

Class 12 Engineering Graphics Chapterwise PYQs

Machine Drawing - Pulleys | 2026-27 Board Revision

The local chapterwise PYQ source set has no extractable Engineering Graphics rows for this pulley chapter. This PDF therefore uses NCERT-based board-style prompts around repeated machine-drawing skills: pulley rim, boss, arms, web, belt groove, fast and loose pulley, stepped pulley, sectional views and final drawing checks.

Section	Question Count	Marks
A: Objective Drawing Checks	6	1 mark
B: Short Construction Questions	8	2 marks
C: Drawing Sequence Questions	6	3 marks
D: Board-Style Machine Drawing	4	5 marks

Section A: Objective Drawing Checks

Q. Which feature carries the belt surface in a pulley drawing?

[NCERT-based Class 12 Engineering Graphics board-style prompt]

Q. In a keyed pulley, where is the keyway shown with respect to the boss?

[NCERT-based Class 12 Engineering Graphics board-style prompt]

Q. Which line type should mark the common pulley axis?

[NCERT-based Class 12 Engineering Graphics board-style prompt]

Q. Which view is best for checking equal spacing of pulley arms?

[NCERT-based Class 12 Engineering Graphics board-style prompt]

Q. In a V-belt pulley, what feature replaces the flat belt face?

[NCERT-based Class 12 Engineering Graphics board-style prompt]

Q. Why are hidden lines usually avoided in the sectional front view?

[NCERT-based Class 12 Engineering Graphics board-style prompt]

Section B: Short Construction Questions

Q. State two drawing checks before darkening the final outline of a flat pulley.

[Chapter 6 machine drawing revision pattern]

Q. Explain the role of the boss and bore in a pulley assembly drawing.

[Chapter 6 machine drawing revision pattern]

Q. Write the construction order for drawing a pulley with six arms.

[Chapter 6 machine drawing revision pattern]

Q. How should adjacent cut parts be hatched in a sectional pulley view?

[Chapter 6 machine drawing revision pattern]

Q. Name two differences between a flat pulley and a V-belt pulley drawing.

[Chapter 6 machine drawing revision pattern]

Q. Why should the side view be projected only after the main section is fixed?

[Chapter 6 machine drawing revision pattern]

Q. What is the purpose of showing a keyway in the pulley boss?

[Chapter 6 machine drawing revision pattern]

Q. Mention two common mistakes students make while drawing stepped pulleys.

[Chapter 6 machine drawing revision pattern]

Section C: Drawing Sequence Questions

Q. Describe the steps for drawing the sectional front view of a pulley with a central boss and four arms.

[CBSE-style drawing-sequence question]

Q. A pulley has a rim, boss, bore and keyway. Write the order in which these parts should be constructed in the main view.

[CBSE-style drawing-sequence question]

Q. Explain how centre lines, construction circles and projected widths help in drawing a clean side view of a pulley.

[CBSE-style drawing-sequence question]

Q. Compare the drawing treatment of a webbed pulley and an armed pulley.

[CBSE-style drawing-sequence question]

Q. How should a student check that the belt groove of a V-belt pulley is symmetrical?

[CBSE-style drawing-sequence question]

Q. Give a final checklist for a board answer on fast and loose pulleys.

[CBSE-style drawing-sequence question]

Section D: Board-Style Machine Drawing

Q. Draw the sectional front view and side view of a flat pulley with a boss, keyway and six arms. Show centre lines, hatching and main visible outlines clearly.

[Board-style long drawing practice]

Q. Draw a V-belt pulley in sectional front view. Show the V-groove, rim thickness, boss, bore and keyway with correct symmetry.

[Board-style long drawing practice]

Q. Draw a stepped cone pulley suitable for belt speed variation. Indicate all steps, common axis and projected side view details.

[Board-style long drawing practice]

Q. Draw the arrangement of fast and loose pulleys on a shaft. Show the relative position of pulleys, shaft, keying convention and belt face.

[Board-style long drawing practice]

Quick Revision Pointers

- Start with the common axis and all reference circles. This protects symmetry.
- Mark the boss and bore before arms or web details, so every element stays centred.
- In sectional views, hatch only the cut material and avoid unnecessary hidden edges.
- For V-belt and stepped pulleys, check the belt surface shape before final darkening.