SEMBODAI RUKMANI VARATHARAJAN ENGINEERING COLLEGE,SEMBODAI DEPARTMENT OF SCIENCE AND HUMANITIES

CIA-I (Retest)

BRANCH: MECHANICAL DATE: 13 /03/19

SUB: GE 8292 & ENGINEERING MECHANICS YEAR: I/II

 MARKS: 50

ANSWER ALL THE QUESTIONS:

PART- A 5X2=10

1. State and prove varignon’s theorem.
2. Define moment.
3. Define principle of transmissibility.
4. State lami’s theorem
5. What is meant by resultant force?

PART –B 4X10=40

1. A string ABCD, attached to two fixed points A and D has two equal weights of 1000N attached to it at B and C. the weights rest with the portions AB and CD inclined at angles of 300 and 600 respectively, to the vertical as shown fig. find the tensions in the portions AB, BC, CD of the string, if the inclination of the portion BC with the vertical is 1200.

 

1. Two identical rollers, each of weight 50N, are supported by an inclined plane and a vertical wall as shown in fig. find the reactions at the points of supports A, B and C. assume all the surfaces to be smooth.

 

1. Two vertical forces and a couple of magnitude 20KNm, acting on a horizontal rod, which is fixed at A. as shown in fig. (i) Determine the resultant of the system (ii) reduce to force couple system at A.

 

1. Find the pin reaction of A and roller reaction at B. for the beam shown in fig.

 