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Examination: 2017 SUMMER

Que.No	Question/Problem	marks
Q 1 d)	Define centripetal and tangential acceleration.	2
Q 1 e)	Find the velocity of point B and midpoint C of link AB shown in Figure	2
Q 2 b)	Explain with neat sketch how to find the velocity of a slider in slider crank mechanism by Klein's construction.	2
Q 3 c)	In slider crank mechanism, the length of crank OB and.....	4
Q 4 b)	In a four bar mechanism ABCD link AD is fixed and the crank AB rotates at 10 rad.....	4
Q 5 b)	In the toggle mechanism as shown in Fig. (2), D is constrained.....	8

Examination: 2017 WINTER

Que.No	Question/Problem	marks
Q 2 c)	Define linear velocity, angular velocity, absolute velocity and state the relation between linear velocity and angular velocity.	4
Q 2 d)	Explain the Klein's construction to determine velocity and acceleration of single slider crank mechanism	4
Q 3 a)	In a four bar chain ABCD, AD is fixed and is 150 mm long. The crank AB is 40 mm long and rotates at 120 r.p.m. clockwise, while the link CD = 80 mm oscillates about D. BC and AB are of equal length. Find the angular velocity of link CD when angle BAD = 60	4

Que.No	Question/Problem	marks
Q 3 b)	In a slider crank mechanism, the length of crank OB and connecting rod AB are 125 mm and 500 mm respectively. The centre of gravity G of the connecting rod is 275 mm from the slider. The crank speed is 600 rpm clockwise. When the crank has turned 45 from	4
Q 5 a)	The crank of a slider crank mechanism rotates clockwise at a constant speed of 300 rpm. The crank is 150 mm and the connecting rod is 600 mm long. Determine : (i) linear velocity and acceleration of the mid-point of the connecting rod, and (ii) angular ve	8

Examination: 2016 SUMMER

Que.No	Question/Problem	marks
Q a)(ii)	Explain single cylinder 4-stroke I.C. engine using turning moment diagram.	4
Q 2 c)	Define linear velocity, angular velocity, absolute velocity and state the relation between linear velocity and angular velocity.	4
Q 2 d)	Explain the Klein's construction to determine velocity and acceleration of single slider crank mechanism.	4
Q 3 a)	In a slider-crank mechanism, the crank is 480 mm long and rotates at 20 rad/sec in the counter-clockwise direction.....	4
Q 3 b)	In a slider crank mechanism, crank AB = 20 mm & connecting rod BC = 80 mm. Crank AB rotates with uniform speed of 1000 rpm in anticlockwise direction.....	4
Q 5 a)	In a slider crank mechanism shown in figure 1.....	8

Examination: 2016 WINTER

Que.No	Question/Problem	marks
Q 2 c)	Explain Klein’s construction to determine velocity and acceleration of different links in single slider crank mechanism.	4
Q 2 d)	Define the terms	4
Q 3 b)	The crank and connecting rod of steam engine are 0.5m	4
Q 5 a)	In a slider crank mechanism the length of crank and connecting rod are 100mm	8

Que.No	Question/Problem	marks
Q 6 b)	PQRS is a four bar chain with link PS fixed.....	8

Examination: 2015 SUMMER

Que.No	Question/Problem	marks
Q 2 c)	Define linear velocity, angular velocity, absolute velocity and state the relation between linear velocity and angular velocity.	4
Q 2 d)	Describe stepwise procedure for determination of velocity and acceleration by Klein's construction with suitable data.	4
Q 3 e)	PQRS is a four bar chain with PS fixed length of links are PQ = 62.5 mm, ...	4
Q 5 a)	In reciprocating engine the crank is 250 mm long and connecting rod is 1000 mm long.	8

Examination: 2015 WINTER

Que.No	Question/Problem	marks
Q 2 c)	Define the terms linear velocity, relative velocity, angular velocity and angular acceleration.	4
Q 2 d)	For a single slider crank mechanism , state the formulae to calculate by analytical method – Also state the meaning of each term.	4
Q 3 a)	Space diagram 01 Mark, Velocity Diagram 02 marks , Calculations 01 Mark	4
Q 3 b)	A Single slider crank mechanism:	4
Q 5 a)	Problem - The crank and connecting rod of a reciprocating engine are 200 mm and 700 mm respectively.....	4