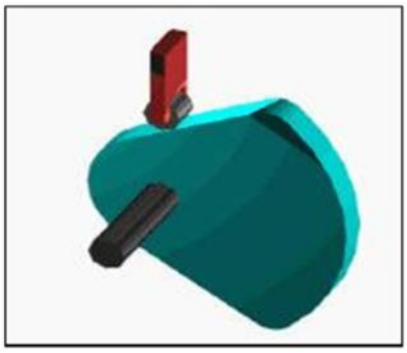
SUVA SANGAM COLLEGE

TECHNICAL DRAWING

YEAR 13

WEEK 1 DATE - 5/7 – 9/7

STRAND	CHAPTER 1 GEOMETRY
SUB STRAND	Cams
OUTCOME	Define CAMS
REFERENCE	Txt Bk. Pg. 30



A **cam** is a component on which a particular profile has been machined. The profile of the cam imparts (causes) a follower to move in a particular way. As the shaft is rotated the cam rotates with it causing the follower to move up and down.

Cams fall into two main categories:

Plate / Face cams and Cylindrical Cams

1. The plate cam is merely a flat disc that has had a certain shape (or profile) machined on to it. The follower is placed in contact with this profile and as the cam is rotated the profile of it translates into a particular movement of the follower usually up and down.

   The face cam is a disc that has a groove machined into its face and a roller follower is used to follow the groove as the cam rotates.

2. The cylinder or drum cam is a cylinder that has had a profile machined onto it and as the cam rotates the profile imparts a particular motion on its follower.

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TECHNICAL DRAWING

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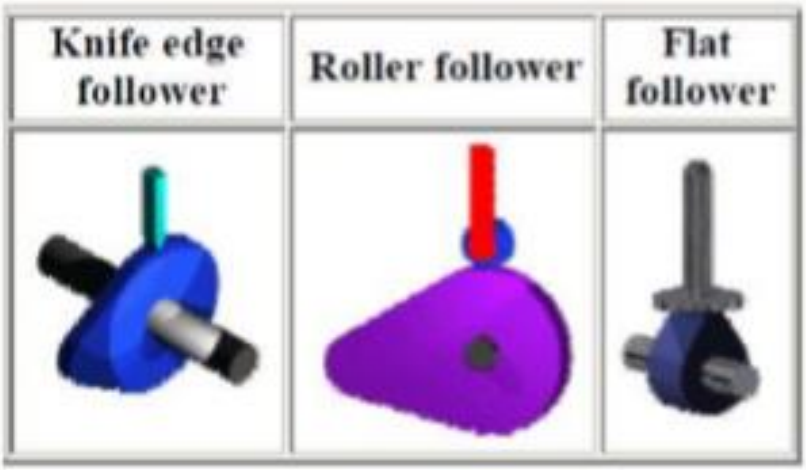
WEEK 2 DATE - 12/7 – 16/7

STRAND	CHAPTER 1 GEOMETRY
SUB STRAND	Cams
OUTCOME	Types of Follower
REFERENCE	Txt Bk. Pg. 31

Types of follower:

There are three main types of follower:

1. The knife edge follower
2. The roller follower
3. The flat follower



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TECHNICAL DRAWING

YEAR 13

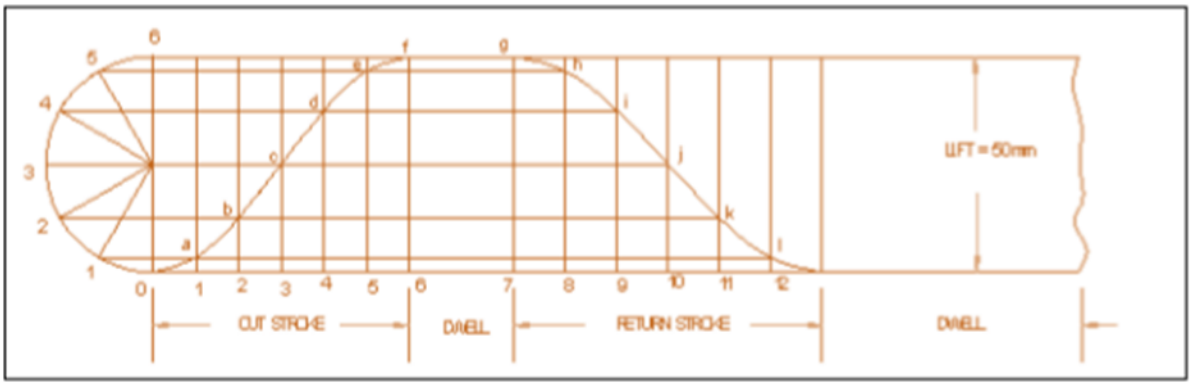
WEEK 3 DATE -19/7 – 23/7

STRAND	CHAPTER 1 GEOMETRY
SUB STRAND	Cams
OUTCOME	Construct a Cam Profile
REFERENCE	Txt Bk. Pg. 31

Worked Example:

Draw the cam profile for following conditions:

Displacement diagram



Steps to solve example of the CAM profile

1. Construct base circle of 50mm radius.
2. Mark points 1, 2, 3…..in direction opposite to the direction of cam rotation.
3. Transfer points a, b, c…..l from displacement diagram to the cam profile
4. Join them by a smooth free hand curve.

This forms the required cam profile

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YEAR 13

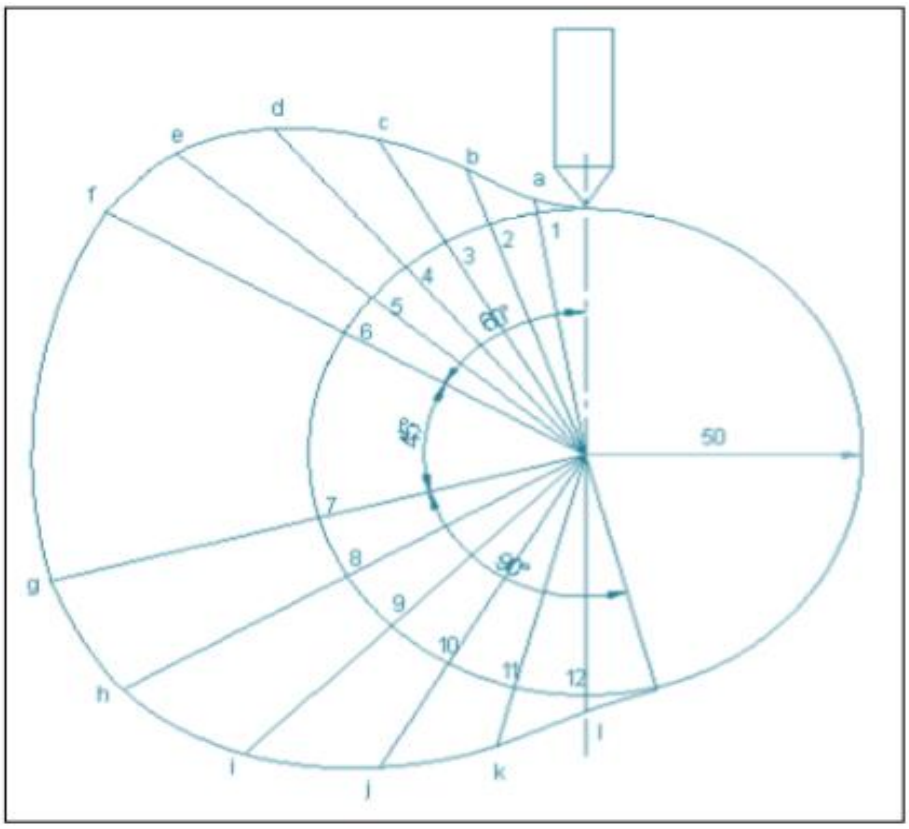
WEEK 4 DATE -26/7 – 30/7

STRAND	CHAPTER 1 GEOMETRY
SUB STRAND	Cams
OUTCOME	Construct a Cam Profile
REFERENCE	Txt Bk. Pg. 31

Example Solution

Please study the example solution shown below to be able to answer the exercise that follow.

Cam profile: Construct base circle



Note: Internet Youtube search has also video of this exercise and will assist for better understanding.

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TECHNICAL DRAWING

YEAR 13

WEEK 5 DATE -2/8 – 6/8

STRAND	CHAPTER 1 GEOMETRY
SUB STRAND	Cams
OUTCOME	Construct an offset Cam Profile
REFERENCE	Txt Bk. Pg. 32

Exercise

Given the Displacement graph drawn for one revolution, you are required to draw the **cam profile** for the same operating condition with the follower **offset by 10 mm** to the left of cam center.