

**D.Voc Mechanical Manufacturing****Subject: Applied Mechanics****Subject Code: ME-403****Semester: Third****September 2022****Theory (External): 35 Marks****Time: 03 Hours****Instructions to the Students**

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 1 marks.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 5 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled

**Roll Number**

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**SECTION –A (SHORT/OBJECTIVE TYPE QUESTIONS)**  
(10x1=10)

- A. Define coplanar forces
- B. Define unit of moment
- C. Define efficiency
- D. Define equilibrium
- E. Discuss coefficient of friction
- F. Define angle of friction
- G. Define angle of response
- H. Discuss the function of self locking machine
- I. Define applications of law of force
- J. Define law of machine

**SECTION –B (ESSAY TYPE QUESTIONS)**  
(5x5=25 Marks)

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1. Differentiate between FPS and MKA units and also discuss their conversion from one form to another
2. Explain the effect and characteristics of forces with suitable diagram and applications
3. Explain the principle of transmissibility of forces with suitable examples
4. Drive and explain lami's theorem with suitable example
5. Drive and explain the law of superposition with suitable applications
6. Drive and explain the polygon law of forces with suitable applications
7. Explain the working principle of screw jack with neat diagram along with suitable applications
8. Discuss the general conditions of equilibrium of bodies under coplanar forces with suitable example.

END OF PAPER

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