NAWAB SHAH ALAM KHAN COLLEGE OF ENGINEERING & TECHNOLOGY

New Malakpet, Hyderabad-500024

II-B.E II-SEM MID-I EXAMINATION Aug – 2021

BRANCH: MECH   **MARKS:20**

SUBJECT: KOM   **TIME: 60MINS**

Note : Q1 in part A is compulsory and answer any two full questions from part B.

PART A

Q1

a	Differentiate between mechanism and machine. ?	L2	CO1	1M
b	What is meant by mobility?	L1	CO1	1M
c	State Grashofs law.	L3	CO1	1M
d	State law of gearing.	L3	CO2	1M
e	What is interference ?	L1	CO2	1M
f	classify cams.	L4	CO2	1M

PART B

2	Explain the inversions of single slider crank chain mechanism.	L2	CO1	7M
3	a. Explain Peaucellier mechanism.	L2	CO1	3M
	b. Differentiate Davis and Ackermans steering mechanism.	L2		4M
4	a. Drive an expression for length of path of contact of gear	L3	CO2	3M
	b. A pinion having 30 teeth drives a gear having 80 teeth. The profile of the gears is involute with 20° pressure angle, 12 mm module and 10 mm addendum. Find the length of path of contact, arc of contact and the contact ratio.	L4		4M
5	In an epicyclic gear train, the internal wheels A and B and compound wheels C and D rotate independently about axis O. The wheels E and F rotate on pins fixed to the arm G. E gears with A and C and F gears with B and D. All the wheels have the same module and the number of teeth are : TC = 28; TD = 26; TE = TF = 18. **1.** Sketch the arrangement ; **2.** Find the number of teeth on A and B ; **3.** If the arm G makes 100 r.p.m. clockwise and A is fixed,find the speed of B ; and **4.** If the arm G makes 100 r.p.m. clockwise and wheel A makes 10 r.p.m. counter clockwise ; find the speed of wheel B	L4	CO2	7M