out. (vi) Toe in.

Que. – 3 **Attempt all.** **(12)**

(A) Give classification of chassis. Describe full-forward chassis. **(4)**

(B) Describe torque converter in detail with neat sketch. **(3)**

(C) A multi plate clutch has three pairs of contact surfaces. The outer and inner radii of the contact surfaces are 100 mm and 50 mm respectively. The maximum axial spring force is limited to 1 kN. If the coefficient of friction is 0.35 and assuming uniform wear, find the power transmitted by the clutch at 1500 r.p.m. **(5)**

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Section – II

Que. – 4 **(A)** Describe construction, working of Lead Acid Battery with neat sketch. Explain Methods of rating for battery. **(6)**

(B) Enlist types of exhaust silencer. Explain any one with neat sketch. **(6)**

OR

Que. – 4 **(A)** Explain briefly with neat sketch: - Fuel Gauge, Speedometer. **(6)**

(B) Give brief information related to following vehicle test standard. **(6)**
(i) AIS 040 (ii) AIS 023 (iii) AIS 012 (iv) AIS 006 (v) AIS 066

Que. – 5 **(A)** Describe a need of vehicle testing. Explain engine tune up. **(6)**

(B) Describe effect of engine maintenance on exhaust emission control of S.I. Engine **(5)**

OR

Que. – 5 **(A)** Give brief description of 2-way and 3-way catalytic converter with neat sketch. **(6)**

(B) Explain overhauling of engine. **(5)**

Que. – 6 **Attempt Any three.** **(12)**

(A) Give the description of following tire sidewall :- **(4)**
(1) P215/65R15.
(2) 95H
(3) M+S

(B) Enlist type of ignition system. Explain Electronic ignition system with neat sketch. **(5)**

(C) Describe CRDI system with neat sketch. **(3)**

END OF PAPER