

Q.17 Draw the profile of involute teeth for a gear having 20 teeth and D.P. is equal to 4cm as unit length. Assume pressure angle  $20^\circ$ .

Q.18 A cam is to give the following motions to a knife edge follower.

- a) Outstroke during  $60^\circ$  of cam rotation
- b) Dwell for the next  $30^\circ$  of cam rotation
- c) Return stroke during next  $60^\circ$  of cam rotation
- d) Dwell for the remaining  $210^\circ$  of cam rotation

The stroke moves of the follower is 50mm & the min. radius for the cam is 55mm. The follower moves with uniform velocity during both the outstroke & return stroke. Draw the profile of the cam when the axis of the follower offset by 25mm from the axis of the cam shaft.

No. of Printed Pages : 4  
Roll No. ....

170333/120333/  
030333/030345/344

**3rd Sem / Branch : Auto**

**Subject:- Automobile Engineering Drawing**

Time : 3Hrs.

M.M. : 100

**SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 The relation between mating parts is called \_\_\_\_\_  
a) Connection                      b) Fits  
c) Joints                              d) Link
- Q.2 The difference between the maximum and minimum permissible limits of the sizes is called \_\_\_\_\_  
a) Deviation                      b) Allowance  
c) Tolerance                      d) Actual deviation
- Q.3 Minimum interference is the magnitude of the difference between \_\_\_\_\_ size of the hole and the \_\_\_\_\_ size of the shaft.  
a) minimum, maximum  
b) minimum, minimum  
c) maximum, maximum  
d) maximum, minimum
- Q.4 A \_\_\_\_\_ bearing supports the load acting along the axis of the shaft.  
a) Thrust                              b) Radial  
c) Longitudinal                      d) Transversal

Q.5 What is the combustion in spark ignition engine?

- a) heterogeneous
- b) laminar
- c) homogeneous
- d) none of the mentioned

Q.6 What is the need of the universal joint?

- a) To change inclination
- b) To bend sideways
- c) To transfer torque at an angle
- d) To change length

Q.7 The timing of injection has to be advanced as the speed \_\_\_\_\_

- a) increases
- b) stables
- c) decreases
- d) none of the mentioned

Q.8 The mechanical friction \_\_\_\_\_ with increase in speed

- a) reduces
- b) unpredictable
- c) increases
- d) none of the mentioned

Q.9 The size of a cam depends upon

- a) base circle
- b) pitch circle
- c) prime circle
- d) pitch curve

Q.10 What is the color of a positive plate of a lead-acid battery?

- a) White
- b) Grey
- c) White
- d) Brown

(2) 170333/120333/  
030333/030345/344

## SECTION-B

**Note:** Draw free hand sketched of any three (3x8=24)

Q.11 Roller bearing

Q.12 Battery ignition system.

Q.13 Four stroke petrol engine piston (Front view & Top view)

Q.14 Wheel cylinder

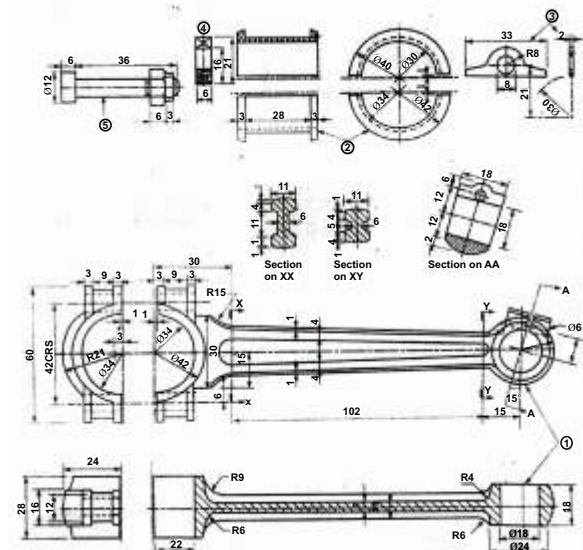
## SECTION-C

**Note:** Attempt any two questions. (2x30=60)

Q.15 Draw any two views of bush bearing assembly drawing.

Q.16 Figure below shows the detail of a connecting rod of an I.C. engine Assembly the parts and draw the following views.

- a) Front view full in section
- b) Left side view



(3) 170333/120333/  
030333/030345/344