Q5. Between the primary and secondary rainbow, these is a dark band known as Alexandar's dark band. This is because
(a) light scattered into this region interfere destructively
(b) there is no light scattered into this region
(c) light is absorbed in this region
(d)angle made at the eye by the scattered rays with respect to the incident light of the sun lies between approximately 42° and 50°

Solution: (a, d) The Alexandar's dark band lies between the primary and secondary rainbows, formed due to light scattered into this region interfere destructively. The primary rainbows subtends an angle nearly 41° to 42° at observer's eye, whereas secondary rainbows subtends an angle nearly 51° to 54° at observer's eye w.r.t. incident light ray.

Hence, the scattered rays with respect to the incident light of the sun lies between approximately 42° and 50°.