



# Exercise 11C

Question 1:

$$\angle BDC = \angle BAC = 40^\circ \text{ [angles in the same segment]}$$

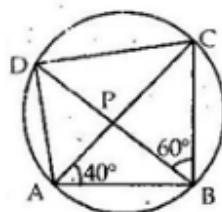
In  $\triangle BCD$ , we have

$$\angle BCD + \angle BDC + \angle DBC = 180^\circ$$

$$\therefore \angle BCD + 40^\circ + 60^\circ = 180^\circ$$

$$\Rightarrow \angle BCD = 180^\circ - 100^\circ = 80^\circ$$

$$\therefore \angle BCD = 80^\circ$$



$$(ii) \text{ Also } \angle CAD = \angle CBD \text{ [angles in the same segment]}$$

$$\therefore \angle CAD = 60^\circ \text{ [} \because \angle CBD = 60^\circ \text{]}$$

Question 2:

In cyclic quadrilateral PQRS

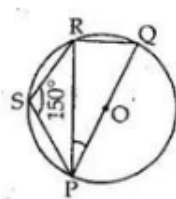
$$\angle PSR + \angle PQR = 180^\circ$$

$$\Rightarrow 150^\circ + \angle PQR = 180^\circ$$

$$\Rightarrow \angle PQR = 180^\circ - 150^\circ = 30^\circ \dots\dots(i)$$

$$\text{Also, } \angle PRQ = 90^\circ \dots\dots(ii)$$

[angle in a semi circle]



Now in  $\triangle PRQ$  we have

$$\angle PQR + \angle PRQ + \angle RPQ = 180^\circ$$

$$\Rightarrow 30^\circ + 90^\circ + \angle RPQ = 180^\circ \text{ [from (i) and (ii)]}$$

$$\Rightarrow \angle RPQ = 180^\circ - 120^\circ = 60^\circ$$

$$\therefore \angle RPQ = 60^\circ$$

\*\*\*\*\* END \*\*\*\*\*