

Q.24 A Cam is designed for a knife edge follower with following data:

- i) Cam lift = 50 mm during 90° of cam rotation with simple harmonic motion.
- ii) Dwell for the next 30°
- iii) During the next 60° of cam rotation, the follower returns to its original position with simple harmonic motion.
- iv) Dwell during remaining 180°

Draw the profile of cam when the radius of the base circle of the cam is 58 mm.

Q.25 Draw the profile of involute teeth of gear by prof. Unwin's method having 36 teeth, module pitch 10mm and pressure angle 20° . Draw at least four teeth. (CO-2)

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3rd Sem / Automobile Engineering
Subject : Automobile Engineering Drawing

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Which type of tolerance provided in drilling mostly? (CO-2)

- a) Unilateral b) Bilateral
- c) Zero d) Trilateral

Q.2 Upper deviation is the algebraic difference between the _____ and corresponding basic sizes. (CO-2)

- a) Actual size
- b) Minimum limit of the size
- c) Maximum limit of the size
- d) Design size

Q.3 Which type of gear system has minimum axial thrust (CO-2)

- a) Helical b) Spur
- c) Herring bone gear d) Bevel

Q.4 The part of tooth between pitch circle and addendum circle is _____. (CO-2)

- a) Half tooth b) Flank
- c) Face d) upper tooth

Q.5 Compare to spur gear a helical gear is _____
(CO-2)

- a) Create more vibration and noise
- b) Own more smoothly
- c) Own exactly same
- d) None of the above

Q.6 The type of motion in cam depends upon _____
(CO-2)

- a) Shape of cam b) Types of follower
- c) Both (a) & (b) d) None of the above

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 A cam transmits irregular or intermittent motion by _____ (CO-1)

Q.8 Universal joint comes under category of _____ (CO-1)

Q.9 What is the purpose of pitch circle? (CO-2)

Q.10 Addendum of a gears defined as _____ (CO-1)

Q.11 The significance of pressure angle in gear is _____ (CO-2)

Q.12 According to the surface in contact, the follower are _____ (CO-1)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Differentiate between interference fit & clearance fit. (CO-2)

Q.14 Draw Side valve mechanism. (CO-1)

Q.15 Define and draw fuel injector. (CO-2)

Q.16 Draw Crank shaft and define its application. (CO-2)

Q.17 Classify Couplings. (CO-2)

Q.18 Explain types of limits. (CO-2)

Q.19 What is angle of ascent. (CO-1)

Q.20 Classify Follower. (CO-2)

Q.21 Draw connecting rod. (CO-1)

Q.22 Draw Leaf spring and explain its applications. (CO-2)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Draw following views of four stroke petrol engine piston by taking appropriate dimensions: (CO-2)

- a) Front view with full in section
- b) Top view
- c) Side view with left half in section