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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech II Year I Semester Supplementary Examinations August-2021

KINEMATIC OF MACHINERY

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

- 1 a What is pantograph? Show it generates a path similar to the path traced mechanism. **6M**
b What is constrained motion? Give two examples for each with suitable sketch. **6M**

OR

- 2 a What are the different types constrained motion? Give examples. **6M**
b Explain the working of beam engine with neat sketch. **6M**

UNIT-II

- 3 a Sketch and Describe the watt mechanism. **8M**
b What are the disadvantages of Davis steering gear mechanism? **4M**

OR

- 4 a Sketch and Describe the Tchebichef mechanism **7M**
b Sketch and explain the working of Grasshopper straight line mechanism. **5M**

UNIT-III

- 5 a How the Velocity of a Point on a Link can find by Relative Velocity Method? **6M**
b Discuss the three types of instantaneous centers for a mechanism. **6M**

OR

- 6 a Write the relation between the number of instantaneous centers and the number of links in a mechanism. **5M**
b What do you understand by the instantaneous centre of rotation in kinematic of machines? Answer briefly. **7M**

UNIT-IV

- 7 a Explain with sketches the different types of followers. **6M**
b Write short notes on cams. **6M**

OR

- 8 a What are the different types of motion with which a follower can move? **8M**
b Draw the displacement diagram for a follower when it moves with simple harmonic motion. **4M**

UNIT-V

- 9 a Write advantages and disadvantages of gears. **4M**
b What do you understand by 'gear train'? Discuss the various types of gear trains. **6M**

OR

- 10 a Explain the classification of gears with neat sketches. **8M**
b Explain the terms : (i) Module, (ii) Pressure angle, and (iii) Addendum. **4M**

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