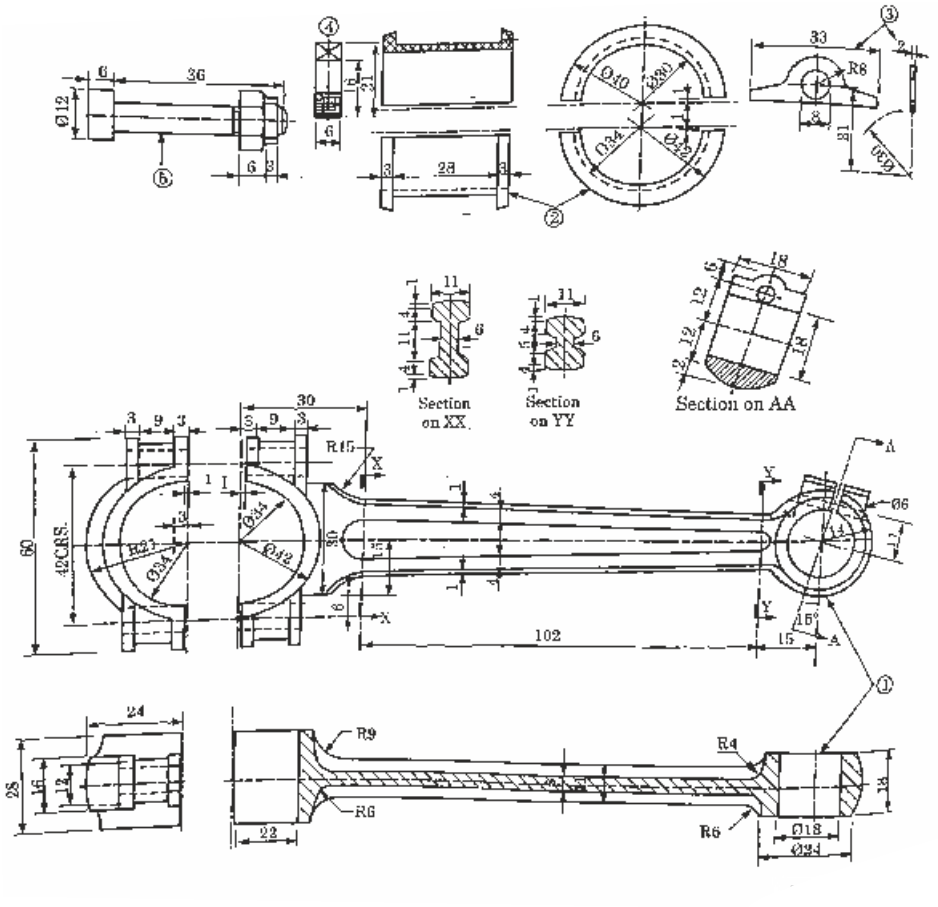
Q.25 Draw the sectional top view and front view of the petrol engine connecting rod from the given

S. No.	Parts	Material	Quantity
1	Rod	Forged steel	1
2	Cap	Forged steel	1
3	Bearing brass	Gun metal	2
4	Bearing bush	Phoplior broeze	1
5	Bolt	Medium carbon steel	2
6	Nut	Medium carbon steel	2



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3rd Sem / Automobile Engineering

Subject :Auto Engineering Drawing

Time : 3 Hrs. M.M. : 60

SECTION-A

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

Q.1 The maximum and minimum size indicated by a tolerated dimensions are called
a) Limits b) Tolerance
c) Allowance d) None of the above

Q.2 Maximum Clearance in the clearance fit is
a) Difference between Maximum Hole size and Maximum Shaft size.
b) Difference between Maximum Hole size and minimum Shaft size.
c) Difference between Minimum Hole size and minimum Shaft size.
d) Difference between Minimum Hole size and Maximum Shaft size.

Q.3 According to the motion of the follower, the follower is
a) Reciprocating and translating type followers
b) Oscillating or rotating type follower
c) Both (a) & (b)
d) None of the above

Q.4 A cam transmit irregular or intermittent motion by
a) Rolling Contact b) Sliding Contact
c) Both (a) & (b) d) None of the above

Q.5 Compared to spur gear, a helical gear runs

a) With more vibration and noise
b) More smoothly
c) Exactly same
d) None of the above

Q.6 Heavy Drive fit is a

a) Transit fit b) Clearance fit
c) Interference fit d) Both (a) & (b)

SECTION-B

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

Q.7 The shaft whose upper deviation is zero is called Basic Shaft.

Q.8 Universal coupling is also known as Hooke's Joint.

Q.9 Name the types of followers are according to the path of the motion

Q.10 Define Pinion.

Q.11 Define involute.

Q.12 What is the function of Valve mechanism.

SECTION-C

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

Q.13 Define limits of size.

Q.14 Define circular pitch of gear.

Q.15 Give the type of cam motions.

Q.16 Classify Couplings.

Q.17 What is the function Piston?

Q.18 Define dedendum.

Q.19 Draw freehand proportionate sketch of battery ignition system.

Q.20 Draw freehand proportionate sketch of slip joint.

Q.21 Draw freehand proportionate sketch of wheel cylinder.

Q.22 Draw freehand proportionate sketch of leaf spring.

SECTION-D

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

Q.23 Draw the profile of a cam operating a knife edge follower from the following data.

a) Follower to move outward through a distance of 25 mm during 120^0 of cam rotation.
b) Follower to dwell for the next 60^0 of cam rotation.
c) Follower to return to its initial position during 90^0 of cam rotation.
d) Follower to dwell for the remaining 90^0 of cam rotation.

The cam is rotating clockwise at a uniform speed of 400 r.p.m. The minimum radius of the cam is 50 mm and the line of stroke of the follower is offset 20 mm from the axis of the cam and the displacement of the follower is to take place with uniformand equal acceleration and retardation on both the outward and the return strokes.

Find out:

(i) The max. velocity of the follower during outward and return strokes.
(ii) The maximum acceleration during outward and return strokes.

Q.24 Draw the profile of involute teeth by approximate method having 24 teeth, module pitch 12mm and pressure angle 22^0. Draw at least three teeth.