

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°.

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

- a) Outstroke during 60° of cam rotation
- b) Dwell for the next 30° of cam rotation
- c) Return stroke during next 60° of cam rotation
- d) Dwell for the remaining 210° 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.

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**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?
- heterogeneous
  - laminar
  - homogeneous
  - none of the mentioned
- Q.6** What is the need of the universal joint?
- To change inclination
  - To bend sideways
  - To transfer torque at an angle
  - To change length
- Q.7** The timing of injection has to be advanced as the speed \_\_\_\_\_
- increases
  - stables
  - decreases
  - none of the mentioned
- Q.8** The mechanical friction \_\_\_\_\_ with increase in speed
- reduces
  - unpredictable
  - increases
  - none of the mentioned
- Q.9** The size of a cam depends upon
- base circle
  - pitch circle
  - prime circle
  - pitch curve
- Q.10** What is the color of a positive plate of a lead-acid battery?
- White
  - Grey
  - White
  - Brown

(2)

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## 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

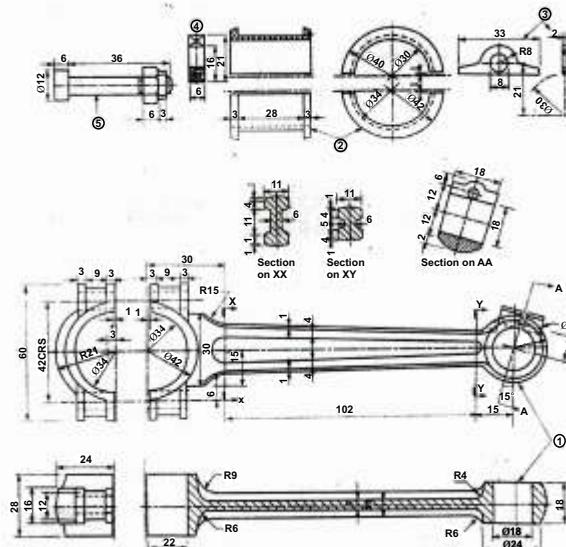
**Note:** Attempt any two questions.      (2x30=60)

**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)

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