Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 09

B.Voc. (Automobile Servicing) (Sem.–5)
AUTOMOTIVE SYSTEM DESIGN
Subject Code : 7.GV.01
M.Code : 91072
Date of Examination : 12-12-22

Time : 3 Hrs.   Max. Marks : 30

INSTRUCTIONS TO CANDIDATES :
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying ONE mark each.**
2. **SECTION-B contains FIVE questions carrying $2^1/_2$ (Two and Half) marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying FIVE marks each and students has to attempt any TWO questions.**

SECTION-A

l. **Write short notes on :**

a) What is the function of clutch?

b) Define gear ratio.

c) Write the applications of propeller shaft.

d) Define rigidity.

e) What is the need of hydraulic braking system?

f) What is the role of wheel cylinder?

g) What is the function of helical springs?

h) What are Belleville springs?

i) What do you understand by Aesthetic design.

j) What is mechanical reliability? $(10 \times 1 = 10)$

SECTION-B

2. Explain the working of centrifugal clutch. 2.5

3. Differentiate between live and dead axles. 2.5

4. Discuss the working of disc brake. 2.5

5. Write the general design considerations of suspension system. 2.5

6. Explain the concept of natural tolerances. 2.5

SECTION-C

7. Discuss the selection criterion of friction clutch and also explain torque transmission capacity. 5

8. Discuss the design procedure of universal joints. 5

9. Explain the Johnson's method of optimum design with suitable example. 5

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.