

CRM08

Rev 1.11

ME

28/07/2022

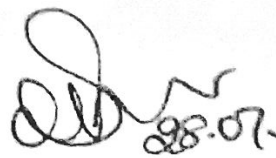
CONTINUOUS INTERNAL EVALUATION - 2

Dept: ME	Sem / Div: 4 A	Sub: KINEMATICS OF MACHINES	S Code: 18ME44
Date: 05/07/2022	Time: 3:00pm-4:30pm	Max Marks: 50	Elective: N

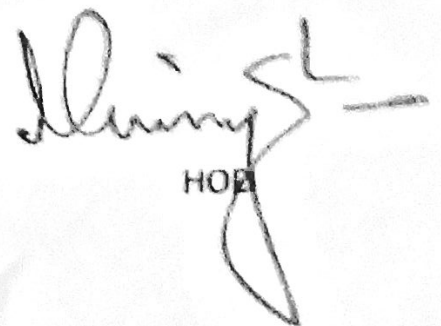
Note: Answer any 2 full questions, choosing one full question from each part.

QN	Questions	Marks	RBT	CO's
PART A				
1	a With neat sketches describe classification of CAMs	10	L2	CO4
	b Draw the cam profile for following conditions: Follower type = Knife edged, in-line; lift = 50mm; base circle radius = 50mm; out stroke with SHM, for 60° cam rotation; dwell for 45° cam rotation; return stroke with SHM, for 90° cam rotation; dwell for the remaining period. Determine max. velocity and acceleration during out stroke and return stroke if the cam rotates at 1000 rpm in clockwise direction.	15	L2	CO4
OR				
2	a Write a note on CAM Nomenclature with a neat sketch.	5	L2	CO4
	b Draw the cam profile for following conditions: Follower type = roller follower, off set to the right of cam axis by 18mm; lift = 35mm; base circle radius = 50mm; roller radius = 14mm; out stroke with SHM in 0.05sec; dwell for 0.0125sec; return stroke with UARM, during 0.125sec; dwell for the remaining period. During return stroke, acceleration is 3/5 times retardation. Determine max. velocity and acceleration during out stroke and return stroke if the cam rotates at 240 rpm.	20	L3	CO4
PART B				

3	a	With neat sketches describe classification of Followers	10	L2	CO4
	b	Draw the cam profile for following conditions: Follower type = roller follower, in-line; lift = 25mm; base circle radius = 20mm; roller radius = 5mm; out stroke with UARM, for 120° cam rotation; dwell for 60° cam rotation; return stroke with UARM, for 90° cam rotation; dwell for the remaining period. Determine max. velocity and acceleration during out stroke and return stroke if the cam rotates at 1200 rpm in clockwise direction.	15	L2	CO4
OR					
4	a	Write a short note on types of follower motion. Also describe the format of displacement diagrams for follower motion with UARM.	10	L2	CO4
	b	Draw the cam profile for following conditions: Follower type = knife edged follower, in line; lift = 30mm; base circle radius = 20mm; out stroke with uniform velocity in 120° of cam rotation; dwell for 60°; return stroke with uniform velocity, during 90° of cam rotation; dwell for the remaining period. Consider follower off set by 10 mm to the left of cam center	15	L2	CO4

 28.07.2022

Prepared by: Sudarshan M L


HOD